Wet, Wet, Wet, but still Fun, Fun, Fun: An Illuminative Evaluation of a Forest School Programme in Primary Schools in the North East of England.

Andrea Marie Carling

MA in Education

University of York

Department of Education

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Abstract

This research is an illuminative evaluation of a Forest School programme delivered in 36 primary schools in the North East of England between 2011 and 2013. The research aim is to identify what impact this had on the pupils, the teaching and learning and the implications for future good practice in the field.

The context of the study is in that of curriculum reform, whereby the emphasis on outdoor, experiential and holistic learning is much reduced in favour of more 'traditional', class-based learning of facts. OFSTED, in their new inspection framework, no longer put an emphasis on outdoor learning, with the exception of the Early Years Foundation Stage. In addition to this, the current economic context of much reduced budgets for schools, fewer grants available and the vastly reduced public and voluntary sector means that there is a real danger that programmes such as Forest Schools will become increasingly scarce in English schools. This study aims to demonstrate the value of Forest Schools, what could potentially be lost and the impacts this could have on education, teaching and learning and pupils.

The research questions are –

1. How, if at all, did the Forest School programme impact on the pupils?
2. What were the teaching and learning implications from the Forest School programme?
3. What constitutes good practise in a Forest School setting?

The data was gathered through questionnaires to 32 teachers accompanying groups of pupils to the Forest School setting and 5 Forest School Leaders who

developed and ran the sessions. Sixty-eight groups of pupils took part in reflective focus groups at the end of the sessions; additionally 6 pupils were observed during sessions and 2 teachers were interviewed.

The study found that Forest School had a strong impact on pupils in many areas, including self-esteem, love of learning, respect for nature and interpersonal skills; also that there were clear implications for teaching and learning, including that Forest School impacted on teacher confidence to take groups outdoors, pupils behaved better at Forest School and teachers were given a new perspective through observing pupils at different settings. The study draws up clear recommendations for future good practice at Forest School settings and lays out the importance of this and future programmes continuing in the face of curriculum reform and budget cuts.

Contents

List of Figures

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Authors Declaration

I confirm that this thesis is my own work and has not been submitted, in part or in full, towards another degree or qualification.

Andrea Carling

Chapter 1: Introduction

1.1 Research Context

This research comprises an Illuminative Evaluation of a programme of Forest School activity with 36 primary schools across the North East of England. The research aims to explore the impact of the Forest Schools activity was carried out between May 2011 and February 2013.

The research evaluates the ongoing Forest Schools Centres of Excellence project, managed by Groundwork North East, a local environmental organisation, and funded through the Big Lottery Access to Nature programme and the Forest Education Initiative. The project began in May 2011 and will continue until July 2013. Initially volunteers from local communities worked with environmental professionals from Durham, Northumberland and Tees Valley Wildlife Trusts to develop twelve areas of woodland to become 'Forest Schools Centres of Excellence'. This work included improving access, site security and implementing bespoke features for each site to make the woodlands fit-for-purpose for delivery of Forest School activities. The woodlands selected were within communities that face social exclusion and have little opportunity for contact with the natural environment (Jackson, 2012). Three primary schools adjacent to each woodland were approached to take part in the project, therefore 36 schools in total engaged. Each school was offered a programme of ten sessions within one academic year, with a pupil cohort of their choice; therefore the sessions were delivered to pupils in both Key Stage 1 and Key Stage 2. The sessions were delivered by Forest School

Leadership Level 3 qualified staff. The aim of the project is 'to increase knowledge, understanding and enjoyment of the outdoors both for the community members who voluntarily develop and care for the sites as well as for the schools and families who benefit from them', (Jackson, 2012). At the beginning of the programme in each school a meeting is held with the class teacher to establish the class topic and curriculum focus, this enables the Forest School leader to provide a linked programme and suggest relevant follow-up work. A parent meeting is held to explain the Forest School ethos and activities the children will be taking part in, to emphasise the need for suitable clothes and allay fears over health and safety. A risk assessment is carried out of the site and the activities to be carried out and passed on to the school. The session content varied from school to school.

Groups taking part in the programme generally took part in a half-day activity, once per week with a qualified Forest School leader supported by staff from the school. The aim was that the groups would arrive at the woodland on foot whenever possible, but due to the locations of some of the woodlands this was not always feasible. The sites varied greatly from formal parks in urban areas with open public access to rural settings which were privately owned. All had a 'camp' area – a meeting place where groups and leaders would meet and come back to receive feedback and instruction throughout the session and to light a campfire. Children were free to explore the site, within clearly defined boundaries.

The researcher works as Education Programme Coordinator for Groundwork North East, the organisation which manages the Forest Schools Centres of Excellence project. She is a trained Forest School Level 3 Leader and is involved in delivering activities to five of the project schools, although is not responsible for management

of the project; there is a Forest Schools Coordinator employed by the organisation who carries out this. This piece of research has been identified as a viable course of enquiry through the researcher's first-hand observation, anecdotal evidence from pupils and staff and reviewing documents that suggest that Forest School activity has a measurable impact worthy of further investigation. The researcher acknowledges that she has a personal and professional interest in establishing the impact the Forest School programme had on the participants; and has taken steps to reduce bias as described in chapter 2. The results of the research will be reflected upon to shape future programmes and practice.

1.2 Study Aims and Research Questions

The aim of the study is to investigate the ways, if at all, the Forest School sessions had an impact on the pupils, teachers and schools and to draw out recommendations for future good practice. The subjects of the research are the pupils themselves, the Forest School leaders the teaching staff supporting them during the sessions. The context of the study is that of curriculum reform; whereby the emphasis on outdoor, experiential and holistic learning is much reduced in favour of more 'traditional', class-based learning of facts. OFSTED, in their new inspection framework, no longer put an emphasis on outdoor learning, with the exception of the Early Years Foundation Stage. In addition to this, the current economic context of much reduced budgets for schools, fewer grants available and the vastly reduced public and voluntary sector means that there is a real danger that programmes such as Forest Schools will become increasingly scarce in English schools. This study aims to demonstrate the value of Forest Schools, what could

potentially be lost and the impacts this could have on education, teaching and learning and pupils.

The research questions are –

4. How, if at all, did the Forest School programme impact on the pupils?
5. What are the implications for teaching and learning?
6. What constitutes good practice in a Forest School setting?

The research methods and the rationale for their choice are described in detail in chapter 2, but briefly, they were as follows –

- Questionnaire to all teaching staff who accompanied the children to sessions
- Questionnaire to all the Forest School Leaders
- Focus group / reflection time with all of the pupils participating in the sessions
- Interviews with two teaching staff who accompanied the children to the sessions
- Observation of six pupils taking part in the Forest School activities
- Document review of other studies of Forest Schools and outdoor education
- Review of policies relating to Forest Schools and other outdoor education

1.3 Research Strategy

It was decided to follow Cohen, Mannion and Morrison's model of stages in qualitative and naturalistic research. The elements they identified are paraphrased below:

- Locating a field of study
- Formulating research questions
- Addressing ethical issues
- Deciding the sampling
- Finding a role and managing entry
- Finding informants
- Developing and maintaining relations in the field
- Data collection in the field
- Data collection outside of the field
- Data analysis
- Leaving the field
- Writing the report

(Cohen, Mannion and Morris, 2001 p.223)

1.4 Introduction to the Forest School Approach

1.4.1 Origins and Justifications of the Forest School Approach

Forest Schools is defined 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 local woodland

environment" (Forest Education Initiative, 2010). The approach is based on a Scandinavian approach to teaching that highlights the importance of having contact with nature at an early age (Grahn, 1996).

The Forest School movement originated in Scandinavia and was brought over to England in 1993 by a group of Early Years students from Bridgewater College after an exchange trip to Denmark. Inspired by the ideas of Froebel, nursery schools in Denmark have traditionally favoured play, movement and fresh air (Stigsgaard, 1973). Shields (2010) claims that the methods used in Forest School in Britain over the past twenty years are very similar to a British school called 'Forest School' which ran from 1929-1940 in New Forest, Hampshire; whose tradition was around woodcraft and child-led learning. Their ideology was that "narrow and authoritarian schooling could never develop children in the necessary evolutionary way" (Shields, 2010).

Here is an account of an early Forest School experience:

> Forest School began by taking small groups onto the College sports field adjoining the Early Years Centre, on a frequent and regular basis. Lesson plans were prepared but, as they grew in confidence, the children started to prefer to lead their own experiences. Flexibility and responsiveness to the children's thinking was found to be essential on order to make the most of the children's involvement in their learning. It was found that the children responded very differently to working in the outdoor environment than in their familiar nursery surroundings and the staff leading the Forest School activities had to adapt accordingly.

(Bridgewater College, 2003).

These early principles are still key to the Forest School ethos today, in that the groups are small with a high adult to child ratio, the sessions are frequent and regular and that the learning is child-led but supported by adults.

There are an increasing number of Forest Schools across Britain. In order to lead a Forest School session, leaders must have obtained a Level 3 qualification in Forest School Leadership and Practice. A Level 2 qualification is available for those who wish to support a Forest School leader in leading sessions.

Forest School may also have its origins in the Scandinavian concept of *friluftsliv,* roughly translated as 'outdoor life'. This is well-established term in Sweden, Norway and Denmark. This movement can be traced to the *Boken om friluftsliv* (the Book of Outdoor Life) written in 1910, the Foreword states that –

> In nature there is peace and quiet, where the air is clean and where fresh winds blow that can cool you down and chase away tiring thoughts. Much has been done so that especially young people, on which our future depends, will be drawn towards a healthy and restorative life in God's wonderful creation..... But it is not only young people who need an outdoor life. It is often just as necessary for older people. Tired, overworked and edgy, they will regain strength much more easily through regular outdoor activities than through hundreds of different kinds of medicines.

Translation by Sue Glover Frykman; (as cited in Sandall and Ohman, 2010).

The Forest School approach is perhaps of particular relevance today as there is a concern that children's games have evolved from being physically active into sedentary activities based on screens; such as computers, games consoles and televisions (Fjortoft, 2001). There are health implications for this, as indoor activities are often less active than those taking place outdoors in the natural environment (O'Brien, 2009). Fjortoft (2001) argues that more opportunities must be created to get children outdoors, playing on natural landscapes in order to develop motor skills, balance and coordination abilities. The industrialisation of the landscape means that much of the UK population is based in urban areas and lacking in contact with nature (Gary, 2012).The result of this is the well-

documented rise in obesity in children and adults in the UK. The psychological consequences of obesity on children's mental state can be depression, low self-confidence, low self-esteem or social exclusion (Knight, 2009). Forest School works to get people outdoors to improve well-being and acquaint them with the natural world (Kenny, 2010). Although Forest Schools can be delivered to any age group, it is particularly pertinent that it is delivered to children and young people because is typically easier to teach children to lead healthy lifestyles than it is to get adults to change bad habits (Knight, 2009).

There are growing concerns among a range of organisations within British and American society about this lack of contact children have with the natural world (Kahn and Kellert, 2002; Bell, Ward, Thompson and Travlou, 2004; Thomas and Thompson 2004; Louv, 2005; DEMOS, 2007). A key issue is that children are not able to access the outdoors as freely as previous generations (Ward-Thompson, Aspinall and Montarzino, 2008). This is often due to parental fears about health and safety in relation to traffic and worries about abduction and abuse by 'strangers'. Research also suggests that if children do not visit woodlands and green spaces when they are young, they will become adults who do not use green spaces; and they will miss out on the physical and emotional benefits of access to nature (Fjortoft, 2004; Ward, Thompson et al 2008). In her paper entitled 'Forest Schools in Great Britain', Trisha Maynard supports this view when she points out that the growing interest in Forest School in Great Britain may be linked to a concern that 'children's outdoor play is in decline' (Maynard, 2007). She cites Valentine and McKendrick (1997); Herrington and Steadman (1998); and Clements (2004) assertions that parents are reluctant to allow their children to play outside 'as they

once did' due to 'fear of strangers, traffic or violence and as a result children's play increasingly revolves around organised recreational activities or is home-centred and focuses on computers, video games and television (Maynard, 2007). She cites Tranter and Pawson (2001) and Stephenson (2003) in maintaining that this has a 'negative impact on children's social and emotional competence' and contributing to an epidemic of childhood obesity (Ebbeling, Pawlak and Ludwig, 2002).

1.4.2 Features, Aims and Philosophies of the Forest School Approach

There are several factors that distinguish Forest School from other outdoor education programmes. To begin with, the learning is centred on play and is essentially child-led as much as is reasonable to allow the children to take the initiative in seeking knowledge (Knight, 2009). Learning is often linked to the National Curriculum (Maynard, 2007), enabling the outdoor learning to support class-based learning by reinforcing concepts and providing stimulus for tasks. Forest Schools also takes place in all weathers with the exception of high winds, which is due to the risk of falling branches in the woodland; this encourages children to take control of their own personal care by wearing suitable clothing (Knight, 2009). The use of a woodland setting is seen as very important and the freedom to explore the woodland using all of the senses is essential to the programme (O'Brien and Murray, 2006).

Forest Schools aims to establish self awareness, self-regulation, intrinsic motivation, empathy, good social and communication skills, independence, self-esteem and confidence (Archimedes Training, 2012). The approach seeks to teach students

'how to learn' (Murray, 2004), working to spark participants' curiosity and exploration of the unique learning environment. "If learning is enjoyable and fulfilling, then a person grows and gains self-esteem through experiencing the process" (Murray, 2004).

Forest School adopts the Holistic philosophy to learning, which aims to "nurture healthy, whole, curious persons who can learn whatever they need to know in any new context" (Holistic Education Team of Australia, 2003). Forest School also shares some principles with the 'child centred' approach to education of Steiner, Froebel, Montessori and Reggio Emilia who share the beliefs that children are innately curious, their play should be uninterrupted and learning occurs through experience (Knight, 2009; Maynard, 2007). Froebel also emphasized the importance of children spending time outdoors in construction and discovery (Kenny, 2010; Knight, 2009). Waite (2011) agrees with the Forest School ethos that play is a crucial part of learning and Steiner believed that education should be led by nature and the child without interruption from adults (Knight, 2009) which supports the Forest School child-led approach. Maria Montessori's take on learning in that "it is not acquired by listening to words, but in virtue of experiences in which the child acts on his environment. The teacher's task is not to talk, but to prepare and arrange a series of motives for cultural activity in a special environment made for the child" provides further support to the Forest School ethos of child-led activities (Seldin, 2010).

By making tools and using natural materials for students to construct objects (Murray, 2004), Forest School has adapted both Froebel and Montessori's method of using equipment made from natural materials (Knight, 2009) to heighten the

sensory experience in learning. Reggio Emilia's philosophies on developing the whole child and cherishing individuality (Knight, 2009) supports the Forest School emphasis on children learning at their own pace, choosing activities to take part in and positively encouraging creativity and self-expression.

1.5 Proceeding Chapters

This thesis is divided into chapters. These can be summarised as follows:

- Chapter 2: Methodology; the research approach is explained and compared to other similar recent approaches, giving the reasoning behind the final choice of approach. The methods and strategies used to collect data are explained, and the choice of data collection instrument is justified. The methods of analysing the data and reaching findings is explained, an appraisal of the research validity is offered and ethical issues are explored.
- Chapter 3: Literature Review; this reviews documents, articles, policy and books which relate to Forest School and outdoor learning. Themes relating to the research questions are explored and arguments, counter arguments, and current thinking is explored in depth.
- Chapter 4: Findings related to the impact taking part in a Forest School programme has on pupils
- Chapter 5: Findings related to the implications of Forest School on teaching and learning
- Chapter 6: Findings related to good practice at a Forest School setting.

- Chapter 7: Conclusions and Recommendations based on the findings, and the strengths and weaknesses of the research.

Chapter 2 – Methodology

2.1 Research Aim

The aim of this piece of work is to establish what, if any, impact taking part in Forest School activities had on schools taking part in Forest School activities and what the implications for future practice are. This focus was chosen because the researcher works for the organisation which manages the project and is a trained Forest School leader with a personal and professional interest in the future development of Forest School programmes with pupils of all ages. Because the researcher is familiar with the schools, pupils and leaders involved in the projects, gaining access to subjects was relatively easy to negotiate. During previous Forest School sessions, anecdotal evidence from various sources including teachers, support workers, pupils and Forest School leaders suggested that there was a link between the intervention that had taken place and the improvement in pupil experiences, both during and after the sessions; including behaviour, attendance and the engagement of pupils. It was therefore decided that this would be a viable topic to research further, applying investigative research strategies to the hypotheses in order to draw out conclusions and make recommendations for the future practice of this and similar settings.

The context of the study is in that of curriculum reform, whereby the emphasis on outdoor, experiential and holistic learning is much reduced in favour of more 'traditional', class-based learning of facts. OFSTED, in their new inspection framework, no longer put an emphasis on outdoor learning, with the exception of the Early Years Foundation Stage. In addition to this, the current economic context

of much reduced budgets for schools, fewer grants available and the vastly reduced public and voluntary sector means that there is a real danger that programmes such as Forest Schools will become increasingly scarce in English schools. This study aims to demonstrate the value of Forest Schools, what could potentially be lost and the impacts this could have on education, teaching and learning and pupils.

Three research questions were identified to focus the study. These are –

1. How, if at all, did the Forest School programme impact on the pupils?
2. What were the teaching and learning implications from the Forest School programme?
3. What constitutes good practice in a Forest School setting?

The researcher adopts a qualitative research approach, which provides an 'in-depth, intricate and detailed understanding of meanings, actions, non-observable as well as observable phenomena, attitudes, intentions and behaviours' (Gonzales, L., Brown, M.S., Slate, J.R., (2008)., as cited in Cohen et al, 2011). Dixon-Woods, M., Fitzpatrick, R. & Roberts, K. (2001) as cited in Cohen et al (2011) point out that qualitative research can be used in systematic reviews to 'provide data in their own right for a research synthesis..... indicate and identify the outcomes that are of interest and for whom.... be part of a multi-methods research synthesis (as well as) suggest how to turn evidence into practice'.

2.2 Research approach

Three approaches were considered for this piece of research:

2.2.1 Illuminative Evaluation

Parlett and Hamilton (1979) define Illuminative Evaluation as the process which:

> Aims to study the innovation, how it operates, how it is influenced by various school situations in which it is applied, what those directly concerned regard as its advantages and disadvantages, how students' intellectual tasks are most affected. It aims to discover and document what it is like to be participating in the scheme, whether as teacher or pupil, and, in addition, to discern and discuss the innovation's most significant features.
>
> (Parlett et al, 1979. Cited in Cohen et al, 2011)

Illuminative evaluation is a naturalistic / ethnographic approach to research concerned with gathering qualitative data. It was developed as an alternative to the traditional quantitative methods previously used to judge the effectiveness of innovations. Parlett et al (1979) wrote the following critique of these traditional evaluation practices, comparing the traditional approaches to an 'agricultural-botany' kind, which

> Is presented as an assessment of the effectiveness of an innovation by examining whether or not it has reached required standards on pre-specified criteria. Students – rather like plant crops – are given pre-tests (the seedlings are weighed or measured) and then submitted to different experiences (treatment conditions). Subsequently, after a period of time, their attainment (growth or yield) is measured to indicate the relative efficiency of the methods (fertilisers) used. Studies of this kind are designed to yield data of one particular type, i.e. 'objective' numerical data that permit statistical analysis.
>
> (Parlett et al, 1972, cited in Cohen et al, 2011 p.219)

The characteristics of qualitative, naturalistic and ethnographic research such as Illuminative Evaluation can be specified as:

- Humans actively construct their own meanings of situations
- Meaning is handled through interpretive processes

- To understand a situation, researchers must understand the context because situations affect behaviour and vice-versa. Therefore research must be set in its natural setting as context is heavily implicated in meaning.
- Realities are multiple
- Meanings and understandings replace proof
- Situations are unique
- Researchers are the instruments of the research
- Generalisability is interpreted as generalisability to identifiable, specific settings rather than universally

2.2.2 Case Study

A case study is a specific instance that is frequently designed to illustrate a more general principle (Nisbet and Watt, 1984, cited in Cohen et al, 2011). It was decided that the overall approach adopted would be illuminative evaluation, with the use of case study to highlight individual cases relevant to understanding the research and its meaning i.e. particular pupils' or teachers' experiences could be described, or particular activities or sessions could be described. This is because the overall piece of research is too broad to be called a case study in its own right.

2.2.3 Action Research

Kemmis and McTaggart (1988), as cited in Cohen et al, (2011) define Action Research as

> Action Research is a form of collective self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as understanding these practices and the situations in which these practices are carried out ..... The approach is only action research when it is collaborative, though it is

> important to realise that the action research of the group is achieved through the critically examined action of individual group members.
>
> (Kemmis et al, (1998) as cited in Cohen et al,(2011) p.346)

Action research as an approach to this study was rejected on the basis that the research was not collaborative, it was carried out by a single researcher, and it was not intended to examine the actions of an individual or a group of individuals but to reflect on the situation as a whole and draw conclusions that could be used to enhance the practice of others but this was not the main purpose of the research.

2.3 Design of data collection instruments

According to Bell (1991), the main methods for data collection in naturalistic enquiries are:

- Participant observation
- Interviews and conversations
- Documents and field notes
- Accounts
- Notes and memos

It was decided to conduct an initial questionnaire-based survey to teachers and the Forest School leaders to establish the key issues and impacts of the Forest School programme. This was followed up by unstructured interviews with two teachers. A focus group discussion with pupils occurred during reflection time at the end of each session. A document review was carried out to triangulate the data and findings are compared to the findings of previous research carried out which supports or refutes emerging theories and hypotheses. The justification of this choice of methods follows.

2.3.1 Questionnaires

The questionnaire is a widely-used and useful instrument for collecting survey information, providing structured, often numerical data, being able to be administered without the presence of the researcher and often being comparatively easy to analyse. However, they are costly in terms of time to develop, pilot and refine the questionnaire; they data can be unsophisticated and limited and in scope and flexibility of responses (Bell, 1991). It was felt that the questionnaire was an appropriate instrument for a survey of Forest School leaders and teachers, followed by purposive sampling for the interviews of teachers and to assist the identification of issues to be probed further during the next stage in the research. This fits in with the cycle of illuminative evaluation described in the introduction.

There were two questionnaires used to gather data for this research – a questionnaire that went to teachers at the end of their programme of sessions and a questionnaire that went to the Forest School leader at the end of their input with each individual school. These can be found in the appendices of the report. They were designed to be as open as possible, with no leading questions, Linkert scales or list of multiple choice suggestions as it was desired to get as much of an honest and unchanged answer as is possible from each subject.

The questionnaire was trialled with three teachers before being rolled out, the feedback was positive regarding time taken to complete, question clarity and relevance and so it was then given to other teachers whose classes were taking part

in the programme. 32 individual teachers submitted questionnaires at the end of their programme.

2.3.2 Semi-structured interviews and focus groups

Bell (1991) regarded an interview as 'knowledge generated between humans, often through conversations' he remarks that interviewing as an instrument for data collection is 'an exchange of views between two or more people on a topic of mutual interest, sees the centrality of human interaction for knowledge production and emphasizes the social situatedness of research data'. This complements the views described above regarding illuminative evaluation being embedded in the context of the research and the researcher as a research instrument.

Cohen, et al (2011) point out that interviews 'enable participants – be they interviewer or interviewee – to discuss their viewpoints of the world in which they live, and to express how they regard situations from their own point of view..... the order of the interview can be controlled while still giving space for spontaneity, and the interviewer can press not only for complete answers but for responses about complex and deep issues'. This makes the interview as an instrument more likely to elicit in-depth qualitative data whose meaning can be verified by follow-up questions, further probing of issues discussed and because the interviewer is present they are able to paraphrase responses back to the interviewee to ensure that the correct meaning has been gathered. They continue to highlight the advantages of the interview as being 'a flexible tool for data collection, enabling multi-sensory channels to be used: verbal, non-verbal, spoken and heard', this means that what a participant is saying can be compared and contrasted with their

body language, facial expressions and reaction to questions to assess the validity of responses. Another aspect of this is that if the interviewee appears uncomfortable with the questioning, the interviewer can alter their approach, question wording or question order to make the interviewee feel more comfortable with the situation.

Concerning the negative aspects of using the interview as a data collection instrument, Cohen et al (2011) point out that interviews are 'expensive in time, open to interviewer bias, they may be inconvenient for the respondents, issues of interviewee fatigue may hamper the interview and anonymity may be difficult'.

At the end of every session, each pupil was given the opportunity to reflect on the following questions –

1. Did you enjoy the session (thumbs up or thumbs down)
2. What did you enjoy the most?
3. What have you learned today?

The responses were then recorded on a sheet (see appendix). The questions were trialled with three groups before being accepted as suitable to roll out. The 'thumbs up / thumbs down' was developed as a result of this to prevent shouting out and to provide an instant visual representation of the groups' views.

The researcher also interviewed two teachers, the interview was open and there was no set interview schedule – it was felt that because the teachers had already completed the questionnaire it would be preferable to probe themes that came up spontaneously in the discussion. The interviews were kept short, thirty minutes, as they were held over school lunch times.

2.3.3 Pupil case study

Six pupils were randomly selected to be observed by the researcher during the Forest School sessions. The results of the observations were recorded each week, in a simple format asking the question 'What has been the impact on this pupil from taking part in the Forest School programme?'

2.3.4 Document review

It was decided to employ a 'problem orientated' approach to document searching in that the search would involve looking for documents related to the research questions and therefore regarding Forest School as an approach and outdoor learning more generally. The review was concerned with both primary and secondary sources of information; the documents reviewed are contained in the references section of this paper. The information contained in the documents was used to triangulate the information gathered by the questionnaires and interviews. The search was focussed on the University of York library website and Google Scholar, and electronic journal articles were found in this way. Keywords used for the search were 'Forest School', 'Outdoor Learning', 'Learning Outside the Classroom', Primary Education', 'Early Years', and 'Outdoor Education'. I also identified writers who were prolific in the subject of Forest School, such as Liz O'Brien, and searched for articles written by them. Additionally, using the references in articles that I had found this way, I could identify further relevant texts to search for directly. I also searched the Department of Education and OFSTED websites for references to documents on outdoor learning and education policy and good practice.

2.4 Hypotheses

The emerging theory is that Forest School provides a nourishing experience for children, which enhances classroom-based learning by making pupils stronger learners, higher in confidence and with more developed social skills. Forest School makes pupils more capable of learning by re-engaging learners and catering for different learning styles, making learning more accessible. The policy pursued by the current government of narrowing the curriculum and cutting budgets for activities such as Forest School will have a negative impact on children and on education more widely – narrowing its reach and sending education backwards to becoming merely a transfer of knowledge from teacher to pupil, instead of encouraging pupils to explore and find things out for themselves. The research aims to identify the impacts the reduction of programmes such as Forest School could have on education of children.

2.5 Sampling

In an ideal world the researcher would be able to sample the whole population (Bell, 1991). In the case of this study, time, access and the fact that it was carried out by a single researcher prevent this from being the case. There are two types of sampling: probability sampling, also known as random sampling; and non-probability sampling also known as purposive sampling (Cohen et al, 2011). The difference between the two is that in probability sampling the chances of members of the population being selected for the sample are known, each member of the population has an equal chance of being included; whereas in a non-probability sampling the chances of the wider population being selected for sampling are

unknown, some members of the population will definitely be included and others will definitely be excluded (Cohen et al, 2011).

It was decided to use purposive sampling in this case as the study is small scale and there was not the time or resources to sample the whole population of each school taking part in the programme. Although all pupils and teachers participating in the sessions were given the opportunity to complete the basic questionnaire to establish those who felt that Forest Schools had impacted on their teaching and learning, purposive sampling was used to 'hand-pick' the respondents in the case of the semi-structured interviews of teachers, these were chosen as they had indicated on the questionnaires and through discussion that the Forest School programme had impacted greatly on their outlook. It is recognised by the researcher that this throws up the limitation of possible bias, as these people were directly involved in the initiatives their own values may influence their responses to questions. Teachers not taking part in the sessions had not been sampled at the questionnaire stage and therefore were not interviewed. The pupils who took part in the sessions all were given the opportunity to participate in the short focus group reflecting on the activity at the end of each session. The Forest School leaders all completed a questionnaire at the end of their programme of delivery with each school. Names of schools, sites or individuals have not been identified in this paper to protect the identity of respondents.

2.6 Validity and Reliability of the data

The data is qualitative in nature and embedded in the responses of the subjects are their opinions, life histories, philosophies and experiences. The Forest School

leaders, and indeed the researcher herself, have a vested interest in a positive outcome of the research. However, to attempt to combat this data has been collected from many participants – in the case of teachers, 32; in the case of pupils, 68 different sessions have been reflected upon in pupil focus groups, 5 Forest School Leaders completed questionnaires, and two teachers were interviewed. Additionally, six pupils were case studies. The data gathered by each of these methods was analysed for the same themes and only significant themes were drawn out. The researcher believes that by this triangulation of different sources, using different methods of data collection, that the research is robust and valid.

2.7 Ethical issues

Cohen et al 2011) summarise the principle of research ethics as follows:

> Research ethics is about being clear about the nature of the agreement you have entered into with your research subjects ... (it) involves getting the informed consent of those you are going to interview, question, observe or take materials from. It involves reaching agreements over the use of this data, and how its analysis will be reported and disseminated. And it is about keeping to such agreements when they have been reached.
>
> (Cohen et al p. 201).

The researcher adopted Bell's, (1991) conditions and guarantees proffered for a school-based research project:

- All participants must be given the chance to remain anonymous (on the questionnaire, there is a place to record names but this was optional to complete)
- All data must be given strict confidentiality

- Interviewees should have the chance to verify their statements at the stage of drafting the report (a draft transcript was sent to the interviewees for verification)
- Participants should be given a copy of the final report (a copy will be made available to the schools and partner organisations once marking is complete)
- Permission for publication must be gained from the participants
- If possible, a research report should be of benefit to the school and participants (it is felt that as this research highlights good practice and the impacts Forest School has had on pupils and teachers it can be used to influence future activities or to publicise the activities therefore it is of benefit to future cohorts).

The research has been approved by the University of York Department of Education Ethics Committee and complies with department guidelines.

2.8 Informed consent

Informed consent is described by Diener and Crandall, (1978) (cited in Cohen et al, p83) as 'the procedures in which individuals choose whether to participate in an investigation after being informed of facts that would be likely to influence their decisions'. For this research, informed consent was initially obtained from the Deputy Head Teacher to use the school in the study. Staff taking part in questionnaires and interviews gave their informed consent after a description of the research, the data collected and how it will be used was circulated to those concerned. Pupils gave their informed consent by completing the questionnaires

after reading an introduction to the research at the beginning of the questionnaire and after a briefing from the researcher. All participants were made aware of their right to withdraw from the research at any time.

2.9 Confidentiality and anonymity

Bell, (1991) contrasts confidentiality, where the names and other details of research participants are known but not shared; with anonymity, where identity of the participants is not known even to the researcher. In the case of this piece of research, confidentiality is assured through statements on the questionnaires and pre-sent information to interview and focus group participants; however anonymity is not assured as it is necessary to recall some questionnaire respondents to interview or focus groups to follow up key themes identified through the questionnaire responses. The names and details of respondents are not published in this paper and the questionnaires will be destroyed after the period of marking the dissertation is complete.

2.10 Reflexivity

Hammersley and Atkinson, (2006) (as cited in Cohen et al, 2011) describe reflexivity as recognising that researchers cannot be separated from the world that they are researching, and that they bring their own biographies to the research, this can alter the way participants respond to them. Cohen, Mannion and Morrison, (2011) state that highly reflexive researchers are 'acutely aware of the ways in which their selectivity, perception, background and inductive processes and paradigms shape the research'. McCormick and James, (1988) advise researchers to closely and

continually monitor interactions with participants and in particular their own reactions, biases and roles.

Priessle, (2006) (as cited in Cohen et al, 2011) acknowledges that qualitative enquiry is not a neutral activity, and researchers are not neutral, referring to the values they hold as 'lenses through which they look at and interpret the already interpreted world of participants' (Priesle, 2006; as cited in Cohen et al, p.691)

2.11 Methods of data analysis

2.11.1 Questionnaires

The questionnaires resulted in qualitative data, as was the intention. There were many themes and areas of impact that came out of the results. In order to make some sense of these and establish which were significant, the questionnaires were carefully read and themes identified. A schedule was devised, containing these themes to enable a tally chart to be used to record the number of occurrences of the theme. The questionnaires for each subject group were analysed separately and a schedule devised for each. Significant quotes that either supported or refuted evidence in each of the themes were also recorded, and the questionnaires themselves were kept to enable double-checking that all significant data had been included. Charts showing the relative number of occurrences of each theme are used to create a visual account of the data. These are shown in the findings chapters 4, 5 and 6.

2.11.2 Pupil reflection groups

The pupil reflection groups' responses were written down at the time of asking, and in a similar way to the teacher and leader questionnaires, they were studied to identify themes. They had, intentionally, recorded qualitative data; with the exception of asking the pupils whether they enjoyed the sessions. A schedule was devised to enable responses to be entered onto a tally chart and responses were then recorded onto charts to provide visual representation of the data. These findings are discussed in chapters 4, 5 and 6.

2.11.3 Interviews

The interviews, taking place after the questionnaires, were open in style and recording took place by writing down responses. The responses were then studied and related to the themes identified whilst analysing the questionnaires and pupil focus groups. They were then colour coded depending on which theme they corresponded to and used to illustrate or add depth to findings. Quotes from the interviews can be found in the findings chapters 4, 5 and 6.

2.11.4 Documents

Documents were read through, and sections highlighted and colour coded relative the themes from the data analysis they responded to and research questions they related to. The information contained in them was then used to illustrate points made in the research, support or refute findings and to give a context in relation to Forest School, outdoor learning and the policies influencing these.

2.12 Limitations

Cohen, Mannion and Morrison (2011) state that 'social research should be conducted in natural, uncontrived, real-world settings with as little intrusiveness as possible by the researcher'. This was not always possible in this piece of research as the researcher is not sufficiently 'embedded' in each of the settings to go about unnoticed. Additionally, the researcher was also the Forest School leader in the case of five of the schools involved in the study. She was not present at the other sessions and relied on other leaders to return completed questionnaires. Also the data collection methods of questionnaire, interview and focus group are in themselves a deviation from the participants' usual activities.

Cohen, Mannion and Morrison, (2011) indicate that there are 'several serious strains in conducting fieldwork because the researcher's own emotions, attitudes, beliefs, values, characteristics enter the research'. It is acknowledged that, due to the fact that the researcher in this case works for the organisation who manages the project, and herself delivers Forest Schools activities, that impartiality is difficult to attain. Related to this point is the limitation of issues of advocacy, boundaries and role relationships; in that the participants (particularly the Forest School Leaders) may expect the researcher to identify with their cause and become a spokesperson for them. It was therefore deemed important to set clear boundaries at the beginning of the research – highlighting the fact that the role of the researcher was to objectively study the impacts of Forest Schools and not to be an advocate for Forest School as has been the case in the past.

This research was carried out by a single researcher, which can influence the outcome of data gathering from interviews, as Cohen et al (2011) explain, 'each participant in an interview will define the situation in a particular way. This fact can best be handled by building controls into the research design, for example by having a range of interviewers with different biases'. Unfortunately due to the scale of this research and the fact that it was carried out by a single researcher in a limited time with a limited number of respondents in a busy programme of activity, it was not possible to identify and recruit a number of different interviewers with different biases.

3. Literature Review

This study aim to gather data and formulate theory on the following three questions:

1. How, if at all, did the Forest School programme impact on the pupils'?
2. What are the implications for teaching and learning?
3. What constitutes good practice in a Forest School setting?

Hannah Gary, in her 2012 study into the outcomes of a Forest School programme on student perspectives of a Forest School programme identified six major areas of impact on participants. They were as follows: 1) children developed confidence socially and their ability to relate to peers and teachers improved, 2) concentration and involvement rose through group work, 3) the mastery of difficult tasks was seen to increase resilience and self-efficacy, 4) the child-led learning facilitated risk taking and responsible assumption, 5) over-active children were found to direct their energy in a calm, non-aggressive way helping them to concentrate and remain on-task, 6) improvement in overall happiness and a sense of accomplishment was felt collectively. (Gary, 2012). Furthermore, Dillon, Rickinson, Young Choi, Sanders, and Benefield, (2006) suggested that there were several areas of impact – Cognitive impacts: the children started to gain a better understanding of the environment; Affective impacts: Children developed respect for the environment; Interpersonal and social impacts: Notable improvements in team-working and the use of descriptive language improved; and Physical and Behavioural impacts: Advances in stamina and improvements in balance were recorded. O'Brien and Murray (2007) developed similar findings, suggesting that Forest School programmes increases self

esteem and confidence, improve an individual's ability to work cooperatively and increases awareness of others, increases motivation and concentration, contributes to the development of language and communication skills, improves physical motor skills and contributes to an individual's knowledge and understanding of the environment. These findings are echoed in the various literature investigating forest schools and outdoor education more generally. These are discussed below.

3.1 Impact of Forest School on pupils

There are many theories of learning which support the Forest School ethos. John Comenius (1592-1670) recommended that children learn through sensory experiences rather than rote learning and believed that knowledge, spirituality and emotional development were inseparable. We now know this concept as 'Holistic Learning' and it is a key element of the training programme for Forest School Leaders. Johnann Pestalozzi (1746-1827) continued this work on sensory experiences and developed it to include innovative teaching methods which included using concrete objects to teach spelling and mathematics. He also emphasised the benefit of stable family relationships and the involvement of the family and loving relationships in supporting children in new experiences.

John-Jacques Rosseau (1712-1778) was a controversial figure, he put his own children to live in orphanages, but his theory of child development was centred on the teaching of self-reliance and resilience; which supports the Forest School ethos of independent learning and the teaching of survival skills.

Friedrich Froebel (1782-1852) had firm views on the opportunities play gave to enhance learning, a theory which is strongly demonstrated at Forest School settings. He developed the concept of children 'learning by doing', a concept which was later developed by John Dewey (1859-1952), who also emphasised the importance of education being based on real-life situations. Margeret McMillan (1860-1931) developed this concept further by placing an emphasis on the use of the school garden in education. She was very concerned that education support the physical health and emotional wellbeing of children and saw the garden as a means of doing this.

Maria Montessori, (1870-1952) developed a theory of learning which strongly supports the Forest School ethos. She believed that children learn through movement, learn best through their senses and that the learning environment is of key importance. Loris Malaguzzi (1920-1994) supported this and ascertained that the environment was the 'third teacher'. He also supported the Forest School ethos in that he believed that educators are 'partners, nurturers and guides' and 'parents are partners', both of which complement the ethos of a Forest School setting.

Susan Isaacs (1885-1948) believed that 'free, unfettered play' was key to children learning. This is supported by the Forest School ethos of child-directed learning and learning through play.

Howard Gardner (1943-) is a key theorist in support of the Forest School ethos, his theories of multiple intelligence are discussed in more detail further on in this chapter.

3.1.1 Impacts of Forest School on independence, self-esteem and confidence of pupils

Forest School takes a balanced approach to risk management, and aims to enable the children to take managed risk as part of the process whilst gaining an understanding of the meaning of risk (O'Brien and Murray, 2007). This includes observing fire safety rules, tree climbing and moving items to make shelters in a safe way. Stephenson (2003) links young children's physical risk-taking in the outdoor environment with the potential for children to develop both confidence in themselves and their disposition to manage risk effectively. Risk taking in the natural environment has also been linked to the heightened development of children's learning paths and dispositions (Waller, 2005). Maynard (2007) noted that this managed risk in the outdoor environment had an impact on children's willingness to take risks with their learning within classrooms and throughout life, while also helping children to develop responsibility for their actions. Maynard (2007) discusses whether or not boosting self esteem should be a priority, pointing out that while self esteem tends to link with resilience, happiness and the development of closer relationships; but also that the negative side of high self-esteem can be arrogance and narcissism. Baumeister, Campbell, Krueger, and Vohs, (2003) maintain that high self-esteem is likely to be the effect, rather than the cause, of academic success and that rather than giving indiscriminate praise, real achievement and ethical behaviour should be promoted. This fits in well with Forest School ethos, but, as Maynard (2007) points out, the impact on children's self esteem from a Forest School programme could be limited by the limited duration of

some Forest School programmes and urges caution when making claims on the impacts Forest School makes on self-esteem.

Bandura (1997) points out that individuals who have self confidence approach tasks in a different way – i.e. they are more likely to become interested and engrossed, they set themselves challenging goals, try harder, persist longer, think strategically and are more resilient when facing failure; which Murray (2007) points out are all important learning dispositions. Bandura (2004) defines mastery of tasks through perseverance as the key to developing a strong sense of self-efficacy. Stephenson (2003) notes that without physical challenge, children may grow up lacking in confidence in their own physical ability. She takes this idea further by stating that without these opportunities, children today have 'less experience in making decisions of their own, less opportunity to assess their personal frontiers, and less opportunity to gain confidence and self-esteem through coping independently' (Stephenson, 2003, p.42).

O'Brien and Murray identify the 'cause and effect' of Forest School practice on self-esteem: they assert that by allowing children to explore the environment and therefore becoming familiar with it at their own pace, they develop a responsible independence and gain confidence in taking measured risk and initiate their own learning. This in turn gives them a greater belief in their own capabilities, and they relate to their peers and adults through speech and eye contact; they are more relaxed, keen to learn and assertive (but not aggressive) (O'Brien and Murray, 2006).

Harkin, Turner and Dawn, (2001) in their work on teaching young adults, point out that providing lessons to 'teach' self-esteem is a futile exercise, rather learning should be based on 'real' situations and genuine personal engagement to be beneficial. Swarbrick et al in their paper on self-esteem and successful interaction as part of a Forest School project suggest that with younger participants, independent exploration needs careful nurturing because separation from the familiar adult in an unfamiliar environment can be difficult for children (Swarbrick, Eastwood and Tutton, 2004).

Gordon Woodhall, who was one of the active founders of Forest Schools and whose work at Bridgewater College encompassed disaffected young people, took into account the impact learning styles can have on self-esteem. This theory centred around the assumption that those who remain kinaesthetic learners into adolescence often experience difficulties in the classroom situation, and begin to perceive themselves as poor learners. Self-esteem drops and this can be manifested as poor behaviour, poor attainment and poor attendance (Swarbrick et al, 2004). Forest school can go some way to combating this problem as there are more opportunities to learn in a way suited to the kinaesthetic style, and develop new and demonstrate existing skills that are less obvious in a classroom. Young people can then develop confidence in themselves as learners as they succeed which raises their self-esteem and gains the respect of their peers; this helps them to make better life choices and manage their own behaviour more effectively (Swarbrick et al, 2004).

Margaret Donaldson (1974) sums up the dilemma when she says

> The experience (of schooling) becomes wretched at present largely because it is a wretched thing to be compelled to do something at which you consistently fail

(Donaldson, 1974 p. 124).

Swarbrick et al highlight the high adult to child ratio and the small, achievable tasks that are at the heart of the Forest School ethos as being fundamental to failure being less likely to occur.

3.1.2 Impacts of Forest School on inter-personal skills

The Forest School approach involves cooperation and teamwork for much of the time. Children need to work with each other to carry out tasks such as making shelters and building fires. The importance of keeping each other safe is strongly emphasised – looking out for each other by, for example, making sure trip hazards are pointed out and by holding branches so they don't spring back into the face of the person behind you. Sharing and taking turns with items such as tools and tarpaulins and fairly distributing limited resources are also regular elements of the programme. Children need to take into account each other's views and opinions as well as identifying each other's strengths and weaknesses and ask for help to complete tasks. Liz O'Brien, (2009) highlights teamwork, sharing, freedom from adult intervention, increases awareness of other's personal space and forming new friendships, learning about themselves and what can be achieved by working together and by negotiating as being key features of a Forest School personal and social learning journey.

It is also notable that adults and children interact in a different way when in the outdoor learning environment. O'Brien (2009) notes that pupils and practitioners gain a better understanding of each other, and through shared experiences such as coping with poor weather or working together to create something a practitioner can notice behaviours and skills in children that have previously gone unnoticed. There is also an observable difference in the personalities and behaviours of the children in Forest School settings than in classroom settings, O'Brien (2009) calls this the 'new perspectives theme' and highlights how practitioners can observe children to gain new insight into their learning styles and interactions; in turn this can influence the aims and expectations and indeed the approach the practitioner has to the child. One teacher describes this experience as such:

> I feel honoured to have shared the Forest School experience with the children. To have the opportunity to spend one year at 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

(O'Brien, 2009 p. 53).

Rivkin (1998) supports the theory that adults relate differently to children in the outdoor environment and notes that while inside, children are expected to sit still and be quiet but outside they are expected to run around and make a noise. This means that they can push boundaries, finding out who they are and what they can do without fear of being admonished for being too boisterous, loud or messy (Bilton, 2002).

O'Brien and Murray (2006) discuss 'pro-social behaviour' as being characterised by giving, sharing, helping and comforting others – they point out that this is a key

indicator of the presence of social skills. They point out that Forest School can be seen as successful when children who initially do not participate in group work then begin, during the course of the programme, to take part in activities and display this 'pro-social behaviour'. They highlight several case studies in their report 'A Marvellous Opportunity to Learn' in which these traits have developed over the course of a Forest School programme.

Other researchers have noticed an alternative side to the change in interpersonal skills whilst on Forest School activities. Hannah Gary, in her observations on pupils taking part in the Forest School activities, acknowledged that, while there were observed occurrences of an increase in social skills from group work and developed mindfulness of the consequences their actions had on others; there were also observed instances which generated a different outcome. She observed 'several' instances where a dominant child overpowered the passive student or more diligent students single-handedly did the work whilst their less-inclined partners chose to stand by and take no part in the work (Gary, 2012).

3.2 The Forest School approach and implications for Teaching and Learning

3.2.1 The Forest School approach and its impact on learning

Outdoor learning has been the subject of a recent revival of interest in the UK due to its potential to support children's learning (Maynard and Waters, 2007). One of the main advantages of using the outdoor environment is that it provides children with space to move freely (Rivkin, 1995). Movement, along with play, has been described as one of the most natural and powerful modes of learning for young children (Bilton, 2002). Fjortoft and Sageie (2000) observed that children who

played in a forest tended to demonstrate better motor skills than those who played in a playground. Waite et al (2006) highlight the benefits of the outdoor environment as providing an ideal context for group activities, where development of skills, knowledge and concepts from across the curriculum are given an authentic, real-life and purposeful meaning.

Murray and O'Brien (2006) discuss the positive impact Forest School can have on language development, stating that it can help to facilitate spontaneous conversation and requires use of descriptive language; vocabulary is also improved through interaction with more competent language users – such as adults at the setting. This is supported by Swarbrick et al (2004) who quote a teacher respondent as being a particularly noteworthy example:

> A child who had severe language difficulties (i.e. needed to attend a speech unit for four sessions a week) was extremely quiet in the nursery environment and seldom initiated a conversation with other children or adults. However, in the forest environment her speech was clearer and much louder! She also displayed more self-confidence and interacted with a wider circle of peers. In the nursery environment her interactions tended to be on a one-to-one basis
> (Swarbrick, Eastwood and Tutton, 2004 p. 4).

This also has clear implications for the impact Forest School has on self confidence, discussed earlier in this chapter, as improved use of language and interaction with others are a well known marker for improved self-confidence.

Bredekamp, Knuth, Kuresh, and Shulman (1992) suggest that activities that are based on children's interests provide motivation for learning and that this fosters a

love of learning, curiosity, attention and self-direction. As outdoor environments tend to fascinate children, they will naturally be curious and be motivated to learn more about it therefore Forest Schools can have a positive impact on attention and concentration. This is supported by Waite (2011), who states that 'there is evidence that enjoyment and autonomy of choice contribute to improved learning and the application of learning' (Waite et al, 2011. P. 67). They cite the findings of Erk, S., Kiefer, J., Grothe, A.P., Wunderlich, M, &Walter, H. (2003) that words stored in a 'positive emotional context were remembered better than those in neutral or negative contexts, so that what children wish to learn and enjoy about learning will be better retained than what they have no choice in' (Erk et al, 2003 cited in Waite et al, 2011). Murray and O'Brien also discuss motivation and concentration in their 2006 paper; they note through observing children at forest school that the child-initiated approach to learning ensures that children are eager to participate, inspired to learn, they initiate their own learning and they are keen and excited about Forest School activities; looking forward to going and talking freely about them back in the classroom (Murray and O'Brien, 2003). This is supported by Battersby (1999) who agrees that learning experiences in outdoor environments have been associated with increased levels of student motivation and achievement; Ballantyne, Fein and Packer (2001) note that there is a greater likelihood of learning being transferred to situations that students encounter outside of the school environment. Interestingly, in the same study, it was noticed that teachers felt that when schools were located close to the Forest School site, by being in their local area the learning was given heightened meaning and relevance (Ballantyne et al., 2001).

Maynard (2007) highlights the benefits of Forest Schools activities spanning different areas of learning including language, literacy and communication skills, mathematical development and creative development. She states that one of the main benefits may be that the learning itself is embedded in meaningful, real-life activity. Dillon et al (2006) cite a study carried out in California in schools that used an environmentally-focussed curriculum. The students scored higher in 72% of academic assessments including reading, science, maths, attendance rates and grade points than students from traditional schools (SEER, 2000, cited in Dillon et al 2006).

Forest School provides children with the opportunity to develop both fine and gross motor skills. Gross motor skills are developed through moving large items, dealing with rough terrain and moving several parts of the body at the same time. Fine motor skills involve smaller movements and are developed through activities such as tying knots and making items out of wood. O'Brien and Murray (2006) observed that children's balance, stamina, spatial awareness and ability to control tools such as sticks used to write improved after Forest School sessions. Wilson (1995) points out that 'Experiences in the out of doors tend to be rich is opportunities for nurturing growth in all of the developmental domains' (Wilson, 1995 p. 4).

The knowledge and understanding children have of the natural world also improves through taking part in a Forest School programme. O'Brien and Murray noticed that there was an increased knowledge of species names. This is supported by Dillon et

al (2005) who noted that children started to gain a better understanding of the environment, for example through remembering names of plants. They also noticed that there was an increased care for the environment – for example children began to develop respect for the environment and informed other children how to take care of it. Dillon et al (2005) also cite a study carried out by Mittelstaedt, Sanker and Vanderveer (1999) into summer schools in the US. They found that the children left with a strong positive attitude to the environment, compared to when they arrived (Mittelstaedt, Sanker and Vanderveer, 1999; cited in Dillon et al, 2005). However, Uzzell, Rutland and Whistance (1995) are cautious about making too many assumptions about the permanent nature of these changes (Uzzell et al, 1995; cited in Dillon et al, 2005).

Kenny (2010) highlights the particular benefits outdoor learning has on people with the kinaesthetic learning style; when compared to the classroom environment. Activities at Forest School are easily differentiated to meet different learning styles and abilities – for example, more able pupils can become involved in demonstrating, explaining and setting up activities whilst pupils who are less able at skills such as numeracy and literacy can display skills in creative work such as art or in design and construction work such as den building. Gary (2010) supports this ascertion when she states that low achieving students and students from disadvantaged backgrounds were found to become more involved, more confident in and attentive to their work when compared to the traditional classroom environment; although it must be noted that the socio-economic or free school meal status of participants was not a factor in the study; the assumption was based on the location of the school and overall demographic of that population.

Howard Gardner, in his in his 1983 book *Frames of Mind: The Theory of Multiple Intelligences* differentiates intelligence into specific "modalities", rather than seeing it as dominated by a single general ability. These modalities are: Logical-mathematical, Spatial, Linguistic, Bodily-kinesthetic, Musical, Interpersonal, Intrapersonal, Naturalistic and Existential. Although he has critics, his theories are well-supported and highlight that people not only have different natural abilities but also that they learn in different ways, and therefore need to be taught in different ways. This has implications for Forest School and outdoor learning as a way of engaging a wider variety of learner than traditional classroom learning.

3.2.2 Barriers to Learning in Forest School settings

Dillon et al, in their 2006 paper entitled 'The Value of Outdoor Learning: Evidence from Research from the UK and Elsewhere', identify barriers to teaching in the outdoor environment. These include 'fear and concern about health and safety', 'teacher's lack of confidence in teaching outdoors', 'school curriculum requirements', 'shortages of time, resources and support' and 'wider changes within and beyond the education sector'. These barriers could be overcome with the correct support from a trained Forest School Leader, who can advise on health and safety issues and provide detailed risk assessments; identify links to curriculum topics and schemes of work and ensure that the provision is relevant to what the group is learning in the classroom – in addition follow up work and lead-in work can be offered to give additional meaning to the Forest School activity. The issue about shortage of time is a perennial concern but can be overcome by demonstrating the effectiveness of the programme to the teacher and therefore showing it to be a valuable use of time, also using a local site that does not require long travelling

times. By providing a policy framework for Forest Schools, the Leader can demonstrate that it fits with wider educational priorities and gain the support of the Head Teacher.

There are also identified barriers to learning that are personal to the learners themselves. Ballantyne and Packer (2002) identify age to be a factor in that they found primary school students to be significantly more enthusiastic than their secondary counterparts. Prior knowledge and experience of field and classroom-based learning can also strongly affect students' learning (Orion and Hofstein, 1994; Lai, 1999). Openshaw and Whittle (1993) point out that "if students have been accustomed to a diet of 'experiments' based on well tried recipes that 'work', then real experimental practical ecology is likely to prove a difficult experience for them".

Several studies have suggested that outdoor environments can be genuinely frightening for participants who have little experience of them. Simmons (1994) found that children in Chicago were concerned about a variety of natural aspects, threats from other people they might encounter and their own physical comfort. Bixler, Carlisle, Hammitt, and Floyd, (1994) reported fears over encountering snakes and Wals (1994) noted fear of poisonous plants.

Learning styles also influence the learning that takes place in the outdoor environment. Lai (1999) identified the marked differences in individuals' responses to teacher-led and student led activities. Physical disability can also greatly impact a pupil's ability to fully participate in the learning Healey, Jenkins, Leach, and Roberts, (2001). It is down to the Forest School Leader and the class teacher to identify and

adapt their teaching to the needs of individual pupils, as is essential to the Forest School ethos.

The setting itself can also influence the learning that takes place. Burnett et al (1996) assert that "teachers need to ensure that students are not distracted by the novelty of the location"; but clearly this is part of the appeal of taking a group to a new learning environment such as a woodland and there is a balance to be struck; as highlighted by Balantyne and Packer (2002) who found that "students who had not visited the particular site before were looking forward to their visit more than those who had". Forest School aims to develop a sense of ownership of the woodland site where the learning takes place – therefore transforming the novel to the familiar, developing respect and deep connections to the site whilst maintaining the sense of wonder that being in the woodland can create.

O'Brien (2006) echoed some of these findings when she analysed the reasons why some of the experiences of the teachers and pupils were negative. These included children feeling uneasy in the unfamiliar surroundings, some of the teachers being nervous about teaching and managing in the unfamiliar surroundings and being out in all weathers meaning that children could get wet, muddy and uncomfortable. She acknowledges that this last concern was noted by practitioners who observed children who were not sufficiently absorbed in activity and by parents who had not understood the importance of providing the children with suitable clothes. However, as one of the key aims of the Forest School programme is to develop pupil independence and self-sufficiency then pupils themselves should naturally learn through experience to ensure that the they have correct warm clothes. Through my own observations in delivering Forest School sessions I have noted that

this tendency develops in children over the weeks. Murray and O'Brien (2007) agree with this when they observe that 'it was repeatedly noted across all children that at the beginning of their first few sessions at Forest School those who lacked confidence and were unfamiliar with the outdoor environment became cold quickly. Once they became familiar with Forest School they were much more active around the site and kept busy, thus keeping warm in cold weather'. O'Brien (2006) also noted that failures in logistics travelling to and from site could mean that valuable time was wasted.

3.2.3 Impacts of Forest School on behaviour and engagement

There is evidence that Forest School can have a strong positive influence on the behaviour of a wide range of children, including those on the autistic spectrum, those with emotional and behavioural difficulties and with learning problems (Kahn, 1999; Forestry Commission Scotland, 2005; O'Brien, 2005; O'Brien and Murray, 2006 ; Borradaile, 2006). Kuo and Faber Taylor (2004) have consistently shown a reduction in the symptom severity of attention deficit hyperactivity disorder (ADHD) in children after engaging in activities in green, natural open space. Roe and Aspinall, in their study on restorative outcomes of Forest School and conventional school in young people with good and poor behaviour found that 'the forest setting was consistently advantageous to both behaviour groups on all four emotional variables (energy, hedonic tone, stress and anger) effectively reversing outcomes in the poor behaviour group' (Roe and Aspinall, 2011). The same study also suggests that natural settings could play a role in helping manage difficult behaviour in young people through transforming mood and anger and they noted that the amount of change in these factors was greatest in the poor behaviour group, where

negative outcomes in the school setting were positively reversed in the forest setting. Kuo and Faber-Taylor (2001) also agree that natural settings can positively promote reflection on personal goal planning. There are studies that link anger with negative health outcomes in young people, such as mental health problems such as depression and suicide; physical health problems such as cardiovascular disease and greater risk of drug and alcohol abuse (Kerr and Schneider, 2008).

The outdoor environment provides children with numerous developmental and educational advantages (Maynard and Waters, 2007) and children are allowed to express themselves and find out about themselves and the world around them in a way that would not be tolerated in the classroom (Bilton, 2002; Ouvry,2003). In their study reflecting on Swedish outdoor learning practice, where pupils had regular and sustained contact with the outdoor environment in all weathers; Sandell and Ohman noted that students knew immediately 'what to do, how to behave, what to pay attention to and how to make working outdoors comfortable and fun .... we never saw the teachers give the students instructions on how to treat plants or animals; we never saw a teacher reprimand a student either' (Sandell and Ohman, 2010). This suggests that pupils take responsibility for their own behaviour and learning. Being in a woodland itself can be a motivating factor as experiencing nature first-hand using all of the senses is something that children can enjoy (O'Brien and Murray, 2007). Children are able to express their emotions through movement at Forest School, for example by skipping for joy or stamping their feet in anger, and there is more opportunity for children to avoid conflict through being able to physically move away from others they don't get along with than there is in a classroom. Conversely, by teaming up children who do not get

along in school, then a leader can help children to mend their differences and this can have a lasting effect. Ouvry (2003) notes that children can move away from confrontation more easily when outside and so are less likely to show signs of frustration and lack of cooperation.

3.2.4 The 'Ripple Effect' – implications of Forest Schools beyond the end of the programme

The learning and development at Forest School is not limited to the time spent at Forest School. Effects include an appreciation of nature and the outdoors, increased care for nature and the outdoors and encouraging others to go outdoors, including parents and siblings, and therefore has a knock-on effect for healthy lifestyles in the family. O'Brien and Murray (2007) identify this as they talk about the evaluation of case studies in Britain. They draw attention to the cases where parents and siblings are invited to the Forest School sessions at the end of the programme. This not only helps to allay parent's fears about risk and inclement weather but also allows the children to demonstrate their achievements. They note that siblings gain an interest and want to take part and parents have the opportunity to gain a different perspective of what can be done outdoors with their children. One parent in that study described how, due to the child's involvement with Forest Schools, it had become a family ritual to take the snacks and drinks that were had at the Forest School sessions, put on waterproof clothes and go to the woods each weekend. This was also noted in older siblings who took an interest in the outdoors due to the younger child's enthusiasm.

Teachers who took part in the study observed that the skills the children developed during the Forest School sessions were applied in different settings such as the classroom – noting a lasting improvement in vocabulary, interaction with others, confidence in talking in groups and calm behaviour in the classroom (Murray and O'Brien, 2007).

Children developing a sense of 'ownership' of, and attachment to, the woodland is discussed in more detail in the proceeding chapters.

3.3 Effective Forest School Practice

O'Brien and Murray (2009) identify ten key factors of an effective Forest School process. These are paraphrased as follows –

- Trained leaders who are accredited and confident in delivering sessions
- A low adult to child ratio
- Freedom to take risks
- Child-led learning
- The same leader working with the group regularly, to enable a rapport to develop
- Good communication and close contact between the school and the Forest School leader, so that it is clear that the sessions are assisting teachers in their role back in the classroom
- A prepared and established site that is safe and easily accessible

- Good access to the Forest School so that the journey to and from the site is not unduly disruptive to the school routine
- Activities are linked to the school curriculum
- Familiar routines and structures to sessions that encourage discipline, safety and the confidence of children in the outdoor environment
- Enjoyment by the teachers and Forest School leaders who gain personal reward by seeing a child achieving something new
- Parent and carer involvement in Forest School activities, strengthening the relationship between a school and the local community.

They go on later in the paper to explain that one of the benefits of Forest School over other approaches to outdoor learning is that children attend on a regular basis and over an extended period of time – this means that they gain benefits that could not be achieved in a few isolated sessions, as a number of children took a 'long time' to become familiar with Forest School (O'Brien and Murray, 2009).

O'Brien (2006) also identifies the repetition of activities and experiences, such as stories round the fire or tree climbing, as being key factors in effective Forest School practice. She states that this builds children's confidence as they know what to expect from sessions.

Waite et al (2006) explored the pedagogical principles of Forest School with a number of practitioners in England. From their research a further four principles of effective Forest School practice were identified -

- A supportive environment

- Tasks separated into small achievable chunks (see also the section below on self esteem for further exploration of this theme)
- The use of the natural environment
- Engaging with all the senses.

A further element of good practice that is suggested and discussed by O'Brien and Murray is the organisation of 'open days' where parents and siblings can visit Forest School. This concept is discussed later on in this chapter under 'ripple effect'. (O'Brien and Murray, 2009).

Trisha Maynard in her exploration into Forest Schools in Britain supports Waite et al (2006) that separating tasks into small achievable chunks is a successful strategy for raising self-confidence in participants by making it more likely that they will succeed. She quotes a teacher who was part of the study as saying:

> Raising children's self-esteem by giving them small, achievable tasks.... these are big words. We believe that if children feel good about themselves then they will become more confident and so you can give them little challenges knowing they will achieve.... and begin to feel that they can push themselves.
>
> (Maynard, 2009).

Maynard also agrees with O'Brien and Murray that the duration, regularity and frequency of Forest School programmes impact on their effectiveness, when she says that impacts on self-esteem are likely to be limited in those programmes which have limited duration. (Maynard, 2009). This is supported by Dillon et al (2006) who state that there is 'considerable evidence' that longer programmes are more effective than shorter ones.

Maynard (2009) also warns against too much teacher-directed learning and points out that this can cause 'learned helplessness', whereby pupils avoid challenges, are less likely to persist in the face of difficulties (Maynard, 2009) and tend to attribute success to good luck and failure to their own lack of ability. She therefore recommends that to develop children as independent thinkers and learners, they should be allowed to engage in a range of tasks over which they feel they have a choice and personal control (Murray, 2009). This theory is supported by Ballantyne and Packer (2009) who advocate experience-based learning over teacher-directed methods, suggesting that pupils remember more of what they learnt, engage more freely, outcomes are more enduring and they highlight that experienced-based learning is particularly important in facilitating attitudinal and behavioural change. (Ballantyne and Packer, 2009). They also agree with O'Brien's assertion that Forest Schools should link into what is being learned in the classroom by pointing out that 'the best results will be obtained when teachers are able to integrate learning in the natural environment with classroom learning strategies, and develop partnerships that ensure the continuity of environmental learning experiences in all aspects of school life' (Ballantyne and Packer, 2009). OFSTED, in their review of Learning Outside the Classroom, also find that schools use external providers to deliver outdoor learning, but often there 'tended to be little liaison and planning with the schools before the visit, it was difficult for the providers to know what the pupils already knew or were meant to learn' in turn, while 'many providers provided educational materials that were of high quality and freely available to schools, schools often used these uncritically, without ensuring that they were relevant enough or adapting them sufficiently to their own classes' particular learning

activities' (OFSTED, 2008 p 15). Waite et al (2011) also support the linking of outdoor education with elements of formal education when they state that 'play .... is an essential mode of learning, but children and staff may not always recognise alternative modes as 'learning' unless they share characteristics with the formal' (Waite et al, 2007. P. 67).

However, Swarbrick et al (2004) advise careful nurturing of independent exploration in younger participants. They point out that separation from a significant adult in an unfamiliar environment can be difficult for children and they highlight the good practice of playing simple separation games such as '1,2,3 – Where are you?' whereby the objective of the game is to be found and all the children and adults respond if the name of the game is shouted. This ensures that children develop increasing independence from their carers, safe in the knowledge that they are not abandoned and that the activity is fun and safe (Swarbrick et al, 2004).

John Dewey, one of the early pioneers of experiential education, believed that reflection must take place in order for learning to occur (Dewey, 1933). Cain, Cummings and Stanchfield (2005) support this, stating that processing is an essential element of learning because it 'helps learners to make connections between their educational experiences, real life and future learning' (Cain et al, 2005). This suggests that time spent at the end of a session, and at the beginning of the next session to remind participants of past learning, will help reinforce messages to pupils and maximise the benefits from the learning.

In their paper reflecting on the Swedish model of Environmental Education, Klass Sandell and Johann Ohman (2010) reflect on the qualities of outdoor life and its ability to give a standpoint on which to reflect on everyday lifestyles and the relationship between happiness and material standards. They identify three guiding principles for an outdoor life pedagogy; firstly that the focus must be on the intrinsic values of outdoor life and not just be an opportunity to deliver curriculum targets or learning objectives. Secondly that simplicity characterises the outdoor life and therefore material or high-tech values should not be allowed to block the encounter. Thirdly that the outdoor life is not itself a burden on the environment – i.e. environmentally sound principles such as sustainable transport to and from the site, limit of resource use and recycling where possible should apply.

3.4 Policy Context

The National Curriculum is undergoing a review and reform to narrow the focus to traditional subjects such as Mathematics, English and Science with little emphasis on holistic, child-led or participatory education. Subjects such as art, design, music, dance and drama are being subject to reduced emphasis in the curriculum and the emphasis is on classroom-based learning, traditional subjects, transferring of facts and a narrow approach to engage different learning styles. The curriculum reform is led by the National Curriculum Reform Group, chaired by Tim Oates and delivered by the Department of Education under the Secretary of State for Education, Michael Gove.

Alongside this, the previous government's Learning Outside the Classroom Manifesto is no longer pushed in schools, schools are not encouraged to sign up to

it and OFSTED no longer have a remit to inspect the provision of Learning Outside the Classroom, with the exception of the Early Years Foundation Stage, where a 'free-flow' is encouraged between the indoors and outdoors.

3.5 Summary

The literature review shows that Forest School provides a nourishing experience for children, which enhances classroom-based learning by making pupils stronger learners, higher in confidence and with more developed social skills. Forest School makes pupils more capable of learning by re-engaging learners and catering for different learning styles, making learning more accessible. The policy pursued by the current government of narrowing the curriculum and cutting budgets for activities such as Forest School will have a negative impact on children and on education more widely – narrowing its reach and sending education backwards to becoming merely a transfer of knowledge from teacher to pupil, instead of encouraging pupils to explore and find things out for themselves.

My research adds to the body of evidence described above by testing theories 'in the field' and collecting data from pupils, teacher and Forest School leaders who are taking part in the programme.

Chapter 4: What were the impacts of the Forest School programme on pupils?

This research comprises an Illuminative Evaluation of a programme of Forest School activity with 36 primary schools across the North East of England. The research aims to explore the impact of the Forest Schools activity was carried out between May 2011 and February 2013.

The research evaluates the ongoing Forest Schools Centres of Excellence project, managed by Groundwork North East, a local environmental organisation, and funded through the Big Lottery Access to Nature programme and the Forest Education Initiative. The project began in May 2011 and will continue until July 2013. Initially volunteers from local communities worked with environmental professionals from Durham, Northumberland and Tees Valley Wildlife Trusts to develop twelve areas of woodland to become 'Forest Schools Centres of Excellence'. This work included improving access, site security and implementing bespoke features for each site to make the woodlands fit-for-purpose for delivery of Forest School activities. The woodlands selected were within communities that face social exclusion and have little opportunity for contact with the natural environment (Jackson, 2012). Three primary schools adjacent to each woodland were approached to take part in the project, therefore 36 schools in total engaged. Each school was offered a programme of ten sessions within one academic year, with a pupil cohort of their choice; therefore the sessions were delivered to pupils in both Key Stage 1 and Key Stage 2. The sessions were delivered by Forest School Leadership Level 3 qualified staff. The aim of the project is 'to increase knowledge,

understanding and enjoyment of the outdoors both for the community members who voluntarily develop and care for the sites as well as for the schools and families who benefit from them', (Jackson, 2012). At the beginning of the programme in each school a meeting is held with the class teacher to establish the class topic and curriculum focus, this enables the Forest School leader to provide a linked programme and suggest relevant follow-up work. A parent meeting is held to explain the Forest School ethos and activities the children will be taking part in, to emphasise the need for suitable clothes and allay fears over health and safety. A risk assessment is carried out of the site and the activities to be carried out and passed on to the school. The session content varied from school to school.

Groups taking part in the programme generally took part in a half-day activity, once per week with a qualified Forest School leader supported by staff from the school. The aim was that the groups would arrive at the woodland on foot whenever possible, but due to the locations of some of the woodlands this was not always feasible. The sites varied greatly from formal parks in urban areas with open public access to rural settings which were privately owned. All had a 'camp' area – a meeting place where groups and leaders would meet and come back to receive feedback and instruction throughout the session and to light a campfire. Children were free to explore the site, within clearly defined boundaries.

In order to draw out significant conclusions from the data and ensure reliability, responses from pupils, teachers and forest school leaders was triangulated to identify what the impacts on pupils from taking part in the Forest School programme had been. The following factors were found to be significant:

4.1 Instilling a respect for nature and the site as a habitat

The teachers, the Forest School leaders and the pupils all identified this as a significant impact of the programme; 3 of the 6 Leaders named 'increased respect for nature' and three identified 'respect for the site as a habitat' as major impacts. 8 of the 32 teachers identified 'raising environmental awareness' as a fulfilled aim of the programme and 20 of the 32 identified children 'learning about nature' as a learning outcome with 6 specifying that their pupils had 'learned to take care of the environment' as a result of the programme. Two of the Forest School leaders also acknowledged that the programme had increased the pupils' 'sense of ownership of the woodland'. At the reflection time at the end of each session when pupils were asked what they had learned that day, of the 68 sessions, on 40 occasions they reported that they had learned 'about nature'. This was especially significant because it was the highest recorded impact identified by pupils, with most other impacts (with the exception of safety) having around 10 or less mentions. When asked what they had enjoyed most about that day's activities, 18 groups said that they had enjoyed learning about nature most. This is supported by Dillon et al (2005) who identified what they termed as the 'affective impacts' of a Forest School programme, that children developed a respect for the environment.

4.2 Increased awareness of the outdoors as a place for recreation, providing new experiences for pupils not accustomed to outdoor living to use the outdoors more

When asked about the impacts of the programme, 3 of the 6 Forest School leaders cited 'new experiences for children who do not have the opportunity to visit the

outdoors regularly' and 'an increase in awareness of activities you can do in a woodland' as factors contributing to the impact the programme had on the pupils. The teachers agreed with this, with 14 of the 32 stating that one of their aims, that they felt the programme had met, was to 'raise awareness in pupils of what can be done outdoors'; also three of them aimed to 'do things that can't be done at school'. One teacher simply stated that the programme was "an amazing opportunity for the children to experience the outdoors". When the pupil groups were asked what they had enjoyed the most from the day's session, 9 of the 68 replied 'being outdoors'. While this alone does not suggest that being outdoors was a new experience for the groups of pupils, the fact that they cited being outdoors as a contributing factor to their enjoyment suggested it was a novel enough experience for them to mention it. Likewise, 9 of the groups pointed out that it was specifically 'being outdoors in all weathers' that had contributed to their enjoyment. It can be assumed that they do not have the opportunity to play outdoors in all weather at school as it is usual practice to keep children indoors in inclement weather. The fire activities could reasonably be assumed to be a new (or at least infrequent) experience for the majority of the pupils attending the programme; the fact that 11 of the 68 groups particularly stressed their enjoyment of this is significant – taking into account the fact that fire was not part of all of the sessions this becomes even more so. Balantyne and Packer (2002) support this finding when they assert that "students who had not visited a site before were looking forward to their visit more than those who had". The real impact here is that Forest School could be seen to provide an alternative in the minds of children

to playing on inactive games such as computers, consoles and televisions. One teacher noted that:

> My original aims for the programme were to develop children's confidence in the outdoor area and for them to become more creative when playing outside. Since the programme started, children are now very willing to play outside in all weather and not just when it is warm. Children are now looking at the natural aspects of the outdoor area and not the materialistic resources we have.

This implies that Forest School has indeed raised awareness in those pupils as to the potential for the outdoor environment in which to play and learn, and through the modelling of simple activities that can be repeated at school, or indeed at home, the children are more likely to choose to use natural and outdoor resources instead of what the teacher called 'materialistic' resources. There is obviously a question to be asked regarding how long this effect lasts – but it is reasonable to assume that continued, regular sessions would continue to extend the pupils' awareness of the potential of the natural world for play.

One teacher interviewed stated:

> I think that the project has been a great success. Children have had experiences that they would not have had before and seen nature close up in some great settings.

A Forest School leader agrees with this:

> Children gained knowledge of the variety of activities that you can do in a woodland and this expanded their experiences beyond what they had done before.... (it) increased children's understanding of a woodland both as a habitat but also as a resource which can be explored and enjoyed.

A teacher interviewed sums up how Forest School has changed her class' attitude to the outdoors by recounting the following:

> A number of the children started the project not enjoying going outside and touching the ground / mud etc. They would become upset and complain

> that they didn't like the cold. Now every child in my class would certainly choose to play outside all day long come rain or shine. We took part in a bug hunt last week and every child used their hands to pick up logs and search through the mud for bugs. This is all down to the fantastic project we have been so very lucky to be a part of. Thank you!

The findings from the children's appraisal of what they had learned also supported this, as 2 groups identified 'all weather learning', 39 groups cited 'learning about nature' and another group mentioned 'to have fun outdoors' as what they had learned during that session. Tellingly, 2 groups actually stated that they had learned 'to get dirty', which support the observations from teacher above regarding getting dirty as something that children had had to learn to enjoy. As an interesting antithesis to this, it is worth noting that 4 of the teachers responded to the question regarding site suitability with the statement that the site was 'too muddy', one even stated that it resembled 'the Somme!' Perhaps there is a balance to be found: or perhaps these particular teachers do not like getting muddy themselves. As can be seen in the literature review, and will be discussed further in the proceeding chapters, teacher attitude to going outdoors can be a big barrier or enabler to outdoor learning, depending on their viewpoints.

The findings reveal that pupils enjoy doing the very simple, but perhaps more active activities outdoors. 3 groups simply stated that they had enjoyed 'moving logs around', 13 others enjoyed 'collecting' things and 8 simply liked 'exploring'. The most popular activity was 'eating and drinking' with 27 groups of the 68 saying this was one of the things that they had enjoyed most; followed by 'art'(21) and 'shelter building' (20). These activities, with the exception of eating and drinking, have the following in common: they involve moving around the site, being independent, foraging, collecting and working with others. Surprisingly perhaps, the 'Games' (i.e.

1, 2, 3 – Where are you?) 'Fire activities' and 'Using tools' were not as popular – they would be new experiences, and certainly they were still very popular (with 11, 11 and 10 groups identifying them respectively), but perhaps they were not as popular because these activities are adult-directed and very focussed on health and safety, with high supervision and instruction elements. Teachers also identified that the pupils had learned how to 'forage and explore', with 9 citing this as a learning event and a further 5 citing 'new environment' when asked what learning they felt had taken place.

When asked 'What Learning do you feel took place?', many of the teachers highlighted learning about the outdoors, or what can be done in the outdoors, as significant learning events. 7 cited 'outdoor living', 5 'awareness of local green spaces', 2 'to be out in all weather' 5 said their pupils had learned about 'the new environment' and a very significant 27 said their pupils had learned 'enjoyment of the outdoors'.

The Forest School leaders questioned indicated that they believed that one of the impacts of the programme was that children would use the outdoors more. All 6 questioned stated that 'children used the outdoors more' and 3 of the 6 thought that 'families would use the outdoors more' as a result of the programme'. This is supported by the research carried out by O'Brien and Murray (2007) who draw attention to the case studies where parents, as a direct result from their child's involvement in Forest School, began to take their children to the woods each weekend. This is discussed in more detail in the literature review of this thesis. One of the Forest School leaders says:

> The genuine interest and inquisitiveness the children have demonstrated is likely to be a driving force for them to want to spend more time in the outdoors, whether it be woodland or other natural environments, and it is likely that they will encourage their families to visit these localities. I feel children will take more time to explore woodlands and find opportunities to look closely at nature e.g. what might be hiding in a tree, what do fir cones feel like etc.

To demonstrate that Forest Schools has influenced their perceptions of the outdoors, these comments made by pupils at reflection groups can be said to highlight the changes in pupil attitude:

> "Wet, wet, wet; but still Fun, fun"; "I thought that getting muddy would be awful but it was the best bit of it!" and "Forest School has made me like nature".

These statements support the teachers' observations seen above, providing insight into the fact that the children have an altered approach to learning and playing outside, and a fresh perspective on what can be done outdoors. When reflecting on the literature review of this thesis and the evidence of the growing concerns for children's sedentary lifestyles, Forest Schools can be seen as a useful tool in getting children to play outdoors more, with the added benefit that their families will come with them.

4.3 Increased pupil confidence and / or self-esteem

In the teacher interview and the case studies of the pupils, improved self-confidence can be seen to be identified as a very significant impact of the programme. The teachers interviewed state:

> The first time E spoke to me was on a Forest Schools session. This was several weeks after the year had started. E was withdrawn and rarely interacted with her classmates and was very isolated. During the sessions, and after in school, E has flowered. E is chatty, has made friends and is like a different child. Homework / reading and other work are now completed. A new personality has been uncovered!

The example from Swarbrick et al (2004) given in the literature review of this paper, recounts the case of a child with language difficulties who did not speak in class and how this was improved greatly through the Forest School sessions, supports the observation of the above case.

> C has improved in confidence through the Forest School setting. He was very vocal and confident to get involved in activities where he could excel, with a higher focus on knowledge of the wild than more traditional literacy and numeracy lessons.

The element of this statement which is of particular interest is where it is pointed out that the child grew in confidence because he was taking part in activities 'at which he could excel', and the suggestion that he didn't usually excel at school. This supports the theories of Donaldson (1974) when she suggests that children disengage from school because they are 'compelled to do something at which they repeatedly fail'. Forest School can therefore be said to increase child self-confidence and engagement in lessons through enabling them to succeed by giving them an entirely new learning environment and task focus. Gary (2012) noted that the mastery of difficult tasks was seen to increase resilience and self confidence. Gary (2012) also suggested that children developed socially and their ability to relate to peers and teachers improved at Forest School, noting that there was an improvement to overall happiness in the group and a collective feeling of accomplishment.

When referring to a child who had English as a second language, another teacher refers to the observed increase in self confidence due to an informal and natural environment in which to practice her English:

> CA has improved in confidence due to the nature of the group work and activities where she feels comfortable to communicate and practice her English, she has benefitted from working alongside her peers in a more neutral setting as she is new to the school

Murray and O'Brien (2006) also found this to be a significant impact, they state that Forest Schools can help to facilitate spontaneous conversation and requires the use of descriptive language. Of special relevance to this case, they can be quoted as saying "vocabulary is also improved through interaction with more competent language users"; in this case other children, who the child had more call to talk to and, presumably, could listen to English in a natural conversational style.

These statements are backed up by the questionnaires to the teachers, one of who's explicit aim in attending the programme was to develop pupil confidence and 6 of the 32 who identified the increase in pupil self-esteem and self confidence being a significant contributor to the programme's success. When asked about what learning they felt had taken place, teachers also attested to the increase in confidence with 4 specifying this as a learning event.

As can be seen in the literature review, there is much literature that attests to the fact that Forest Schools can improve pupil self confidence and self esteem. The Forest School leaders questioned during this study also agreed that this was a significant impact; 5 out of the 6 cited 'increased self-confidence' as an area of impact on children. One states:

> It (Forest Schools) has given children the opportunity to experience the outdoors – increased their self-esteem and confidence and it has had a major impact –the children want to do more.

The pupils also agree with this perception, with one group stating that they now 'feel confident to explore', and, as has been seen, child-initiated learning is more effective than teacher-directed learning.

4.4 Improvement in pupil's inter-personal and social skills

Teamworking was identified as a significant aim of attending the programme by the teachers; with 7 of the 32 particularly highlighting improved teamworking in their classes as an aim and a further teacher stating they would like to improve their class' social skills more generally. The Forest School leaders agreed with the teachers' appraisal in that 3 of the 6 questioned believed that 'improved interpersonal skills' was a significant impact of the programme. Attesting to the fact that the Forest School programme supports development of pupil's interpersonal skills, as well as self-confidence, a Forest School leader responded:

> I could see the children growing in confidence throughout each session. Behaviour of the children improved and the children worked really well as a team

Which suggests that the longer the sessions go on, the more confident and relaxed children feel in the woodland setting and the more at ease and ready to work together they are: this is manifested in improved teamworking, cooperation and behaviour.

Another teacher interviewed said of a pupil:

> The Forest School was a perfect opportunity for H to be outdoors and use energy constructively and work well as a team. A range of activities helped Harvey to achieve success above other peers. Good confidence / self-esteem building

This reflects the assertion in the above section on the impact of Forest School on confidence, and the finding that by changing the learning environment and allowing children to succeed by doing different activities can bring on a child's confidence and hence interest in learning.

The pupils identified 'team working and sharing' as an important learning event for them, with 11 of the 68 groups questioned identifying this as something they had learned at Forest School. Communication was also reasonably significant with 6 pupil groups saying they had learned better communication skills as part of the session.

One pupil can be quoted as saying: "It is important to work together because if you don't nothing gets done properly", showing that, for this child at least, the message has got through.

Dillon et al (2005) supported this finding, also recording a notable improvement in team working and an improvement in the use of descriptive language. O'Brien and Murray (2007) also noticed that during the Forest School programmes they observed Forest School not only improves individual self-esteem, but improves the ability of the individuals to work cooperatively and increases their awareness of others; O'Brien (2009) agrees, highlighting teamwork, freedom from adult supervision, forming new friendships, increased awareness of others and learning about oneself and what can be achieved with cooperation and negotiation; supporting the findings described above.

4.5 Pupil enjoyment

As has been seen in the literature review and will be discussed in more detail in the next chapter, the emotional state of pupils has a significant impact on learning. Pupil enjoyment can also impact on their behaviour, their engagement with the session and their attitude to school in the longer term. Moreover, I believe that pupil enjoyment has an intrinsic value and is to be fulfilled where possible. One of the most significant impacts of this programme of Forest School activity was the impact on pupil enjoyment. When they were given the opportunity to answer the question 'did you enjoy the session' with thumbs up to indicate 'yes', thumbs down to indicate 'no' or thumbs sideways to indicate 'not sure' or ' some but not all'; pupils overwhelmingly reported that they had enjoyed the session. As can be seen from Appendix one, none of the sessions had thumbs down; and the vast majority didn't have any thumbs sideways either. Those that did had either less than 2 or less than 4 individual pupils. This shows strong evidence that Forest Schools was enjoyed by the groups on this programme.

Pupils themselves, during the reflection time focus groups, enthused about their experiences. Some of the recorded quotes can be seen below:

"Forest Schools are the best thing ever!"; "We loved it all!"; "We have fun every week!"; "The only thing I didn't like was finishing Forest School"; "We like it all, it was amazing, brilliant, fandabidozy, spectacular, exquisite, divine, remarkable, wonderful, excellent, superb, vivid, outstanding and intense"

The final quote, if nothing else, demonstrates that the vocabulary of pupils is stretched by the experience!

4.6 Summary

As can be seen from the findings described above, the support the emerging theory from this research that Forest School provides a nourishing, holistic education which supports children's personal and social development and increases their capacity as learners. By reforming the National Curriculum, cutting funding and hence reducing the amount of Forest Schools which schools take part in, there is a real risk that not all children are going to achieve their potential, with a reduction in attendance, attainment and engagement.

Chapter 5: Forest School and the implications for Teaching and Learning

5.1 Forest School can aid children to becoming independent learners

As has been seen in the literature review of this study, previous researchers have found that Forest School can facilitate independent learning in children. Hannah Gary (2012) observed that the setting encouraged child-led learning and responsible risk-taking; Maynard (2007) noted that this managed risk-taking had an impact on children's willingness to take risks with their learning within classrooms and O'Brien and Murray (2006) found that children gained confidence in taking measured risk and initiated their own learning.

The findings of this study support these affirmations. Of the 6 Forest School leaders, 2 of them reported that they had found increased independent learning as being a key impact, along with 5 teachers of the 32 questioned. One of the teachers interviewed said of a pupil:

> ID is out of her comfort zone and learning in a different way. The challenge has been put in her learning big time

A forest school leader points out how children's learning became more independent of adults as the weeks went on. This fostering of independent learning could be due to the fact that Forest Schools is child-initiated and, while the leader sets up tasks, children carry them out at their own pace and using the methods they see fit. This gives children freedom to make choices, which in turn encourages them to think about what they are doing rather than simply following instructions. Additionally, while health and safety instruction is given and boundaries are set,

children are given responsibility for maintaining these boundaries and this gives them a sense of independence and responsibility that they can live up to.

The independent learning is also fostered through pupils coming up with ideas, trying them out, re-working them if they fail and eventually succeeding through the 'trial and error' and 'have a go' ethos that Forest School fosters. For example, in a den-building activity, children are required to think about the design of their dens, find appropriate materials on the site, attempt to construct their dens as planned and then re-think it if it doesn't work the way they had hoped – children are therefore applying their knowledge of maths (i.e. size and shape), science (i.e. forces) along with thinking and reasoning skills to the real-life task in front of them.

5.2 Forest School can give a real-life element to learning

It is also well-documented that Forest Schools provides a 'real-life' element to learning, due to the fact that it is in a woodland setting. This is particularly pertinent when studying habitats, species, food chains or nature more generally but also applies to the development of life-skills such as shelter building, fire building or relating to others. The learning is natural and unintentional on the part of the learners. The literature review details many previous findings that support this. Waite et al (2006) say that development of skills, knowledge and concepts from across the curriculum are given an authentic, real-life and purposeful meaning. Maynard (2007) states that one of the main benefits of Forest Schools is that the learning itself is embedded in meaningful, real-life activity.

The data collected during this study from the teachers, Forest School leaders and pupils supports these findings. Forest School leaders highlight that children gained

an awareness of the seasons and of wildlife and habitats generally; these things can be taught in a classroom but by seeing the weather changing and the effect it has on woodlands makes this real in children's minds and affirms what they already understand about such things. 2 of the Forest School leaders also indicated that the different learning environment and the resulting increased awareness of environmental issues was one of the factors that made the project a success. This can be particularly effective when the woodland has suffered at the hands of humans – i.e. by litter or vandalism. Bonfire night fell the day before one of the sessions and the pupils in the group the next day were able to witness first-hand the destructive effect of illegal fires on outdoor areas. Likewise, when they were foraging and found litter they were indignant that anybody should ruin 'their' woodland in this way. The danger and destructive properties of fire and the anti-social element of dropping litter can be taught in a classroom, but, like many things, through witnessing things first hand the message is reinforced in ways that are not possible without seeing the real-life evidence for oneself.

Minibeast hunting, den building and map-making are examples of activities that could be done in the school grounds, but the real-life element of being in a woodland add a dimension that brings the learning to life. For example, children get excited about looking in bark, under logs and in shrubs for minibeasts and the fact that they are not guaranteed to find what they are looking for makes it even more rewarding when they find a minibeast and are able to capture it in their pooters. Den building with real logs and brash is simply more exciting (and again takes more effort to find items) than using tarpaulin and tent-pegs and mapping trees, rocks and mounds is much more imagination-capturing than mapping a football pitch,

climbing frame and playground. Likewise, collecting sticks from a woodland and making a fire to cook on is a somewhat more authentic experience than buying charcoal to use on a barbeque and the fact that the pupils use fire steels (and not lighters) to light the fires themselves means that they learn that lighting a fire is actually quite difficult but ultimately worthwhile in persevering in, they learn the fire triangle for themselves simply because the fire will not light without all three elements being present and safety comes naturally through self-preservation as well as support and instruction from adults.

The pupils in the study also identified these 'real life' elements to learning as being significant. Making fire and shelter building were high on their list of identified learning events with 9 and 12 groups respectively identifying these when asked what they had learned from that day's session. Teachers agreed with this, 9 identified 'life skills' and 2 actually stated 'real life learning' as what made the programme a success.

5.3 Forest School can improve recall and reinforce what has been learned whilst providing a stimulus for further learning

O'Brien and Murray (2007) carried out a survey of teachers as part of their evaluations into Forest School programmes in England and Wales. The teachers surveyed observed that the skills developed by children at the Forest School setting were applied in different settings such as the classroom. They noted a lasting improvement in vocabulary, interaction with others and confidence in talking in groups. Erk et al (2003) found that a positive emotional context and freedom of choice of activities resulted in children remembering learning more effectively than

otherwise. This theory also supports the independent learning theme discussed above.

The findings of this study agree with O'Brien and Murray's findings. The Forest School leaders surveyed observed that 'outdoor learning continues after the session' and that 'children talk about Forest Schools back at school'. This was evident when more than one group of pupils from the same school were engaging in sessions; they knew what their colleagues had been doing at their earlier session. Also, from my own observations, at the beginning of each session I ask the group to reflect upon what they did and what they had learned at Forest School last session. The aim of this is to guide their thinking towards the activity in hand and to encourage them to continue this learning. The children had good recall of the activities that they had taken part in and what they learning objectives had been, also what we had discussed would be the focus for the current session at the previous one was always clear in their minds and they had obviously been looking forward to it. This is supported by the teachers surveyed, 8 of which reported their children talking about Forest School back at their school and 6 saying that the 'children want to keep coming'. When asked about the learning that they felt had taken place, 7 teachers specifically mentioned 'children talk about it afterwards' as an element of this and 8 identify 'children talk about Forest School at school' as a reason why they felt that the project had been a success. One teacher stated:

> All children came away from their Forest School session excited to share with their friends what they had been doing.

One teacher goes even further in describing how Forest School had provided a stimulus for a child's learning activities back in the classroom:

> CF delivered a fifteen-minute presentation on what he had learned – how he had learned it and what he had done at home to extend it. As a class we found out about his Granddad's allotment. Unheard of before.

This can be taken further, by involving the whole school as in the example below, given by one of the Forest School leaders:

> Children were very enthusiastic about attending the sessions each week and presented a wonderful assembly to the school at the end of the programme which I feel reflected their learning and enjoyment

It is well-documented that children retain more information when they are 'teaching' others or talking about what they have done, this reinforces their learning. At one of the schools in the study, the pupils invited their parents to a presentation where they had set up indoor versions of activities they had taken part in during their Forest School programme. The children themselves directed the adults in how to do the activities and they then presented a slide-show of pictures of their experiences. I believe that this reinforced their learning and helped them to recall what they had been doing.

It is documented in the literature review that outdoor education works best when lead-in and follow-up activities in the classroom link to it. Some of the schools observed through studying this programme had some fantastic examples of how they had used their outdoor experiences as follow-up work; for example Bonfire Night topic meant making firework pictures out of crushed leaves, the pupils kept Forest School diaries, which encouraged them to reflect on what they did, what they had enjoyed and what they had learned and some brilliant examples of classroom displays based on the sessions were observed. Unfortunately, also observed were some examples of teachers who cancelled sessions due to a small

amount of inclement weather, and who simply turned up on the day with no lead in or follow up work to support the learning.

5.4 Forest School can improve pupil engagement and behaviour

Following on from the themes discussed in the literature review of this thesis, researchers such as Bredekamp et al (1992) and Waite et al (2011) found that activities that are based on children's interests and provide enjoyment and autonomy of choice provide motivation for learning. Obviously, when pupils are motivated to learn they are more likely to engage in lessons, listen to instructions and remain on-task as this is what their desire is guiding them to do. Battersby (1999) also agrees that learning experiences in the outdoor environment have been associated with increased levels of student motivation and achievement. This could be because, as is mentioned above, pupils feel that they have choice in activities or at least how to complete a task, or it could be that the activities are rooted in real-life –i.e. if they do not work hard to make a den or a fire then they will not have a den to play in or a fire to toast marshmallows on – not remaining on-task has real life consequences of missing out on something their classmates have. As is also discussed in the literature review and in the previous chapter on pupil impacts, the fact that the work is not strongly adult-directed may be enough motivation in itself for some children to take more interest in their tasks. Additionally, there can be peer pressure to behave, remain on task or pay attention to instructions – for example if an activity cannot begin until a safety talk is carried out or a team member is not pulling their weight, resulting in the group's task not being completed effectively then other pupils may apply pressure for the dissenter to conform.

However, as there is a plethora of literature that attests to pupils engaging best in activities that they enjoy or interest them, then it is clear from the results of this study that Forest School can engage pupils in learning. Looking at the fact that the vast majority of sessions were received with 'thumbs up' from every child when asked if they enjoyed it, and the positive comments such as "I didn't dislike anything – I loved learning" from the pupils, and triangulating this with evidence from the Forest School leaders- 4 of whom cited 'pupil enjoyment' and 3 citing 'pupils engaged in learning' as reasons why the project was a success – then it is clear that this study supports the findings of those cited above.

The teachers themselves agreed with this; 2 noting that 'children's behaviour was better outdoors' and 2 each stating that Forest Schools 'improves pupil behaviour' and 'makes learning fun' when asked their opinions of Forest School as an approach to learning. One teacher observes:

> The children were very interested in learning in an outdoor environment and I feel that this stimulated their learning as they were more willing and eager to explore their surroundings and in turn extend their knowledge and understanding

A pupil observation, supporting the suggestion that children engage better when they are interested in the learning, reflected:

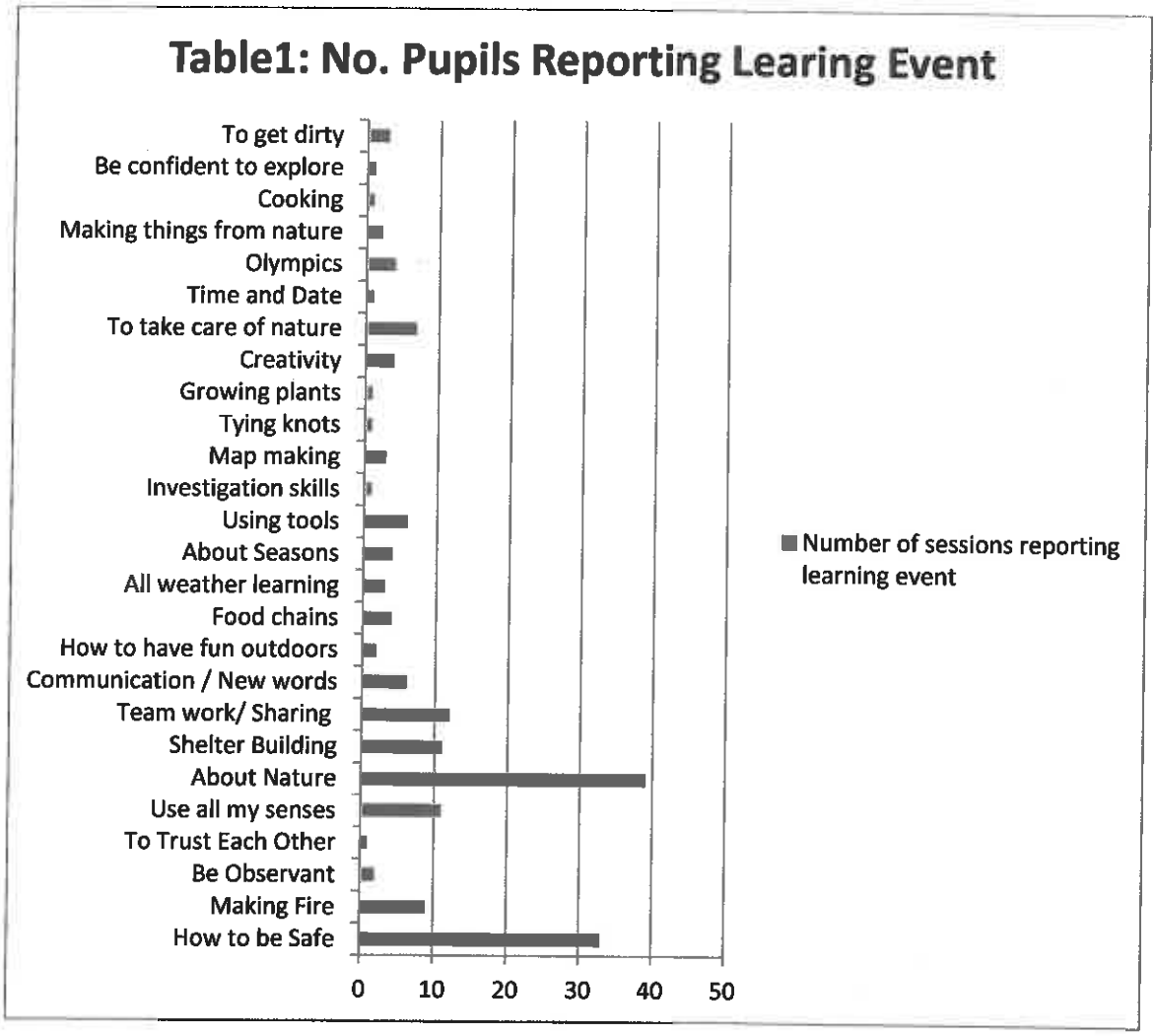
> C has a large interest in facts and non-fiction, so the Forest School added to his passion for learning.

5.5 Forest School is cross-curricula and suites a variety of learning styles

Among research discussed in the literature review is Maynard's 2007 study who states that Forest School spans many curriculum areas, in particularly noting language, literacy, communication, mathematical development and creative

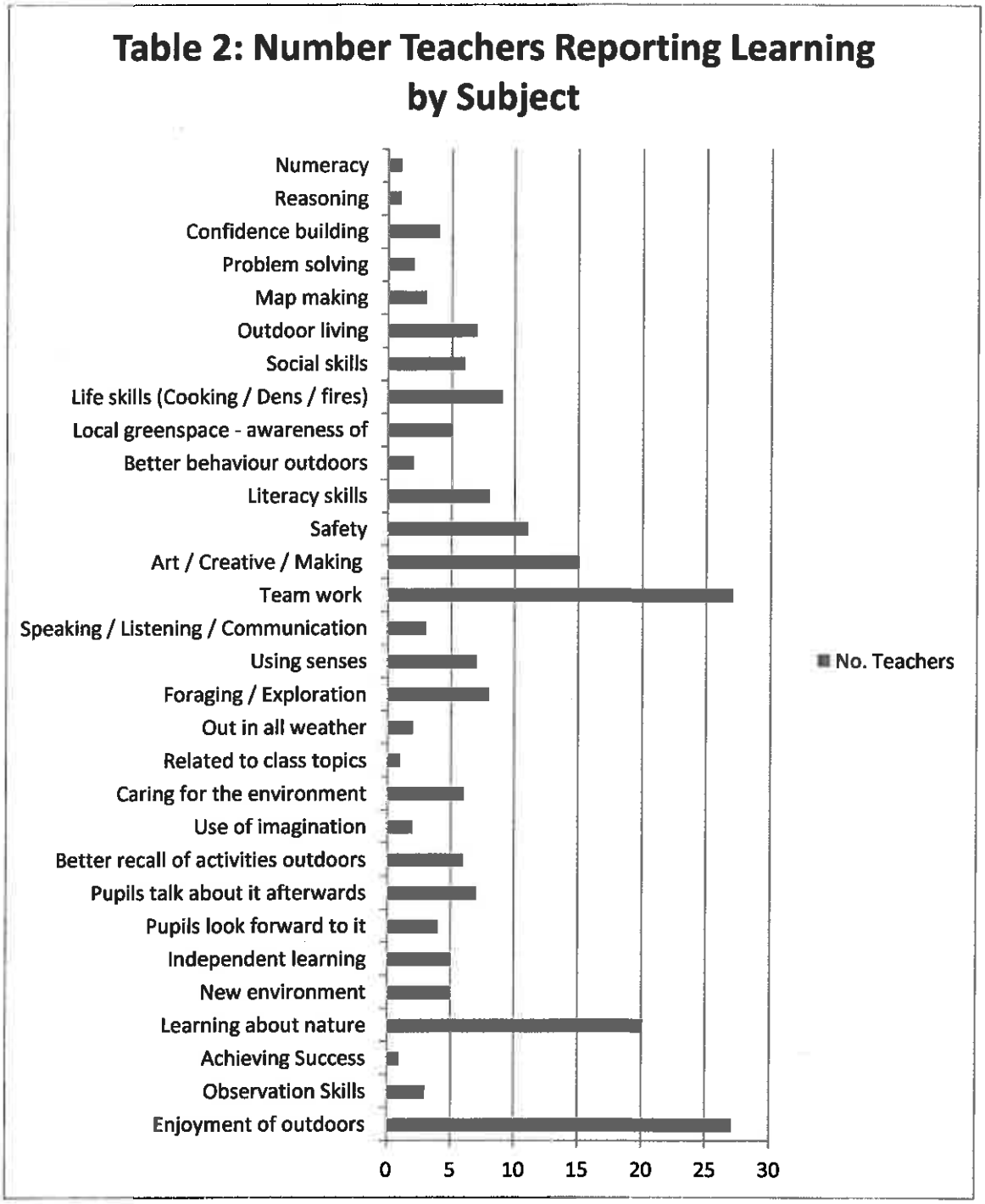
development. Kenny (2010) highlights the particular suitability of the approach for people with the kinaesthetic learning style. These findings are supported by these research findings.

When the pupils were asked at the end of each session what they felt they had learned the variety of responses show that the approach is cross curricula, with 'how to be safe' and 'about nature' showing the highest number of mentions. It is worth noting that each group followed a different scheme of work and this could explain why the other things that they learned were recorded in lower numbers, also that children often do not regard what they see as play as learning, as discussed earlier in this thesis. Many areas of the curriculum feature in this list, including a class topic (Olympics) and practical skills such as 'using tools' 'making fire' and 'shelter building' which would be difficult to teach in a classroom environment. Learning events which directly relate to the primary curriculum include 'creativity', which relates to art and design; 'growing plants', 'about seasons', 'food chains', 'senses' and 'about nature' which relate to science; 'map making' which relates to Geography; 'time and date' which relates to Maths and 'Communication/ new words' which relates to English. The pupils also noted that they had learned more general skills which can applied to cross-curriculum learning such as "investigation skills', 'team work', 'use all my senses' and 'to be observant'. The graph below shows a breakdown of what the pupils felt they had learned.



The data from the teachers questioned also supports this, when asked what learning they felt took place. The graph below shows the scope and variety of the answers, and again illustrates the variety of topic and curriculum focus that can be applied in the Forest School setting. Again, knowledge that links directly to the Primary curriculum can be seen, i.e. 'numeracy', 'literacy skills' and 'speaking, listening and communication' which relate to the English topic; 'map making', local green space' and 'caring for the environment' which relates to Geography; 'learning about nature' which relates to science and 'art/ creative / making' which relates to Art and Design. The teachers, like the pupils, identified cross-curricula skills such as 'reasoning', 'problem solving' and 'observation skills' as learned in the sessions. The

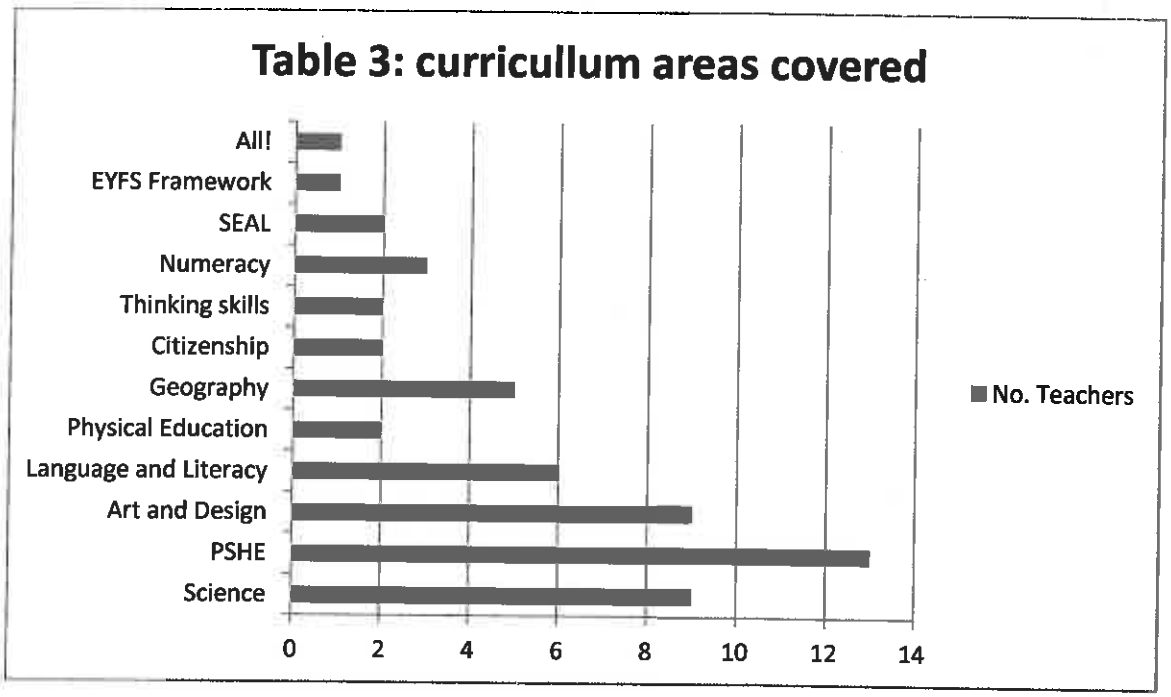
data also shows that the sessions related to the class topic in some occasions, supported by 5 teachers who identified that one of their aims of the programme, that had been met, was that it linked with class work.



The following figure breaks down the answers from teachers to the question 'What aspects of the curriculum were successfully delivered through the programme?'

and it can be seen that Personal, Social and Health Education (PSHE), Science, Art and Design, Language and Literacy, Geography and Numeracy were all strongly identified as being delivered through the programme with Physical Education (PE), Citizenship, Social and Emotional Aspects of Learning (SEAL) and the Early Years Foundation Stage (EYFS) Framework all being identified by a smaller number of teachers.

The data shows that all aspects of the curriculum delivery is supported by Forest School.



Teachers interviewed also affirmed that the programme linked well with the national curriculum, one stating that:

> The children gained valuable information linked to what they are learning at school, and experienced success at what they had to do

Another affirming that the programme supported the assessment of pupils:

> When filling out children's assessment profiles this year the Forest School programme has offered me endless amounts of evidence for wide-range of profile points

Which I feel links very closely with the 'teachers gaining new perspectives on pupils' theme discussed below in 5.7.

One of the teachers responded that Forest School was 'good for kinaesthetic learners', which supports Kenny's (2010) suggestion above.

5.6 Forest School can improve teachers' confidence in taking their class outdoors

In the literature review, identify barriers to learning at Forest School are identified, one of these was identified by Dillon et al (2006) as 'teachers' lack of confidence in teaching outdoors' and O'Brien (2006) finding that teachers were nervous about teaching and managing classes in an unfamiliar environment. I believe that there are many reasons for this; I suggest that teachers sometimes assume that they will have less control over their class outdoors, they have to take into account the public, the site, hazards and risks and the possibility of losing pupils as well as much paperwork and the fact that initial teacher training rarely goes into detail about outdoor learning and how to teach the curriculum in an outdoor environment. Some teachers simply do not like to be outside or worry about getting cold, wet, muddy or injured. Others do not see the potential of the local environment such as the small pockets of woodland this programme took place at and think of outdoor learning as needing to be in a remote place, probably a bus journey away, with lots of facilities as part of a big, organised school trip. The opportunity to spontaneously visit local green space is made so much more difficult by the parental consent and

risk assessments that need doing beforehand. Therefore, anything that increases teacher confidence and makes them more likely to use the outdoor space in or near their school has got to be a worthwhile endeavour. From using the data in this study, it is clear that Forest School does this effectively.

The Forest School leaders surveyed felt that teachers were more likely to go outdoors as a result of the programme, 2 of the 6 stated this when asked what the impacts of the programme were. The teachers themselves gave very strong indication that this was the case – 31 of the 32 asked said that taking part in the programme had increased their knowledge and understanding of outdoor learning, with 25 of these stating that they had gained ideas to repeat with future classes and a further 1 going further to say that they were going to share these ideas with colleagues. Four of the teachers said that their aim in taking part in the programme was to get new ideas to take back to their own settings. A very encouraging 18 said that one action they would take as a result in taking part in the programme was to 'do more learning outside the classroom' 12 said they would like support to develop their school grounds for outdoor learning as a result of attending the Forest School programme and 8 said that they would like more activity ideas for outdoor learning, this indicates that more support could be given i.e. a teacher's pack with activities in. This is discussed in more depth in Chapter 6, where Good Practice at Forest School is drawn out of the data.

The teachers who were interviewed also drew attention to the fact that they would take part in more lessons outside in future. A selection of quotes from the interviews:

> The programme exceeded all expectations I previously had. Forest School opened up a wealth of exciting opportunities for learning outdoors, not only for the children. I can't wait to put some of the excellent ideas into practice

> Every lesson has informed and inspired me to do more outdoor learning in school. I now have a good bank of resources and ideas for outdoor learning which I have passed on to other colleagues in school

> This project has given us the opportunity to purchase outdoor clothing for our children which allows us to use our outdoor area all year round

From these quotes and the other data described, it can reasonably be assumed that those teachers, and those schools, that took part in the programme will use the principles and ideas given at sessions to influence and guide future lesson planning and perhaps even the school grounds and ethos itself. This, combined with the findings that pupils are more likely to go outdoors, provides evidence that the approach works to combat inactivity.

5.7 Forest School can give teachers a new perspective on pupils

This study supports Liz O'Brien's findings that Forest School can enable teachers to gain a 'new perspective' on pupils and that pupils and teachers get a better understanding of each other through interacting in a different way in a new setting. Six of the teachers identified 'seeing my children learning outdoors' as a way the programme increased their own knowledge and understanding of outdoor learning. One observation states:

> C got involved in activities where he could excel, with a higher focus on knowledge of the wild than a more traditional literacy and numeracy lessons

This also supports the finding that children are more willing to learn when they are interested in a subject or enjoy the experience; also that Forest School gives children with different learning styles or who are less able in more formal subjects the opportunity to shine, or 'gain profile points' as the teacher in the above section states.

Another observation supports this view, and the finding that pupils and adults interact differently. Interestingly, this teacher also refers to the lack of ability of 'traditional' lessons to engage pupils; although actually it is 'traditional' teaching styles rather than 'traditional' subjects which fail in this way, as can be seen above, outdoor learning methods such as Forest School can be used as a method to deliver subjects such as literacy and numeracy effectively, as part of a wider scheme of work:

> CF tends to hold back in class and rarely offers any questions in 'traditional' lessons. On Forest Schools sessions he has been animated, eager and up for every activity. He has interacted with adults and children to a much greater degree than previously

Another observation also affirms this finding and also that children who are seen as less able in class can become the more able, higher achieving at Forest School due to its flexibility to deliver outcomes for all learning styles:

> ID is intelligent but tends to rest on her laurels and never pushes herself. On Forest Schools, I have seen her way out of her comfort zone, competing with children who she would not be able to do so in the classroom. Her knowledge has been increased and her application skills / using and applying her skills have been stretched

Another teacher reflected:

> (Forest School) has given teachers (the opportunity) to work with Harvey in a different setting and have more freedom than he normally would have in a classroom setting – it has strengthened pupil-adult relationships

5.8 Summary

The findings related to Teaching and Learning support the emerging theory that Forest School supports multiple intelligences, can engage hard-to-reach children and improve attendance, attainment and pupil engagement, giving a nourishing education aimed at turning pupils into independent learners with a passion for investigation, exploration and knowledge. Again, it is reiterated that the risk in future is that schools will find it increasingly difficult to take part on such activities due to reduction in funding, a narrowly-focussed curriculum and OFSTED focussing on other priorities.

Chapter 6: Implications for future good practice at Forest School

Through analysing the responses from the participating teachers, pupils and Forest School leaders and by reviewing the literature, the following recommendations for good practice at a Forest School setting has been established.

6.1 Liaison between the Forest School leader and the school before the session

It is important that the Forest School leader contacts the school before the visit to discuss the session content. O'Brien and Murray (2009) identify activities linking in to the school curriculum and 'good communication and close contact with the school and the Forest School leader, so that it is clear that the sessions are assisting teachers in their role back in the classroom' (O'Brien and Murray, 2009). Ballantyne and Packer also observed that the best results from outdoor education programmes came when the learning was integrated with that what was learned in the classroom. This study supported their findings; 3 of the 6 Forest School leaders questioned identified 'good liaison with the school' as a positive to the management of the programme. One says that 'all sessions have been well organised, with clear communication with the school beforehand'; a teacher agrees with this and says 'all sessions were well-planned and related to the class topic which captured the children's interest'. Another Forest School leader points out that it is not just session content linking with classroom based learning that was important, but also that logistical arrangements were well-planned also 'there was good liaison between myself and the school and so all arrangements ran smoothly and children arrived on site on time with their essentials'. Teachers generally appeared to feel that the programme was well-organised, with 6 stating as much

and there was an absence of negative comments from the teachers asked 'how well do you feel the programme was managed?' In some cases, Forest School leaders developed their programmes with the information about class topics and schemes of work, for example the Olympics was around the time of one programme and the leader linked all work to the Olympics to compliment what was being learned in class, for example the children made mascots from natural materials and created 'Mount Olympus' instead of dens. The boundary-setting linked to the themes of 'what are the qualities of a good Olympian?' and the work was displayed in the classroom which reinforced what the children had been doing. Other leaders fit in with class topics, such as habitats. Sample sessions can be seen in the appendix of this paper.

Introducing the session to the children is also important, as they can then understand how the sessions link to their learning at school, they can prepare for the sessions and start thinking about them and even look forward to them. The Forest School leaders in this study often wrote to the children, either as themselves or as a fictional character (i.e. fairy or goblin) to 'hook' them into the session before they even got to the woods.

6.2 Involving parents and family members of pupils

Giving information to parents is also important, as they need to prepare their children for the sessions in terms of clothing and food. As can be seen in the literature review, O'Brien and Murray note that this can also allay parents' fears about inclement weather, health and safety and a stranger taking their children's

lessons. Parents were often invited to attend the last session of the programme of sessions and this proved to be an extremely positive factor – in one school, the children led Forest School activities for their parents to take part in which enabled them to celebrate their achievements and reinforce their learning. A happy effect of this is that parents are more aware of the woods and more likely to take their children to the woods – anecdotally, many children said that they had been back to the delivery site with their parents and in O'Brien and Murray's study there was one family who had made this their new weekly ritual. However, one of the teachers questioned during this study indicated that parents being willing to come along would be the thing they would want more from the programme, so this did not happen in all of the schools.

6.3 Session planning

The session length, programme length, the way the session was broken up and the number of adults to support the pupils were identified as important factors to take into consideration when planning the Forest Schools programme.

6.3.1 Session length and programme length

It was seen in this study and can be seen in others that the length of sessions and the length of the programme are important factors in the success of a Forest School programme. Maynard (2007) indicates that to have the desired effect on self-esteem, a programme needs to be of a critical length and not limited to a handful of irregular or one-off sessions. Equally, when taking into account the travel to the site and back to school, setting up activities and setting boundaries then it is important

that the sessions are long enough for the children to become engrossed. A teacher noted of the programme:

> The delivery of the sessions was suitable for young children, there was always a range of activities which were long enough for children to get everything they needed out them but yet short enough for children not to become bored

However, another reported their opinion that the sessions were not long enough for the activities planned. There is a balance to be struck – and it is good practice to take more resources and activity plans than needed in case the group finish tasks faster than expected, but it is also important to remember that the ethos is that of child-led learning and that if a group want to spend longer than planned on an activity because they are engrossed then it is important that this is supported through a flexible approach from teachers and Forest School leaders.

The programme of sessions in this study was ten sessions, delivered over a term once per week but allowing the first and last weeks of term to be clear. The sessions were typically 2 hours in length to take into account the afternoon session in school, and 18 of the teachers asked wanted more sessions and 17 said that they would have liked longer sessions. To support this, a Forest School leader states that:

> A longer programme would have provided more opportunities for the children to be the ones to initiate activities and further tool use could have been undertaken

This implies that there are serious considerations to be had regarding the number of sessions the pupils need to make it effective, in particular taking into account the journey time to and from the site. Full-day sessions could be considered, in this way the fire could be part of the lunchtime ritual, children could reflect on their learning over lunch at the fire circle and the activities would not need to be so hurried.

6.3.2 Breaking up the session and pupil differentiation

In addition to the time allowed for the session, the session itself should be broken down into a mixture of activities and instruction but again allowing for flexibility to allow child-led learning to take place. The children need to determine the pace of the session, and it is often the case the different children are working on different tasks. The planning and preparation should take this into account – just like in school tasks are differentiated for different abilities, so should be the case at Forest School but it is the children themselves who decide their own pace, their own methods and their own learning. There is much reference in the literature regarding breaking up tasks into small, achievable chunks; such as Swarbrick et el (2004) who relate this to improved development of self esteem. This also relates to providing more challenge for the higher ability students – one of the teachers questioned indicated that they would have like to have seen more of this in the programme.

Murray (2009) warns against too much teacher-directed learning and points out that to enable children to develop into independent learners; they should be allowed to engage in a range of tasks of their own choice.

6.3.3 Introducing the session and setting boundaries

It is important to involve the pupils in setting boundaries, both physical and behavioural, to ensure that they are adhered to. A Forest School leader noted that:

> Children helped with establishing rules and boundaries for the sessions and expectations were met with little need for intervention

At the beginning of the sessions this was often done through pointing out wildlife such as wildflowers, talking about the fact that the woodland was home to animals who didn't want to be disturbed etc. and this was effective at encouraging the children to respect the site. It was also observed that some Forest School leaders continued the methods used in school to get the children to listen i.e. counting down, raising hands or similar method agreed with the teacher beforehand. Others had their own methods such as an 'owl hooter' which, when heard, meant that everybody stopped what they were doing and came back to camp to listen. It is good practice to discuss any health and safety issues with children at the beginning of every session, asking them what they think hazards might be present and how to avoid them. Setting the physical boundary to where they are and aren't allowed to explore is also advisable.

O'Brien and Murray (2009) point out that familiar routes and structures to sessions that encourage discipline and safety should be used.

6.4 Adult to Child ratio

This study identified a high adult to child ratio as being an important factor in the success of the programme. One of the Forest School leaders, who had been working with a group of special needs pupils, point out in their response that:

> We had certain restrictions due to the nature of the group i.e. a variety of special needs. In hindsight it may have been better to have smaller groups, but logistically this was not feasible

This highlights the importance of knowing the group and planning the session accordingly as well as inviting parents to come to sessions as they can then support

the children. It also indicates that a low adult to child ratio is key to facilitating ease of delivery and removing restrictions and enabling effective support of children. One of the Forest School leaders mentioned that a smaller ratio was needed when asked about the effectiveness of programme management and another highlighted how the fact that the ratio was small had contributed to the successful management of the programme. Three teachers also mentioned that the breaking up of classes into small groups with an adult was a positive aspect to how the programme was managed.

Other literature supports this finding, as can be seen in the literature review.

6.5 The Forest School Leader

Some of teachers questioned referred to the ability of the Forest School leader to enthuse the pupils and that they related well to them. Three teachers highlighted the high levels of knowledge that the leaders had as being a positive element of the programme. O'Brien and Murray (2009) express the opinion that the same leader should work with the group regularly to allow this bonding and build up of trust and rapport to take place and that the leader should be trained, accredited and confident in leading sessions. To deliver a programme and call it 'Forest Schools', a leader must first take a year-long course 'Forest School Leadership and Practice' at Level 3. This involves health and safety, first aid, session planning guidelines, the theory of how children learn, how to manage behaviour, the Forest School ethos and practical skills such as den building, knot tying and fire lighting. Participants take part in four to five days of taught sessions and are the required to deliver at

least six sessions alongside a Forest School leader, where they observe at least three pupils to identify the impact the programme had on them. The assessment is formed by written essays, a portfolio showing experience, four days being observed in a Forest School setting and a presentation reflecting on experiences. A lower Level 2 qualification is available for those wishing to support a leader in delivering sessions. This is to ensure a quality control over the name of 'Forest Schools' and ensures that schools know they are working with trained staff.

6.6 The site

The sessions were delivered at twelve difference delivery sites across the North East of England, which had been made fit for purpose with funding from the Big Lottery. Volunteers had worked with environmental organisations to achieve this and it was felt to be an important question to ask teachers how they felt about the sites. The results were overwhelmingly positive, with the vast majority saying that the sites were suitable and all of them saying that they would use it again. There were several significant findings relating to the delivery sites, described below.

6.6.1 Public access

Litter and dog foul were both identified as reasons why the teachers didn't feel that the site was suitable for delivery. This could be mitigated to a degree by the leader doing a thorough check and a clean-up before the children arrive. An obvious danger which was happily not observed is the inappropriate disposal of drugs paraphernalia, children who are foraging could easily come across this and other dangers which had been missed in the pre-session clean up. It is god practice to fore-warn children not to collect or touch anything that is not natural, including dog

foul, although most children will not pick this up, they will collect 'interesting' pieces of litter or pick it up in a bid to 'help' the woods. It is advisable for leaders, wearing gloves, to remove litter and dog foul on sight and repeat the message to children not to touch it. Two teachers felt that the site was suitable because it was 'fenced off' and this meant that the public couldn't access the area where the lessons were taking place. During the observations, it was noted that sometimes members of the public did come close to the groups, sometimes with dogs. This has obvious implications for the safeguarding of children from the public and the safety of the children around dogs. In the instances where this was observed, the leader or teachers advised the children to keep away from the dog and explained to the member of the public what was happening and they then were happy to leave the area. However it is felt that those most suitable sites are where public have no access, at least during the session.

6.6.2 Health and Safety, Welfare and Access

In addition to litter and dog foul and the need to clean up the sites before the sessions described above, some other findings regarding health and safety were identified. It is vital that risk assessments are carried out for the site and the activity and signed off and provided to the school. Two of the teachers surveyed highlighted the fact that the Health and Safety measures on the programme were good.

A small number of teachers (2) indicated that they would have liked to have toilets on site or time for a trip to the toilet with the children. Most of the sites did not

have facilities such as this, but children were simply told to go behind a tree or dig a hole, in keeping with the Forest School ethos. However, as these children were not accustomed to doing this, most refused and from observations it was clear that accompanying adults regularly had to take small groups or individual children to find a toilet. Teachers did remind children to use the toilets before leaving school, and as the sessions were relatively short at two hours it is reasonable to assume that they could wait until they got back to school. It is difficult to know what to advise in these circumstances – clearly children can only be encouraged to use the site as a loo and go before they leave but equally it is not acceptable to deny a child the right to use a toilet. Recommendations therefore are that all children use the toilet before leaving school, a spade is taken to site to dig a toilet and fill it in afterwards and the location of nearby toilets should be noted as a last resort. Due to child protection issues, the Forest School leader is not advised to accompany children to the toilet and should stay on site to lead the session. A teacher with a CRB clearance should accompany the child, and if possible adults of each sex should be with the children on site but this is not always possible.

Another issue which came up with one teacher was the fact that the site did not have access for wheelchairs. Forest School has an inclusive ethos and, wherever possible, sites should be chosen for their suitability for wheelchairs. It is good practice for a leader to check any special needs in the group and discuss these and how they can be met with the class teacher.

6.6.3 Proximity to the school

Having the site close to the school means that travel time is reduced, therefore leaving more time for session delivery; also that walking is possible which is free and environmentally sustainable. Literature supports this finding – Dillon et al (2006) point out that travelling to the site takes up time that could be used in activities. Sandell et al (2010) recommend that the outdoor life, the subject of their paper, is not itself a burden on the environment. Ballantyne and Packer (2001) also attest that using a local site enhances learning through giving heightened meaning and relevance.

The findings from this study show that the teachers are also in agreement that having a site local to the school is of benefit. Eight of them indicated that the proximity to the school was the reason why they felt it was suitable.

6.7 After the session

As can be seen above, it is important that the Forest School work links in with classroom work and good practice would involve setting follow-up work for the group to do in school. Examples observed were creative writing about a minibeast's journey, taking items from the woods to create artworks or using the sessions as stimulus for lessons such as poetry. Other findings related to good practice after the sessions are detailed below.

6.7.1 Formative evaluation, reflection time and sharing the learning

At the end of each session, the groups of children were asked about their enjoyment and learning, this gives insight to the leader as to what is working and what is not and should be reflected in the planning of subsequent sessions. Teachers were also questioned at the end of the programme; it was observed that Forest School leaders had informal discussions with teachers to make sure that the session was suitable, for example that it delivered the required learning objectives and that pace and level were suitable for the classes. This practice can be seen to be beneficial for future programme development and is to be advised. The observations of the pupils also provided insight into how the programme impacted on individual pupils, and, while it is not necessary or even advisable for a leader to closely observe a small number of pupils, it is important to make sure that they are engaging, understanding and receiving maximum benefit from the sessions. By asking the teacher about the pupils usual behaviour at school, comparisons can be made and impacts identified.

By reflecting on what the pupils have learned, they are also reinforcing this in their minds. John Dewey (1933) believed that reflection was essential for learning to take place; this is supported by others as can be seen in the literature review. It is recommended that at the end of each session a circle time discussion is held, informally talking about what the activities were, what the pupils did and did not enjoy, what were the challenges, what were the successes, what have they learned and an attempt made to link this with classroom topics. Likewise, at the beginning of the next session children can be asked to remember what they did / learned at the last session. Some schools were observed to keep individual learning diaries

which are very effective at encouraging individual reflection on learning achieved. Some schools took this further by supporting the pupils to deliver an assembly to the rest of the school – one Forest School leader notes how much the children enjoyed this. A teacher noted that "The children were able to take things away and show other children' as a positive element of the programme.

6.8 Teacher training and continuation of Forest School

Teachers were asked what further support they would need in relation to outdoor learning. One said:

"Maybe some sessions at our school grounds would have helped us to continue the children's learning and allow them to carry out activities in their own time"

Additionally, 12 teachers indicated that they would like support in developing their own outdoor areas at their setting and 8 indicated that they would like further activity ideas. It is worth contrasting these results with those that show 25 of the teachers indicated that they had learned more about activity ideas, 4 cited the acquisition of more ideas to use at their own setting as a fulfilled aims of coming on the course and 18 said that they would take more of their teaching outside the classroom as a direct result of the programme.

A recommendation, which was observed in some of the settings, would be that teachers are given copies of session plans, worksheets and perhaps a resource pack with activities that they can do in their own setting. Furthermore, the Forest School leader could visit the school as part of the programme to advise on school grounds development and outdoor learning opportunities. Most of the organisations who delivered this project do this, but at a cost to the school; for obvious reasons

professional advice is rarely free of charge, but leaders should provide information about services that are available to support school grounds development and any further assistance available locally.

6.9 Summary

Forest School programme work best when they are well-planned, in liaison with the school, to link in with school work and to include lead—in and follow up activities. Additionally, the site need to be carefully chosen and the provider selected with the correct qualifications and experience. Relating back to the question about future good practice, the above findings constitute a list of things to be taken into account when planning, delivering and evaluating Forest School sessions.

Chapter 7: Conclusion

The aim of this was to identify the impacts of a programme of Forest School activities, delivered to 36 primary schools in the North East of England. The study aimed to answer the following questions:

1. How, if at all, did the Forest School programme impact on the pupils?
2. What were the teaching and learning implications from the Forest School programme?
3. What constitutes good practise in a Forest School setting?

The context of the study is in that of curriculum reform, whereby the emphasis on outdoor, experiential and holistic learning is much reduced in favour of more 'traditional', class-based learning of facts. OFSTED, in their new inspection framework, no longer put an emphasis on outdoor learning, with the exception of the Early Years Foundation Stage. In addition to this, the current economic context of much reduced budgets for schools, fewer grants available and the vastly reduced public and voluntary sector means that there is a real danger that programmes such as Forest Schools will become increasingly scarce in English schools. This study aims to demonstrate the value of Forest Schools, what could potentially be lost and the impacts this could have on education, teaching and learning and pupils.

The hypothesis, as stated in Chapter 2, was that Forest School provides a nourishing experience for children, which enhances classroom-based learning by making pupils stronger learners, higher in confidence and with more developed social skills. Forest School makes pupils more capable of learning by re-engaging learners and catering

for different learning styles, making learning more accessible. The policy pursued by the current government of narrowing the curriculum and cutting budgets for activities such as Forest School will have a negative impact on children and on education more widely – narrowing its reach and sending education backwards to becoming merely a transfer of knowledge from teacher to pupil, instead of encouraging pupils to explore and find things out for themselves.

7.1 Summary of Findings

The findings are described and discussed in details in chapters 4, 5 and 6 of this dissertation. They are divided into the three themes, according to the research questions, they explore the impact taking part in Forest Schools had on pupils, the implications it had for teaching and learning and what the recommendations are for future good practice. The findings show that Forest School is a valuable teaching and learning approach; that has many positive impacts, as seen below; and is worthy of preserving in the current policy and economic climate. It is also seen how Forest Schools can develop multiple intelligences, as defined by Howard Gardner, in his 1983 book *Frames of Mind: The Theory of Multiple Intelligences* which differentiates intelligence into specific "modalities", rather than seeing it as dominated by a single general ability. These modalities are: Logical-mathematical, Spatial, Linguistic, Bodily-kinesthetic, Musical, Interpersonal, Intrapersonal, Naturalistic and Existential.

The findings of the study supported the hypothesis, and that of previous researchers in the field, in that it can be shown that Forest Schools provides children with a nourishing experience, it encourages them to be stronger learners,

higher in confidence and with improved inter-personal and social skills. The study also discovered other findings, which can be seen below.

7.1.1 The Impact Forest School Had on Pupils

This study found that Forest School had various impacts on pupils, namely:

- Instilling a respect for nature in pupils: the pupils in the study were found to have more care for and affinity to the natural environment; showing concern for wildlife, an increased interest in environmental issues and a deeper connection to their local area through the Forest School site.
- Increasing awareness of the outdoors as a place for recreation: pupils in the study were more aware of the potential of outdoor and green space as a place to play, socialise and relax. They had a better understanding about the type of things that one could do in a woodland. The study also showed that the families of children who had taken part in the sessions were more likely to use the woodland as a direct result of their child's involvement.
- Increased pupil self-esteem and self-confidence:– pupils in the study showed an increased understanding of their own abilities, often newly-found as they had not accessed woodlands on a regular basis previous to taking part in the sessions. Some pupils were found to be more likely to interact with others, take charge of their own learning and become more likely over the course of the programme to explore the woodlands and initiate their own activities.

- Improved pupil inter-personal and social skills: the study showed that pupils worked better in groups during the course of the programme, they showed more evidence of an awareness of other's feelings and became more adept at interacting with other pupils and adults alike.
- Increased enjoyment of lessons, both during and after the input.

7.1.2 The Implications for Teaching and Learning

This study found that Forest School had various implications for teaching and learning, namely:

- Forest School helps pupils to become independent learners: it was found that, through the child-initiated learning ethos Forest School embodies, pupils learn at their own pace, following their own interests and begin to initiate their own learning and lines of enquiry
- Forest School gives a real-life dimension to teaching and learning: It was found that by being in the natural setting and experiencing nature first hand, pupils had the added 'real-life' dimension to their studies
- Forest School improves recall and reinforces learning: It was found that, due to the 'learning by doing' method embodied in the Forest School ethos, recall of themes learned was high. Likewise, linked to the 'real-life learning' theme, Forest School reinforced facts and concepts learned in the classroom.

- Forest School provides a stimulus for continued learning: It was found that teachers and learners used their experiences at the Forest School setting to develop the teaching and learning back at school.
- Forest School can improve pupil engagement and behaviour: It was found that pupils are more focussed, more engaged and behave better at Forest School than in a traditional classroom; particularly the harder-to-reach pupils.
- Forest School is cross-curricula: It was found that Forest School methods can be adapted to teach many areas of the curriculum.
- Forest School suites a variety of learning styles or 'modalities' : It was found that the impact on kinaesthetic learners was of the greatest but all modalities were suited to the approach.
- Forest School can improve teacher confidence to deliver learning outdoors: There was strong evidence that teachers had discovered new ways of teaching outdoors and had gone away with many new ideas and an enthusiasm to try out the approach at their own setting.
- Forest School can give teachers a new perspective on pupils: Teachers were able to observe their pupils in different surroundings, taking part in new activities and could gain new insights into them as learners and individuals.

7.1.3 What Constitutes Good Practice at Forest School?

The following list indicates what this study identified as good practice at a Forest School setting:

- Liaison between the Forest School Leader and the School before the programme begins should include discussions about the class topic, areas of the curriculum to be covered, schemes of work the class are working on but also health and safety issues. After the session, follow-up work should be undertaken in class.
- Involving pupils' parents, carers and siblings enhances the benefits of taking part in the programme
- Sessions should be planned carefully but with flexibility in mind: extra thought should be given to the session and programme length to suite the group.
- The adult to child ratio should be high enough to allow safety to be observed but also worthwhile interaction between adults and children to take place.
- The Forest School leader should have Forest School Leadership and Practice Level 3 and experience of planning and delivering sessions.
- The site should ideally be close to the school, accessible for all in terms of footpaths but closed to the public, at least when sessions are taking place. It should be thoroughly checked for hazards before the session begins.
- Teachers future development should be supported to enable them to deliver sessions in their own setting.
- Support should be available for schools who wish to improve their own outdoor areas.

7.2 Critique of the study

The study was carried out with a suitable number of subjects to triangulate the findings and make them valid; 32 teachers and 5 Forest School Leaders completed questionnaires and 32 pupil focus groups, each of between 10-30 pupils, took part in reflective focus groups. Six pupils were observed during sessions and two teachers were interviewed. Had there been more capacity in terms of researcher time and relative location to the teachers, then to interview more teachers would possibly have been desirable to probe some of the issues deeper. Likewise, it might have offered further insights as to the impacts on pupils if parents had been questioned. This was difficult due to the nature of the programme – the schools were spread out across the North East – and access to the parents was difficult as the researcher did not work at the school taking part in the study.

The data collected was intentionally qualitative, this made analysing it subject to researcher bias. Although it is felt that the findings are presented truthfully and faithfully, ideally a second researcher would have coded the data using the same methods and results compared to ensure that the same themes are drawn out of the data. That said, the data is very rich, with some very strong evidence to back the findings up.

An area not investigated, which would have further improved this study, was the impact Forest Schools has had on attainment. This was not investigated as the programme is ongoing, the first children to take part are only one year further on in their studies and it is very difficult to identify for sure that one input over another that may be happening in school impacted on attainment.

7.3 Areas for possible future research

While this study adds to the existing body of knowledge on the impact of Forest Schools, supports and enhances knowledge about how Forest School impacts on personal development of pupils, enhances teaching and learning and draws together a good practice code which can be used when designing Forest School programmes; the gap in this study and in the body of research as a whole is how Forest School can impact on attainment. Future research might address this question, isolating the impact Forest School has had from other interventions occurring in school by comparing a control group with a group who participate in the programme and identifying progress in each.

Another potential area of research would be to investigate the impact Forest School has on children with different learning modalities; identifying children with each modality and comparing the impacts Forest School has on each.

This study concerned primary school aged children of all abilities, a future study could investigate the use of Forest School as an intervention for pupils with behaviour problems, learning difficulties, special educational needs or physical disabilities.

A similar study to this could be carried out with secondary aged children, or a future study could investigate the use of Forest Schools as a transition activity.

7.4 Implications for Future Practice

As can be seen from the introduction and literature review sections of this dissertation; it is likely that in the future the emphasis on Forest School and

Learning Outside the Classroom generally will be much reduced in schools. This is due to curriculum reform, lack of funding and the changed inspection framework for schools. This research shows that, if this happens, children are likely to suffer in terms of personal development, education and health and wellbeing benefits. The implications shown in this research are that Forest School provides a nourishing experience for children, which enhances classroom-based learning by making pupils stronger learners, higher in confidence and with more developed social skills. Forest School makes pupils more capable of learning by re-engaging learners and catering for different learning styles, making learning more accessible. The policy pursued by the current government of narrowing the curriculum and cutting budgets for activities such as Forest School will have a negative impact on children and on education more widely – narrowing its reach and sending education backwards to becoming merely a transfer of knowledge from teacher to pupil, instead of encouraging pupils to explore and find things out for themselves. It is therefore vital that schools find the capacity and that governments and policy makers find the impetus to ensure that approaches such as Forest Schools are not wiped out of the curriculum, but become mainstream, recognised and a contributing factor to the education of pupils in every school in England.

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Appendix One:

Questionnaire to Teachers on Forest School Programmes

Please answer all questions as fully and as honestly as possible. Your responses will be used to draw conclusions regarding the impact of a Forest School programme on primary aged children, the teaching and learning implications and to draw recommendations for future practice. Your responses will be treat as confidential and you will not be identified in the write up. Thank you for your time in completing this questionnaire.

Please return the questionnaire to Andrea Carling at the end of the session.

The report will be available to read towards the end of 2013.

Question 1: Did you enjoy the session? (please circle) **Yes / No**

Question 2: Did the session increase pupils' knowledge, understanding and enjoyment of the outdoors? If so, then how?

Question3: What learning do you feel took place?

Question 4: What aspects of the curriculum were successfully delivered through the programme?

Question 4: What aspects of the curriculum were successfully delivered through the programme?

Question 5: Did the programme increase your knowledge and understanding of outdoor learning, and if so - how?

Question 6: What were your aims of taking part in the programme, and were these met?

Question 7: What was one thing you wanted more of from the programme?

Question 8: One action you will take as a result of the programme?

Question 9: What are your opinions on Forest School as an approach to learning?

Question 10: Was the site suitable? Why?

Question 11: Would you use the site again?(please circle)

Yes / No

Question 12: Would you attend a Forest School session again? (please circle)

Yes / No

Question 13: What further support in relation to outdoor learning do you need?

Question 14: How do you feel the programme was managed?

Question 15: Has the programme been a success? If so, how? If not, why not?

Thank you very much for your time, your views are much appreciated.

Andrea .

Appendix 2:

Questionnaire to Forest School Leaders

Please answer all questions as fully and as honestly as possible. Your responses will be used to draw conclusions regarding the impact of a Forest School programme on primary aged children, the teaching and learning implications and to draw recommendations for future practice. Your responses will be treat as confidential and you will not be identified in the write up. Thank you for your time in completing this questionnaire.

Please return the questionnaire to Andrea Carling at the end of the session.

The report will be available to read towards the end of 2013.

Question 1: How do you feel the programme increased the children's understanding and enjoyment of woodlands?

Question 2: How well was the programme delivered and managed?

Question 3: Has the project been a success? What makes you say this?

Question 4: What are your opinions on the impact of the programme?

Thank you for your time to share your opinions with me

Andrea

Appendix 3:

Questions for Reflection at Pupil Focus Groups

Question 1: Did you enjoy the session? (Thumbs Up / Thumbs Down)

Question 2: What did you enjoy most about the session?

Question 3: What have you learned today?

Appendix 4:

Charts Showing Results of Questionnaires

1. Data from the Forest School Leaders' Questionnaires

Figure 1: How do you feel the programme increased the children's understanding and enjoyment of woodlands?

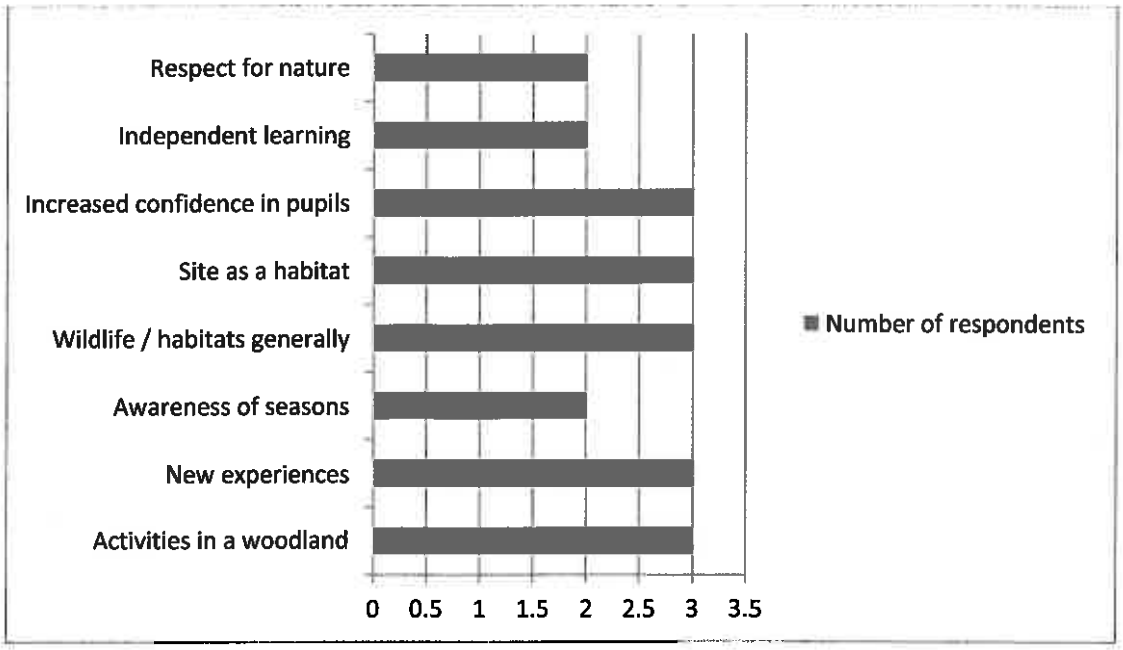


Figure 2: How well was the programme delivered and managed?

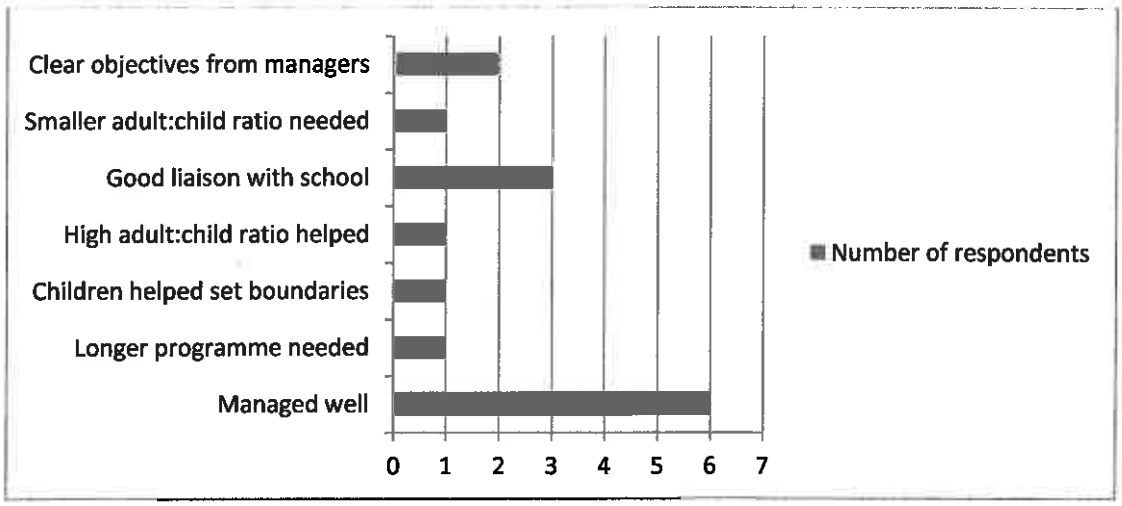


Figure 3: Has the project been a success?

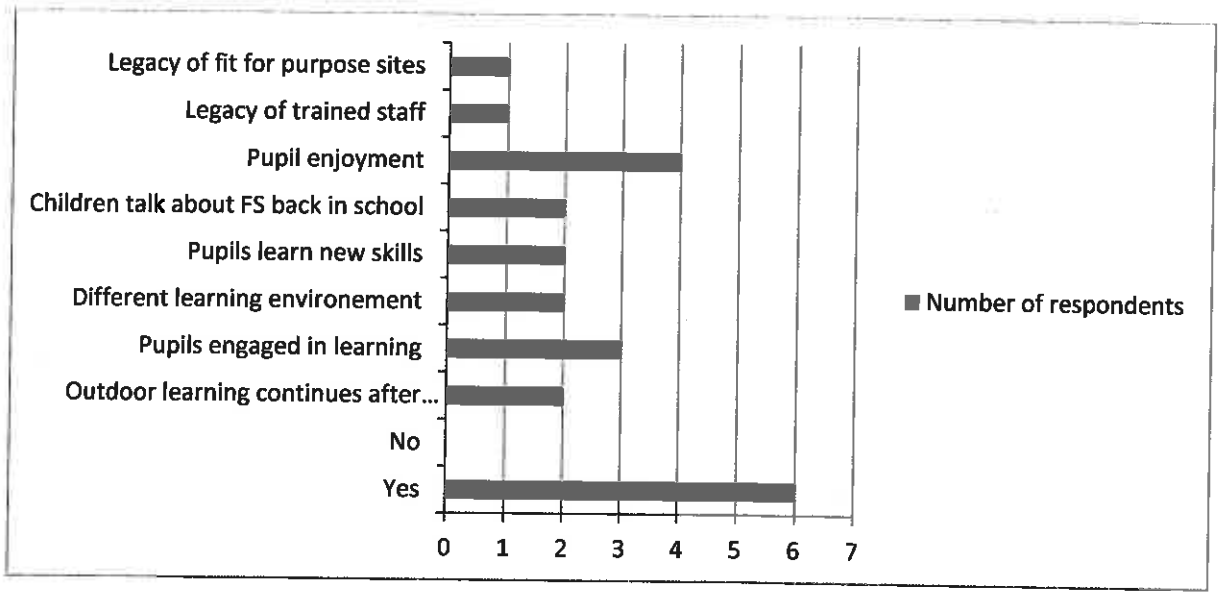
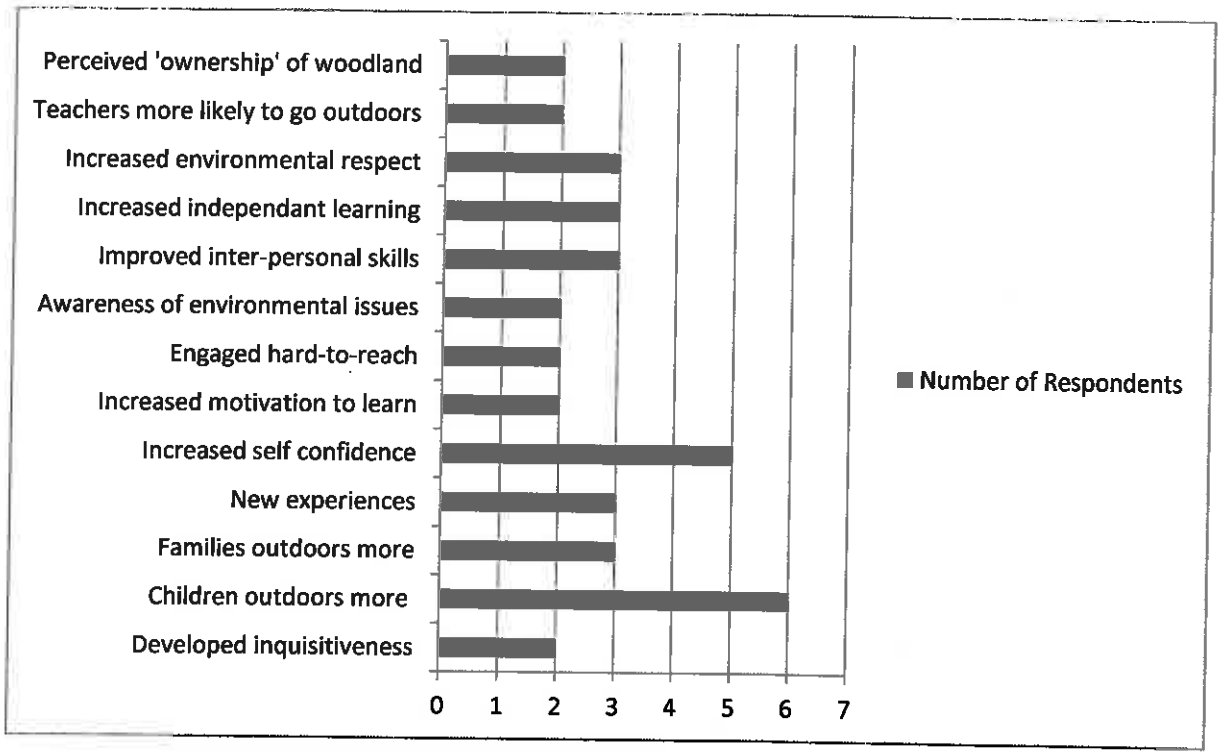


Figure 4: What are your opinions on the impact of the programme?



Data from Pupil Focus Groups

Figure 5 – Did you enjoy the session?

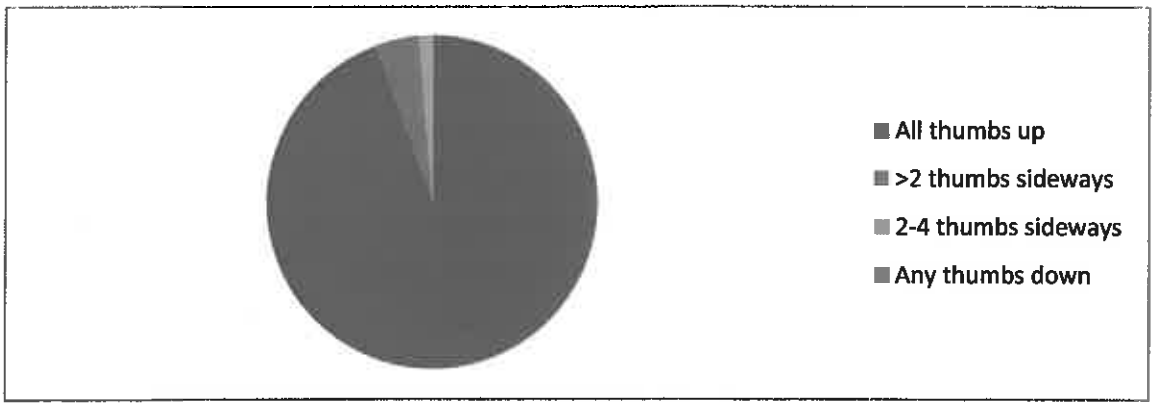


Figure 6: What did you enjoy most from today's session?

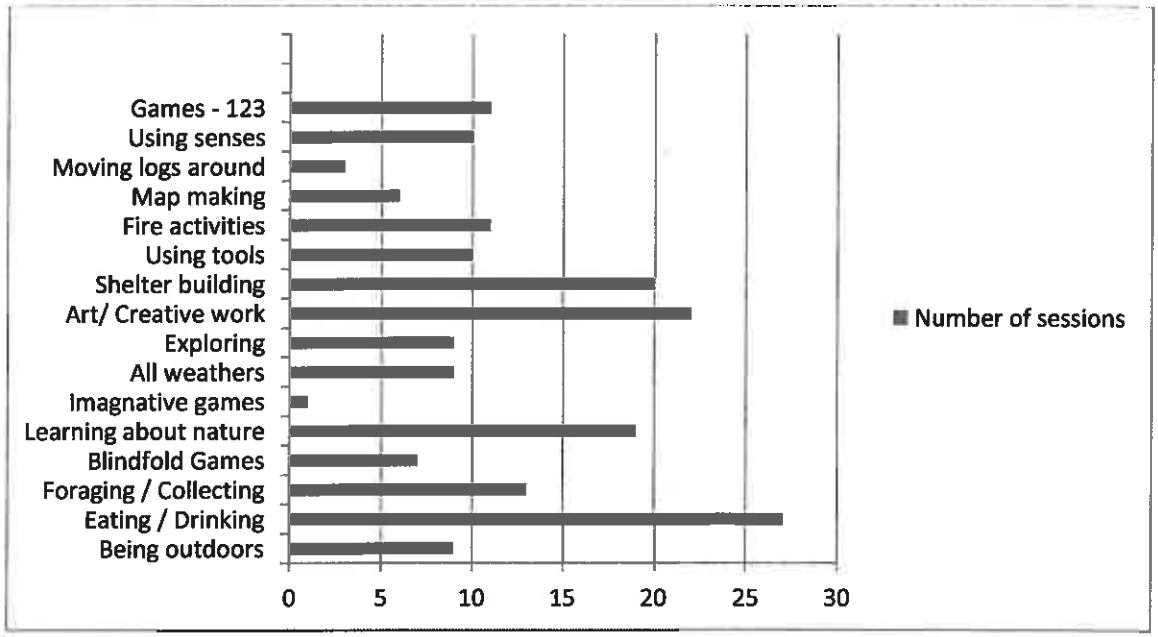
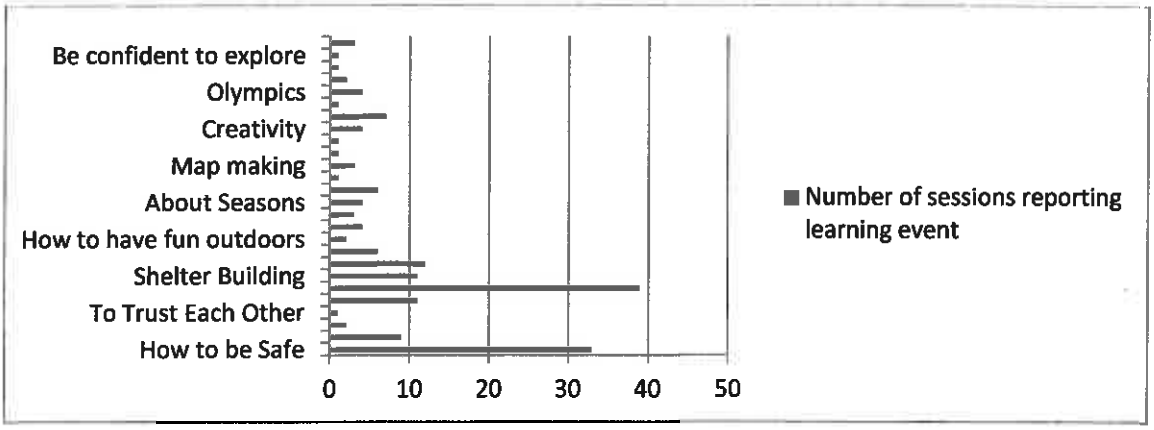
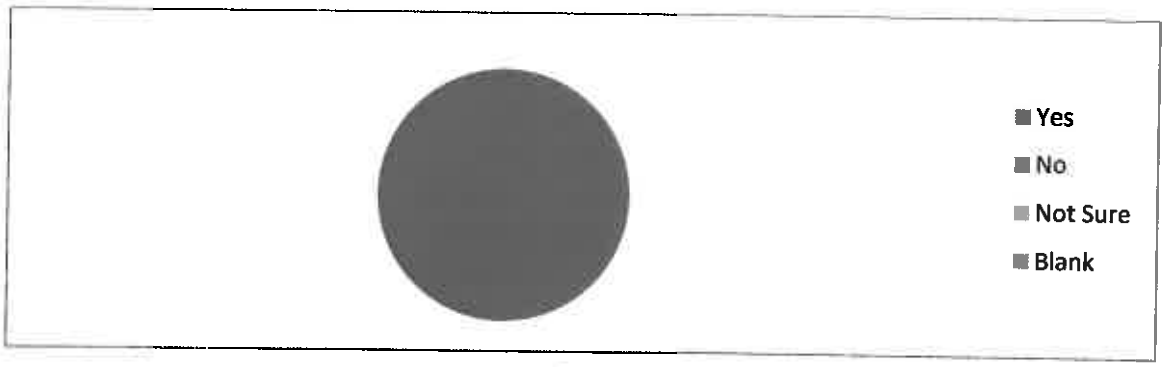


Figure 7: What have you learnt from today's session?



Data from Teacher Questionnaires

Figure 8: Did you enjoy the session?



Did the programme increase pupils' knowledge, understanding and enjoyment of the outdoors, and if so - how?

Figure 9: Did the session increase pupils' knowledge, understanding and enjoyment of the outdoors?

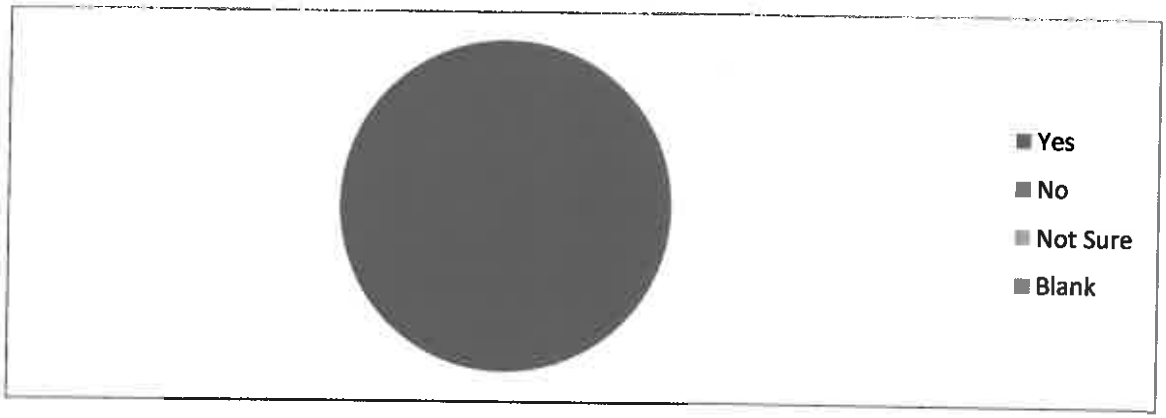


Figure 10: What learning do you feel took place?

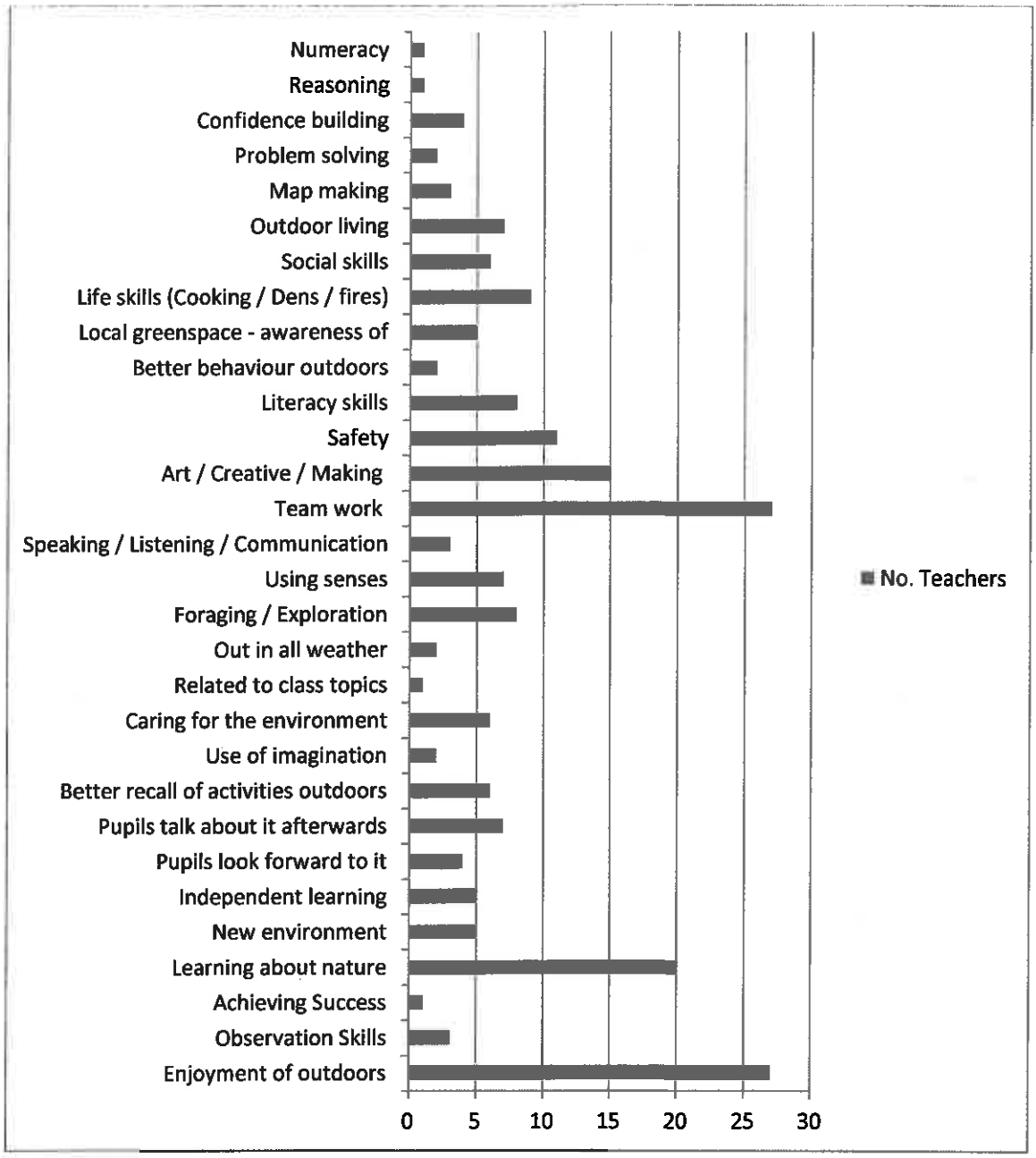
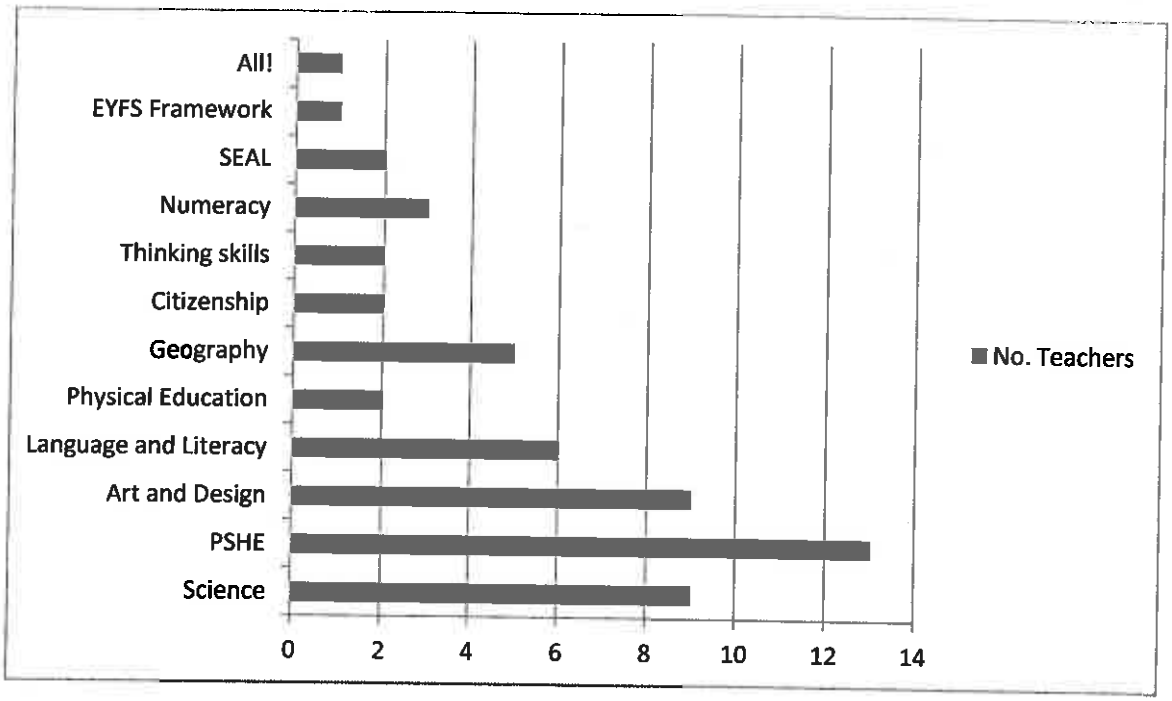


Figure 11: What aspects of the curriculum were successfully delivered through the programme?



Did the programme increase your knowledge and understanding of outdoor learning, and if so - how?

Figure 12: Did the programme increase your knowledge and understanding of outdoor learning?

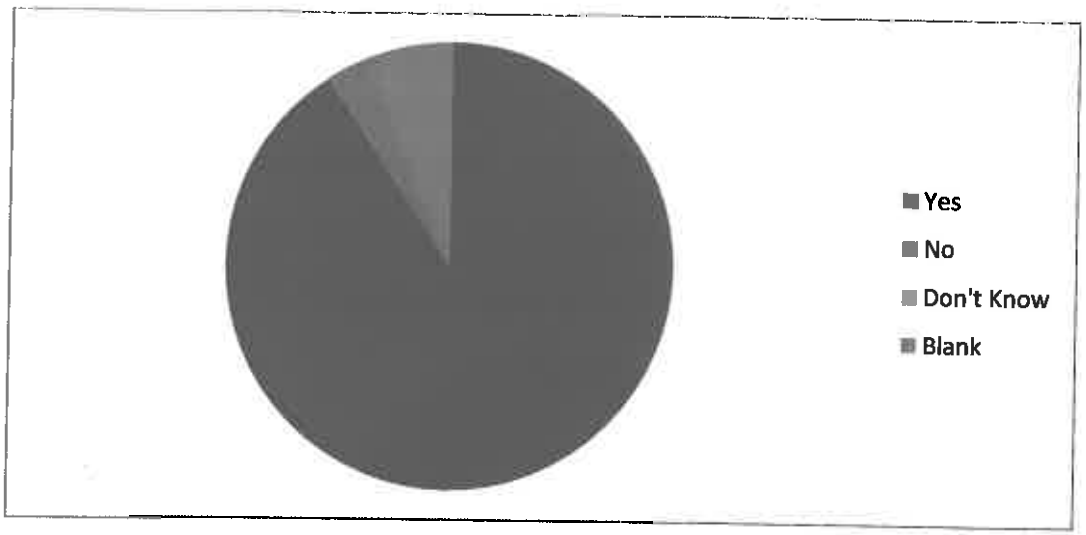


Figure 13: How did the programme increase your knowledge and understanding of outdoor learning?

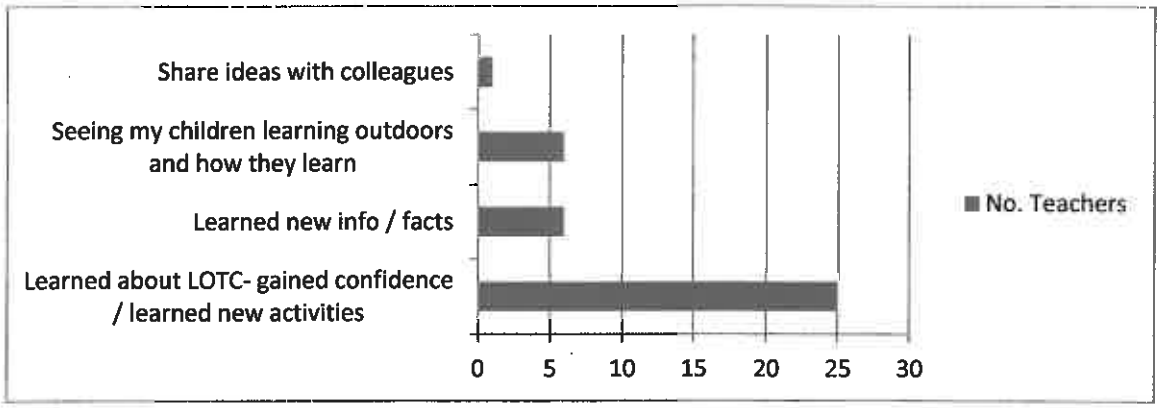


Figure 14: What were your aims in taking part in the programme?

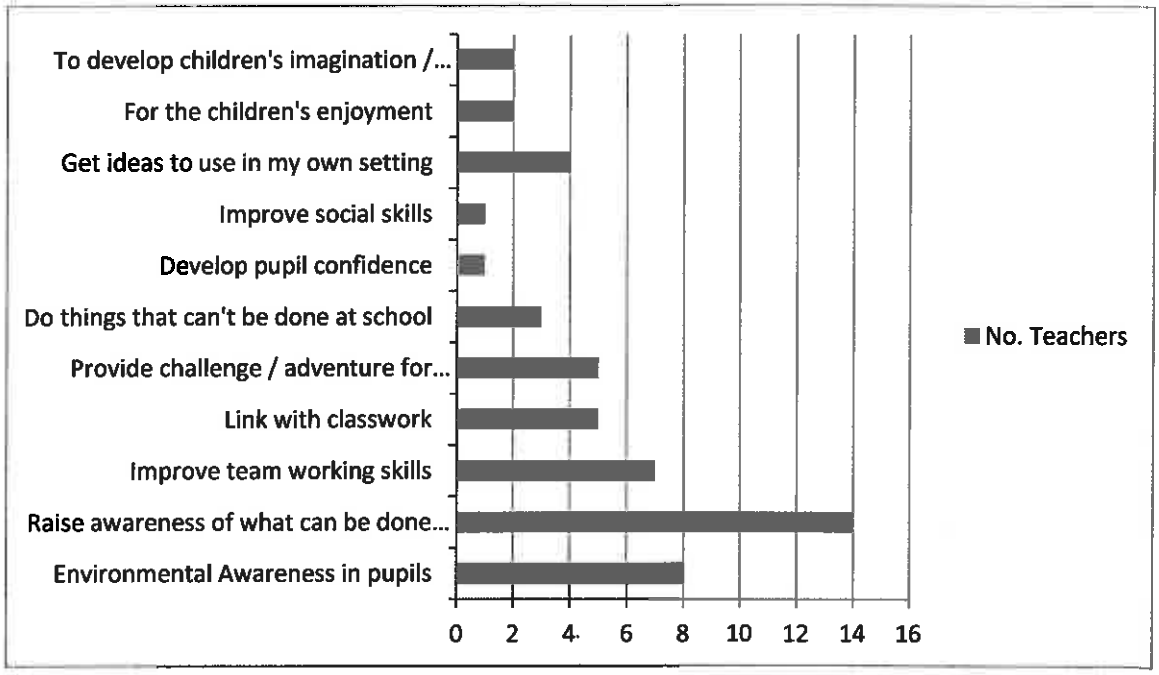


Figure 15: Did the programme meet these aims?

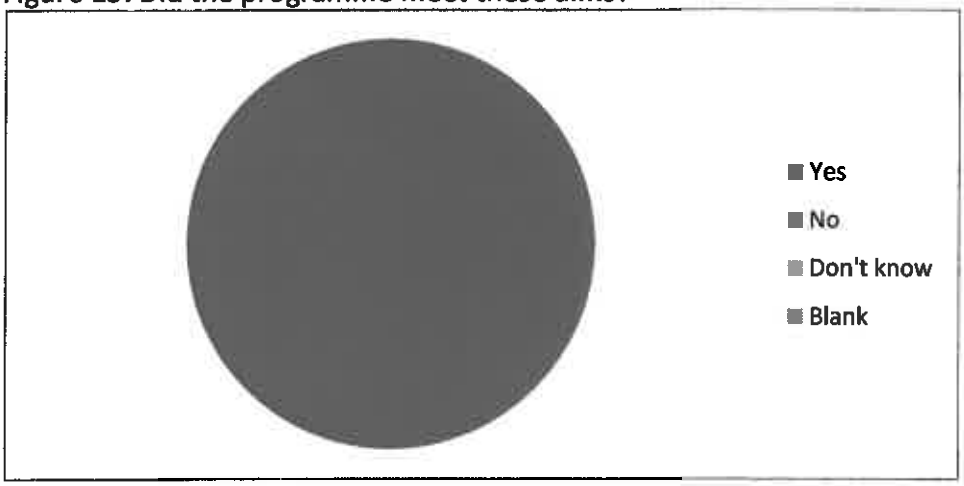


Figure 16: What was one thing you wanted more of from the programme?

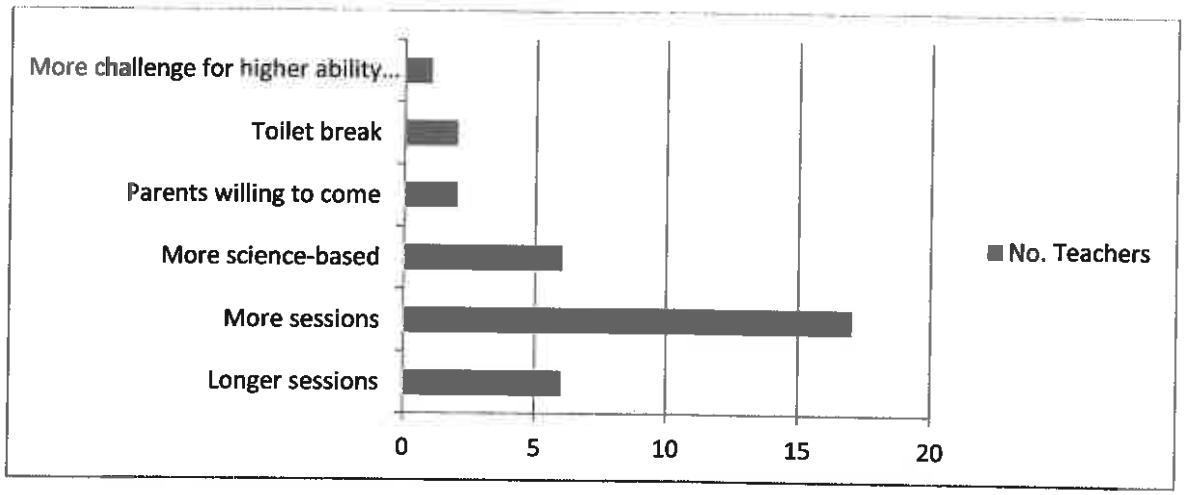


Figure 17: One action you will take as a result of the programme?

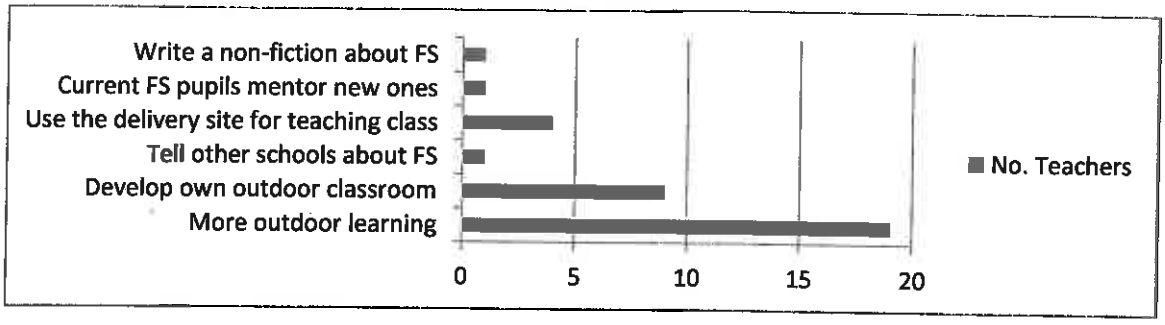


Figure 18: What are your opinions on Forest School as an approach to learning?

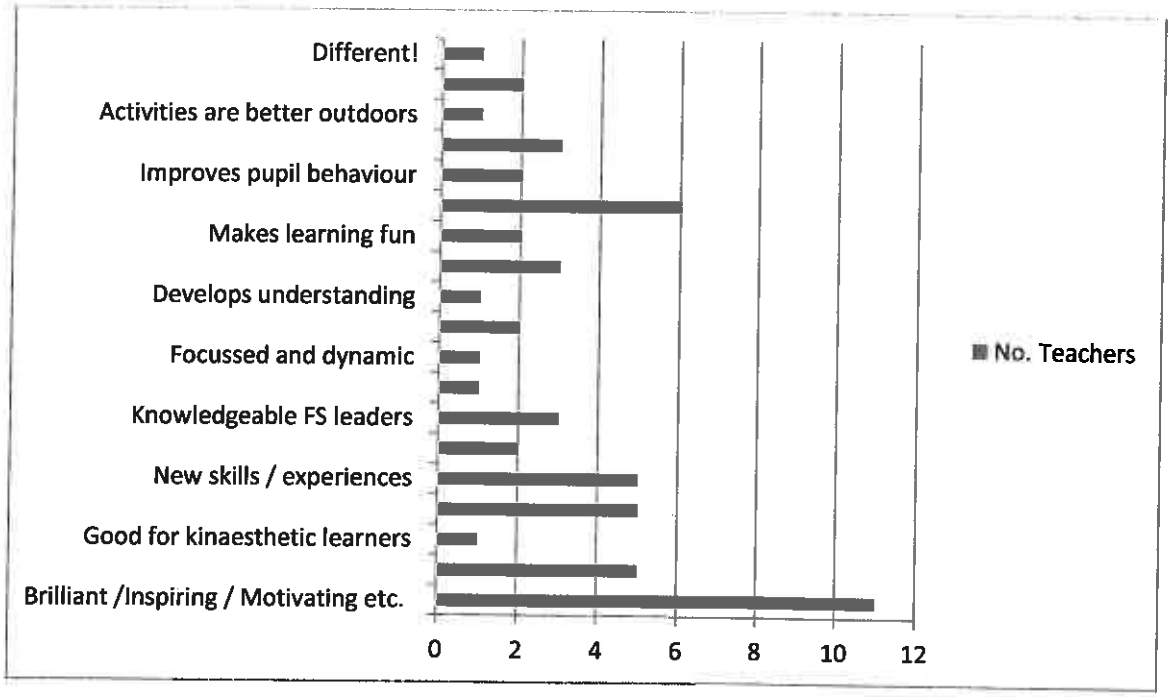


Figure 19: Was the site suitable?

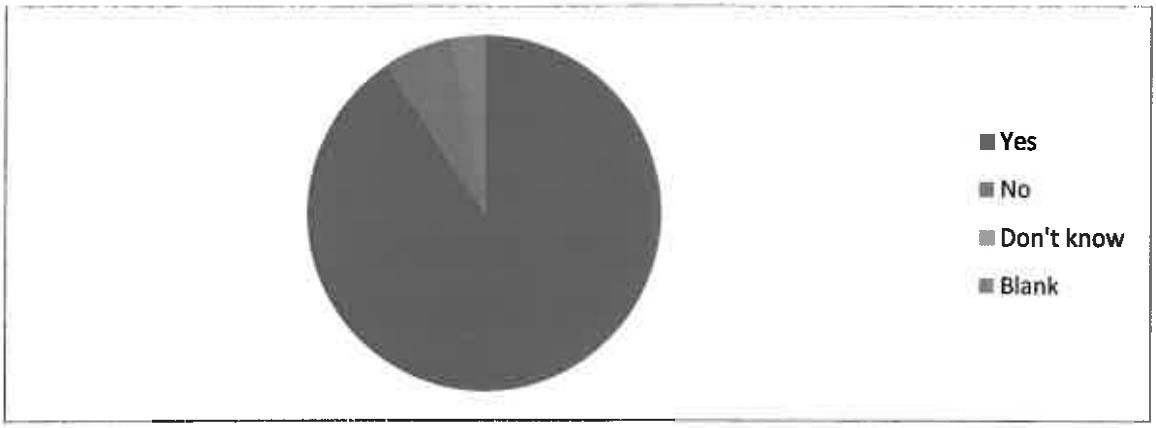


Figure 20:If the site was suitable, why?

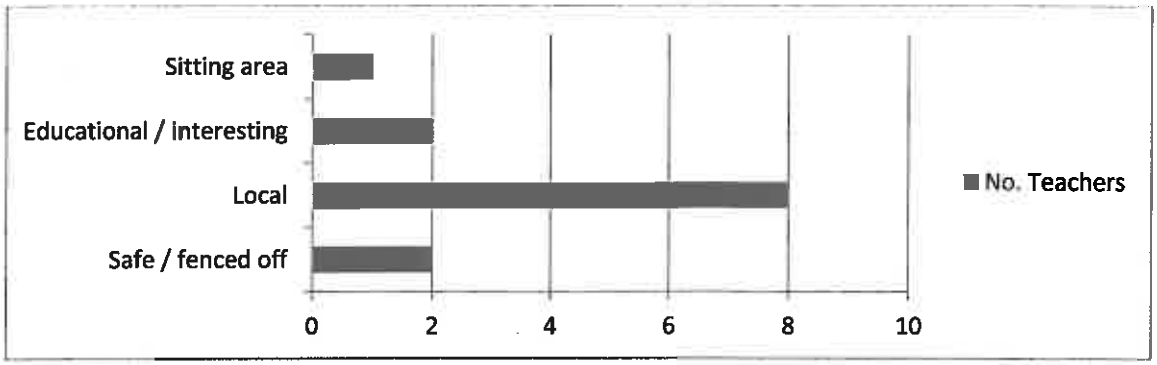


Figure 21: If the site was not suitable, why not?

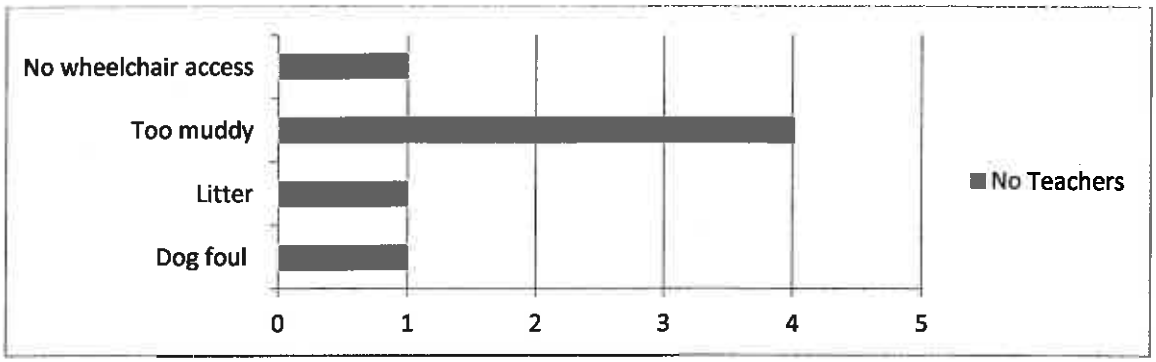


Figure 22: Would you use this site again?

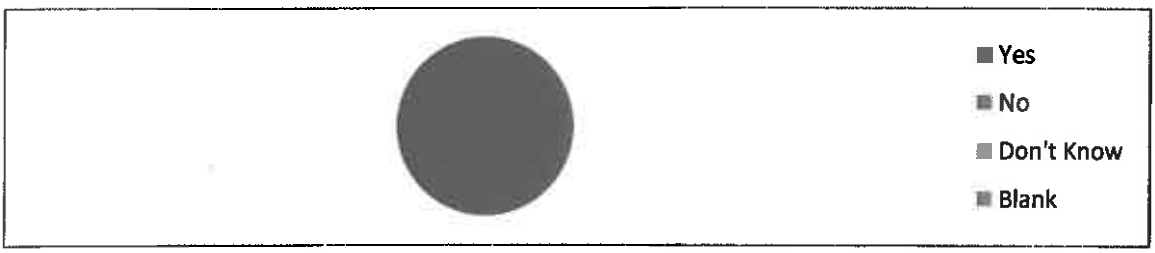


Figure 23: Would you attend a Forest School session again?

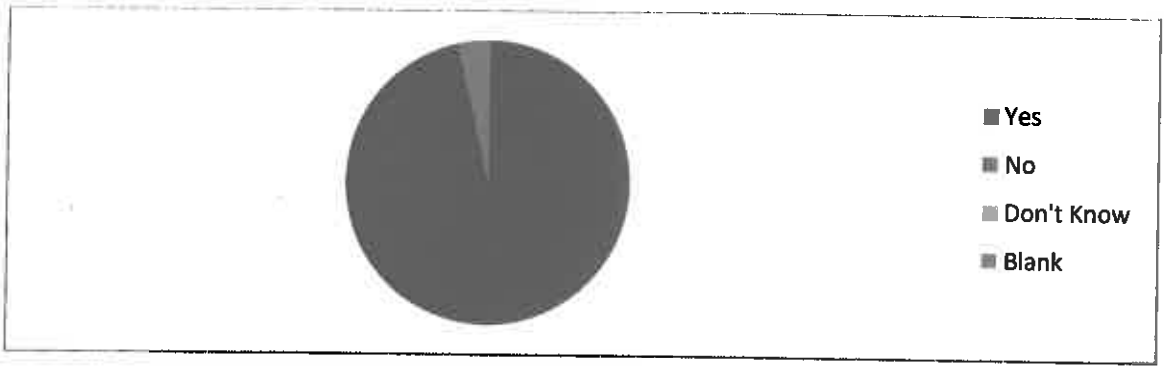


Figure 24: What further support in relation to outdoor learning do you need?

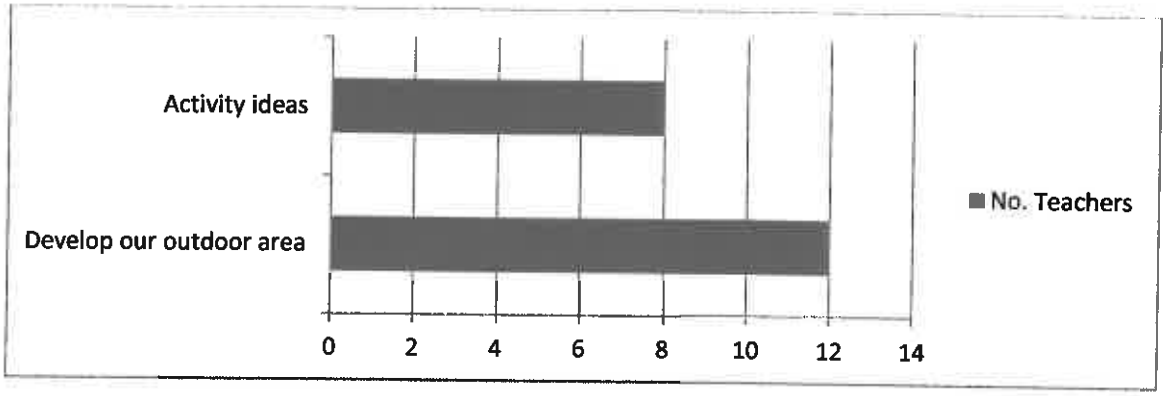


Figure 25: How do you feel the programme was managed?

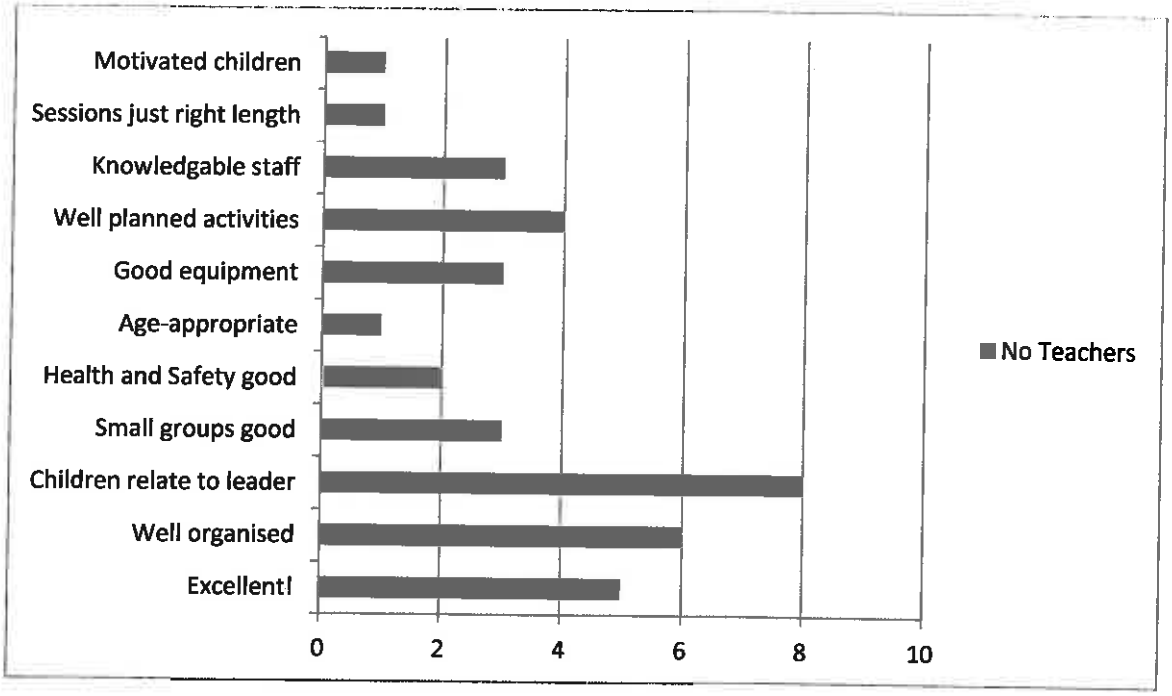


Figure 26: Has the project been a success?

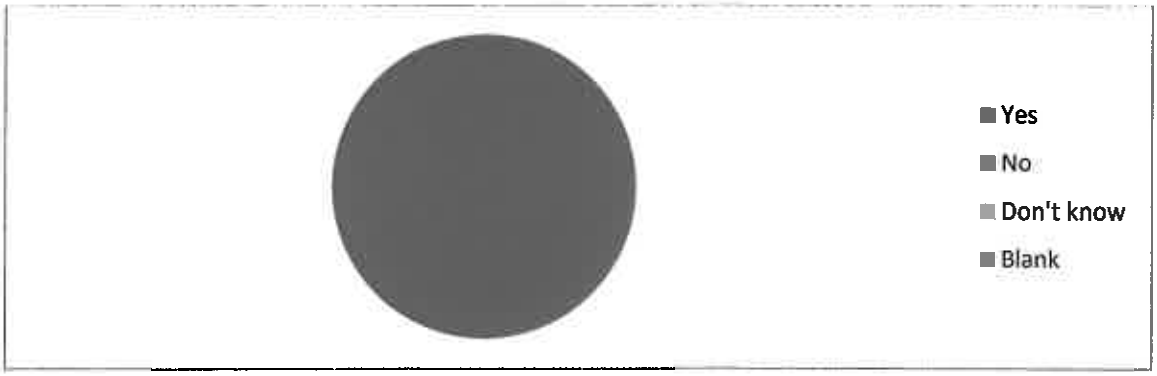
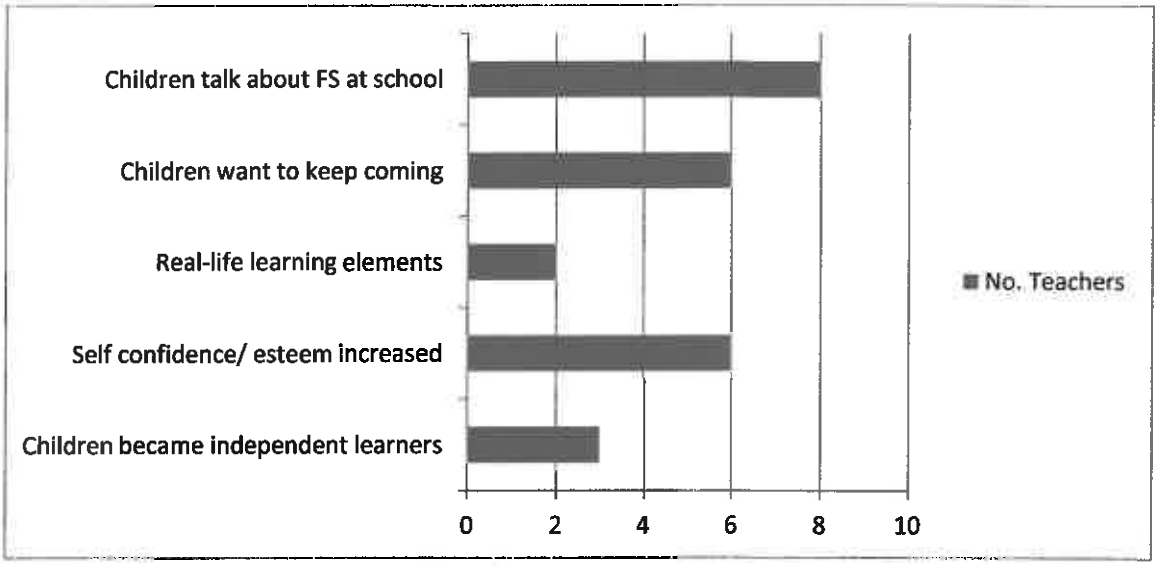


Figure 27: How has the project been a success?



Appendix 5: Photographs of Forest School Sessions

Picture1: Learning about food chains

Picture 2: Becoming a Food Web

Picture 3: Toasting Marshmallows around the fire

Picture 4: Studying minibeasts

Picture 5: Making a minibeast

Picture 6: Making a den for the minibeast he had made

Picture 7: Foraging for shelter building materials

Picture 8: Pride in the completed shelter

Picture 9: Making smelly cocktails

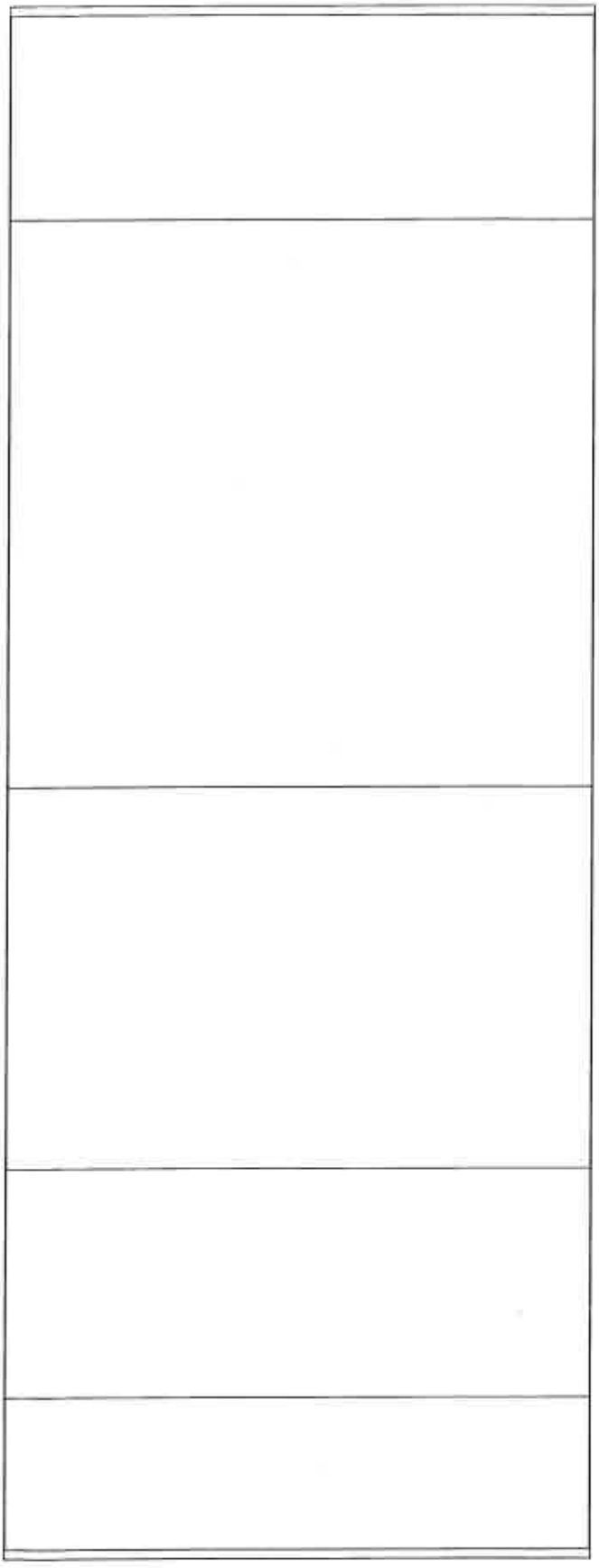
Picture 10: Taking a Woodland Treetop Walk

Picture 11: The Fire Circle

Appendix 6 – Example Forest School Programme Session Plans

School: XXXXXXXX School
Year / Group: Y3
Date: 11th and 13th September 2012
Time: 1pm-3pm
Staff: XXXXXXXXX Forest School Leader
Session: 1
Curriculum Links: Habitats

Theme	Learning objectives	Hazards/Risks	Session	Resources
Habitats	To become familiar and be safe in the woodland environment To identify different types of habitat Different animals are found in different habitats Make predictions of organisms that might be found in a habitat To observe conditions and make recordings of animals found That animals are suited to the environment that they are found in To use keys to id plants and animals To make reliable observations of organisms To identify food sources of local animals	Uneven ground - Trips, slips, falls Dog fouling – toxicara canis Adverse Weather – sunburn, hypothermia Seperation - distress Alien objects/Natural objects – Cuts scrapes Animal/plant – stings/ bites Please see accompanying risk assessments for the detailed assessment and mitigation measures	1-1.15 introduction, health and safety, register, what is forest schools? 'What can we do in a Woodland' preliminary survey 1.15.1.25 walk to site 1.25 look at minibeast pictures, talk about who lives in the woodland and pond, read a story about minibeasts 1.35 minibeast hunt in the woodland and grassland – identify and record, discuss findings. Note - there will be no pond dipping as blue-green algae present in the lake 2.05 Model Making using home made play dough and materials found on site – make your own species. Discuss how nove / breath etc and where they might live. 2.35 – Millpedes and Centipedes Game (1.35 – 2.35 – Sam Willoughby making name tag wooden discs with small groups of the children who will work with her then re-join the main group) 2.45 Wrap up session, discuss learning, favourite / most intersting aspects - least favourite aspects of session. Hand out teacher evaluation. 2.50 walk back to school 3pm arrive back at school	First aid/welfare kit Flip chart Register - blank Evaluation Forms Mobile Phone Minibeast hunting - Plastic boxes/ containers to collected minibeasts Magnifying glasses Binoculars Minibeast id keys Pooters Trays Photos of minibeasts Story book Play dough / modelling clay – home made Pens/pencils Worksheets ID Keys Name dics – Wood slices Hand drill String Felt tip pens



School: XXXXXXX Primary School
Year / Group: Y3
Date: 18th and 20th September 2012
Time: 1pm-3pm
Staff: XXXXX Forest Schools Leader
Session: 2- making mini dens and name badges
Curriculum Links: Habitats

Theme	Learning objectives	Hazards/Risks	Session	Resources
Habitats	To become familiar and be safe in the woodland environment To identify different types of habitat Different animals are found in different habitats Make predictions of organisms that might be found in a habitat To observe conditions and make recordings of animals found That animals are suited to the environment that they are found in To use keys to id plants and animals To make reliable observations of organisms To identify food sources of local animals	Uneven ground - Trips, slips, falls Dog fouling - toxicara canis Adverse Weather - sunburn, hypothermia Seperation - distress Alien objects/Natural objects - Cuts scrapes Animal/plant - stings/ bites Moving logs and branches and natural materials - wear safety footwear (leaders) and alert children to dangers, do not allow children to carry heavy objects Rope burn if pulling rope tightly - instruct on safe use of rope Splinters - wear gloves all participants Please see accompanying risk assessments for the detailed assessment and mitigation measures	1.00 Gather children in classroon, get ready to leave school, Make sure that children have their minibeasts with them that they made last week and are suitably dressed and toiletted! 1.10. walk to site arrive 1.15 1.15 Welcome by Forest School leader, recap on last week's session, look at minibeasts children made.reset boundaries and ground rules Talk about homes - what are homes, what do homes provide and why do we need them? (ie warmth, safety, a base, storage) Where is a good place for a home - siting our dens i.e. near food, water, look at slope of ground, what is nearby, useful trees etc What could we use in the woods to make a home? 1.25 Demonstrate / show pictures of some dens /woodland shelters that have been made before. Explain activity 1.30 Make mini dens for minibeasts using natural materials in woodland, decorate them and take photographs, dismantle when finished Simultaneously take small groups to one side to make name badges 2.45 Wrap up session, discuss learning, favourite / most intersting aspects - least favourite aspects of session. Hand out teacher evaluation. 2.50 walk back to school 3pm arrive back at school for home time	First aid/welfare kit Flip chart Register - blank Evaluation Forms Mobile Phone camera Children's minibeasts Minidens String Woodland materials found on site Pictures of dens Name dics - Wood slices Hand drill String Felt tip pens

School: xxxxxxx Primary School
Year / Group: Y3
Date: Monday 24th and Tuesday 25th September 2012
Time: 1pm-3pm
Staff: xxxxxxx Forest Schools Leader
Session: 3 Home Sweet Home
Curriculum Links: Habitats

Theme	Learning objectives	Hazards/Risks	Session	Resources
Habitats	To become familiar and be safe in the woodland environment To identify different types of habitat Different animals are found in different habitats Make predictions of organisms that might be found in a habitat To observe conditions and make recordings of animals found That animals are suited to the environment that they are found in To use keys to id plants and animals To make reliable observations of organisms To identify food sources of local animals	Uneven ground - Trips, slips, falls Dog fouling - toxicara canis Adverse Weather - sunburn, hypothermia Seperation - distress Alien objects/Natural objects - Cuts scrapes Animal/plant - stings/ bites Moving logs and branches and natural materials - wear safety footwear (leaders) and alert children to dangers, do not allow children to carry heavy objects Rope burn if pulling rope tightly - instruct on safe use of rope Splinters - wear gloves all participants Please see accompanying risk assessments for the detailed assessment and mitigation measures	1.00 Gather children in classroon, get ready to leave school, Make sure that children have their minibeasts with them that they made last week and are suitably dressed and toiletted! 1.10. walk to site arrive 1.15Welcome by Forest School leader, recap on last week's session, Talk about habitats - what do they provide (energy, shelter, water, air) what habitats are at Hemlington Lake (lake, woodland, field) 1.25 Introduce Home Sweet Home activity (Earth Eduction Conceptual Encounters) and hand out 'job descriptions Tour the three habitats, children in their animal roles choose which they think they can live at by ticking job cards Children go to habitats and read mailbox letters to them Lake is drained - Court Session to decide if lake residents can live in field or woodland (using job card evidence) Play Needs of Life Game if time 2.40 Wrap up session, discuss learning, favourite / most intersting aspects - least favourite aspects of session. Hand out teacher evaluation. 2.50 walk back to school 3pm arrive back at school for home time	First aid/welfare kit Flip chart Register - blank Evaluation Forms Mobile Phone camera Needs of Life Games- Job Cards Mail Boxes Badges - Mayor, Vice Mayor Court set up Needs of Life games cards

School: xxxxx Primary School
Year / Group: Y3
Date: Tuesday 2nd and Thursday 4th October 2012
Time: 1-3
Staff: xxxxxx Forest Schools Leader
Session: 4
Curriculum Links: Senses

Theme	Learning objectives	Learning outcomes	Hazards/Risks	Session	Resources
Earth Walk - Sensory exploration of the environment	To become familiar and be safe in the woodland environment To know what the five senses are, what they do and how we use them when discovering our environment	Define boundaries and know how to be safe in the woodland To be able to use the five senses to discover and describe the woodland	Uneven ground - Trips, slips falls Dog fouling - Adverse Weather - sunburn, hypothermia Seperation - distress Alien objects/Natural objects - Cuts scrapes Animal/plant - stings/ bites Exploring whilst blindfolded - supervision required Sniffing objects into nose - explain not to put nose too close	1-1.15 introduction, health and safety, register 1.15.1.25 walk to site 1.25 talk about five senses, what they do and how we use them, 1.40 Camera activity - pairs, one is camera one is photographer, camera closes eyes and photographer guides them to an area to take a 'picture' - taps on shoulder, camera opens eyes, looks, uses a 6x4 piece of paper draws what they see and then swap. Brong group back to gether to share 'photographs'. 2.00 Touch game - hand out egg boxes with two opposite words that describe a texture i.e. 'hard and soft', each group has different words. Groups collect things in the box, one side for each word. Whole group comes back together and takes it in turns to try to guess each others words. 2.20 Smelly cocktails - hand out cups and stirrer, Instruct group to collect things individually to make a smelly cocktail, When collected give squirt of 'magic spray' and ask to stir. Tell them to give their cocktail a name and smell each others concoctions. 2.40 Listening game - sit in circle, be quiet, raise finger when hear something and discuss. Alternatively send group apart to individual areas and discuss what heard when get back together, 2.50 - Pallettes whilst walking back- reminder of day - pallette shaped paper with double sided sticky tape - collect small bits of nicely coloured objects and stick on, take home with them. Teachers do evaluation while pupils do this 3pm Thanks and goodbye	First aid/welfare kit Risk assessments Mobile Phone Name badges? register 6x4 paper Pens/pencils Egg boxes with two contrasting words - 1 between 4 pupils Cups / pots and objects to stir i.e. straws, water spray (with food dye in?) If noisy group - a talking stick can only talk if got it Pallettes pre-made Evaluation forms

School: xxxxxx Primary School
Year / Group: Y3
Date: Tuesday 9th and Thursday 11th October 2012
Time: 1pm-3pm
Staff: xxxxxxx Forest Schools Leader
Session: 5 Connection Inspection and Woodland Pizza
Curriculum Links: Habitats and Food Chains

Theme	Learning objectives	Hazards/Risks	Session	Resources
Habitats	To become familiar and be safe in the woodland environment To identify different types of habitat Different animals are found in different habitats Make predictions of organisms that might be found in a habitat To observe conditions and make recordings of animals found That animals are suited to the environment that they are found in To use keys to id plants and animals To make reliable observations of organisms To identify food sources of local animals	Uneven ground - Trips, slips, falls Dog fouling – toxicara canis Adverse Weather – sunburn, hypothermia Seperation - distress Alien objects/Natural objects – Cuts scrapes Animal/plant – stings/ bites Moving logs and branches and natural materials – wear safety footwear (leaders) and alert children to dangers, do not allow children to carry heavy objects Rope burn if pulling rope tightly – instruct on safe use of rope Splinters – wear gloves all participants Please see accompanying risk assessments for the detailed assessment and mitigation measures	Before session, in a clearing in the woods, hammer in five wooden posts – Soil, Water (lake) Water (rain), Air and Sun. This is the basis for the Connection Inspection game. 1.00 Gather children in classroon, get ready to leave school, Make sure that children have their minibeasts with them that they made last week and are suitably dressed and toiletted! 1.10. walk to site arrive 1.15Welcome by Forest School leader, recap on last week's session, Talk about habitats – what do they provide (energy, shelter, water, air) what habitats are at Hemlington Lake (lake, woodland, field) 1.20 Split the group into two. Group 1 makes 'woodland pizza' gluing edible things to circle of cardboard to explain to group Group 2 - Introduce Connection Inspection activity (Earth Eduction Conceptual Encounters) and hand out creature cards and belts with fours 'needs of life' represented by coloured rope. Explain cards show where each need is found (i.e. which post or which other creature). Go to one child then another, connecting them to each other using the ropes and belts and the stakes until all connected. Poison the lake and disconnect one by one showing that everything is inter-linked. Swap activities / groups at 2pm. 2.40 Wrap up session, discuss learning, favourite / most intersting aspects – least favourite aspects of session. Hand out teacher evaluation. 2.50 walk back to school3pm arrive back at school for home time	First aid/welfare kit Flip chart Register – blank Evaluation Forms Mobile Phone camera Connection Inspection Game - Creature Cards Rope belts with four coloured ropes Stakes – needs of life Woodland Pizza – Cardboard or wood discs one per child or pair of children Glue

School: xxxxxx Primary School
Year / Group: Y3
Date: Tuesday 16th October (Group 1) and Thursday 18th October (Group 2) 2012
Time: 1pm-3pm
Staff: xxxxxx Forest Schools Leader
Session: 6 Woodland Shelter Building for Humans
Curriculum Links: Habitats

Theme	Learning objectives	Hazards/Risks	Session	Resources
Habitats	To become familiar and be safe in the woodland environment To identify different types of habitat Different animals are found in different habitats Make predictions of organisms that might be found in a habitat To observe conditions and make recordings of animals found That animals are suited to the environment that they are found in To use keys to id plants and animals To make reliable observations of organisms To identify food sources of local animals	Uneven ground - Trips, slips, falls Dog fouling – toxicara canis Adverse Weather - sunburn, hypothermia Seperation - distress Alien objects/Natural objects – Cuts scrapes Animal/plant – stings/ bites Moving logs and branches and natural materials – wear safety footwear (leaders) and alert children to dangers, do not allow children to carry heavy objects Rope burn if pulling rope tightly – instruct on safe use of rope Splinters – wear gloves all participants Please see accompanying risk assessments for the detailed assessment and mitigation measures	1.00 Gather children in classroon, get ready to leave school, that they made last week and are suitably dressed and toiletted! 1.10. walk to site arrive 1.15 1.15 Welcome by Forest School leader, recap on last week's session reset boundaries and ground rules Talk about homes – what are homes, what do homes provide and why do we need them? (ie warmth, safety, a base, storage) Where is a good place for a home – siting our dens i.e. near food, water, look at slope of ground, what is nearby, useful trees etc What could we use in the woods to make a home? 1.25 Demonstrate / show pictures of some dens /woodland shelters that have been made before. Explain activity 1.30 Making woodland shelters for us in groups of five, each with an adult, using natural materials in woodland, decorate them and take photographs, dismantle when finished 2.45 Wrap up session, discuss learning, favourite / most intersting aspects – least favourite aspects of session. Hand out teacher evaluation. 2.50 walk back to school 3pm arrive back at school for home time	First aid/welfare kit Flip chart Register - blank Evaluation Forms Mobile Phone camera Shelter Building Rope Woodland materials found on site Pictures of dens

School: xxxxxxx Primary School
Year / Group: Y3
Date: Tuesday 23rd and Thursday 25th October 2012
Time: 1pm-3pm
Staff: xxxxxxx Forest Schools Leader
Session: 7 Forest Estate Agents and Meet a Tree
Curriculum Links: Habitats and Food Chains

Theme	Learning objectives	Hazards/Risks	Session	Resources
Habitats	To become familiar and be safe in the woodland environment To identify different types of habitat Different animals are found in different habitats Make predictions of organisms that might be found in a habitat To observe conditions and make recordings of animals found That animals are suited to the environment that they are found in To use keys to id plants and animals To make reliable observations of organisms To identify food sources of local animals	Uneven ground - Trips, slips, falls Dog fouling - toxicara canis Adverse Weather - sunburn, hypothermia Seperation - distress Alien objects/Natural objects - Cuts scrapes Animal/plant - stings/ bites Moving logs and branches and natural materials - wear safety footwear (leaders) and alert children to dangers, do not allow children to carry heavy objects Rope burn if pulling rope tightly - instruct on safe use of rope Splinters - wear gloves all participants Please see accompanying risk assessments for the detailed assessment and mitigation measures	1.00 Gather children in classroon, get ready to leave school, Make sure that children have their minibeasts with them that they made last week and are suitably dressed and toiletted! 1.10. walk to site arrive 1.15Welcome and recap 1.20 Explain that the woodland contains many habitats, and that we are going to explore these. Variety - big, small, light, dark, wet, dry, open, hidden and that lots of different creatures live in them, all are suited to their own habitat. 1.30 Carry out woodland tree top walk using mirror tiles (stickers not glass) under chins to give impression that they are walking through the woodland. Using dentist mirrors explore the smaller areas under leaves, stones etc and explain that both these things are habitats. Split into groups and send out to find their own habitat, and using the estate agents worksheet complete and return to group Take it in turns to 'sell' habitat and talk about who might live there If time, meet a tree game - one blindfolded, one leads way to tree, blindfolded person feels tree then is led back to group and sees if they can find their tree by touch. 2.40 Wrap up session, discuss learning, favourite / most intersting aspects - least favourite aspects of session. Hand out teacher evaluation. 2.50 walk back to school3pm arrive back at school for home time	First aid/welfare kit Flip chart Register - blank Evaluation Forms Mobile Phone camera Animal estate agents worksheets Woodland treetop walk mirrors Micro habitat dentist mirrors Blindfold Pencils

School: xxxxx Primary School
Year / Group: Y3
Date: Tuesday 13th and Thursday 22nd November 2012
Time: 1pm-3pm
Staff: xxxxxxx Forest Schools Leader
Session: 9 – cooking and fire safety / campfire procedure – last session

Theme	Learning objectives	Hazards/Risks	Session	Resources
Habitats	To become familiar and be safe in the woodland environment To identify different types of habitat Different animals are found in different habitats Make predictions of organisms that might be found in a habitat To observe conditions and make recordings of animals found That animals are suited to the environment that they are found in To use keys to id plants and animals To make reliable observations of organisms To identify food sources of local animals	Uneven ground - Trips, slips, falls Dog fouling – toxicara canis Adverse Weather – sunburn, hypothermia Seperation - distress Alien objects/Natural objects – Cuts scrapes Animal/plant – stings/ bites Moving logs and branches and natural materials – wear safety footwear (leaders) and alert children to dangers, do not allow children to carry heavy objects Rope burn if pulling rope tightly – instruct on safe use of rope Splinters – wear gloves all participants Heat and fire – burning or setting alight hair / clothes to be tied back and only two children to come forward when asked. Make sure thorough safety talk is carried out	1.00 Gather children in classroon, get ready to leave school, Make sure that children have their minibeasts with them that they made last week and are suitably dressed and toiletted! 1.10. walk to site arrive 1.15Welcome by Forest School leader, recap on last week's session, Ask what group have brought to cook on the campfire. Walk around the site, looking for sticks hanging from trees (not attached) that might be dry enough to use as fuel. Also use secateurs to cut branches from the willow tree as skewers for marshmallows. 1.50 Gather back together – talk about fire triangle – oxygen, fuel and heat. Talk about fire safety i.e. no loose clothes or hair,. Do not approach fire unless told to, Where to site a fire in the woods (soil type, no hnaging branches, clear area – marked out and clear of any trip hazards). Choose suitable area with group. Mark out area with sports cones of large branches at least 1.5m away from fire wok and expain that nobody (even adults!) enters unless asked by Forest School leader – show the correct procedure to move around the fire circle – behind the cones not across the centre. Show group the fire wok and kelly kettle, explian how it works. Show fire steels and allow them to take a turn. Using sticks collected by group or brought in, also cotton wool, use fire steels to light a fire in the wok. Allow group to come forward to help to tend the fire. Toast marshmallows by allowing 2-3 children at once to come forward and give drink of hot chocolate from Kelly Kettle (adult to supervise this and pour water, hand out mugs – make sure that plently of milk in the hot	First aid/welfare kit Flip chart Register – blank Evaluation Forms Mobile Phone camera Sticks Fire Steels Kelly Kettle Fire Wok Cotton Wool 2 x 5 litre water Cones Marshmallows Hot chocolate Secateurs

		Scalds from food and drink - make sure cool enough to eat or drink before children are allowed to drink or eat Food poinsoning - no meat Allergies -ensure no children have allergies and supervise food accordingly Please see accompanying risk assessments for the detailed assessment and mitigation measures	chocolate to enusre that it is cool enough to drink. Talk about other things that can be cooked on the campfire (bananas stuffed with chocolate, orange peel in halves stuffed with cake mix, toast, chestnuts etc etc and ask for their food they have brought in and if it is safe to do so in terms of food poisoning (i.e. no meat) allergies . etc then cook it on the fire. If necessary use two fire circles - warden from Hemlington Lake to supervise the other. When all have eaten, explain importance of putting out the fire and use water to put out fire. Spread the ashes and make sure that the site is reinstated and there is no trace of fire. If time, do the Autumn Scavenger Hunt to finish . 2.40 Wrap up session, discuss learning, favourite / most intersting aspects - least favourite aspects of session. Hand out teacher evaluation. 2.50 walk back to school 3pm arrive back at school for home time	

School: xxxxxx Primary School
Year / Group: Y3
Date: Tuesday 6th and Thursday 8th November 2012
Time: 1pm-3pm
Staff: xxxxxxx Forest Schools Leader)
Session: 8 – habitat destruction, bonfire night, fire safety and campfire procedure

Theme	Learning objectives	Hazards/Risks	Session	Resources
Habitats	To become familiar and be safe in the woodland environment To identify different types of habitat Different animals are found in different habitats Make predictions of organisms that might be found in a habitat To observe conditions and make recordings of animals found That animals are suited to the environment that they are found in To use keys to id plants and animals To make reliable observations of organisms To identify food sources of local animals	Uneven ground - Trips, slips, falls Dog fouling – toxicara canis Adverse Weather – sunburn, hypothermia Seperation - distress Alien objects/Natural objects – Cuts scrapes Animal/plant – stings/ bites Moving logs and branches and natural materials – wear safety footwear (leaders) and alert children to dangers, do not allow children to carry heavy objects Rope burn if pulling rope tightly – instruct on safe use of rope Splinters – wear gloves all participants Heat and fire – burning or setting alight hair / clothes to be tied back and only two children to come forward when asked. Make sure thorough safety talk is carried out	1.00 Gather children in classroon, get ready to leave school, Make sure that children have their minibeasts with them that they made last week and are suitably dressed and toiletted! 1.10. walk to site arrive 1.15Welcome by Forest School leader, recap on last week's session, Talk about the woods and what can harm or destroy habitats – point out any fire areas from bonfire night or any vandalism. Discuss this – is it wrong and why? Walk around the site, looking for sticks hanging from trees (not attached) that might be dry enough to use as fuel. Also use secateurs to cut branches from the willow tree as skewers for marshmallows. 1.50 Gather back together – talk about fire triangle – oxygen, fuel and heat. Talk about fire safety i.e. no loose clothes or hair,. Do not approach fire unless told to, Where to site a fire in the woods (soil type, no hnaging branches, clear area – marked out and clear of any trip hazards). Choose suitable area with group. Mark out area with sports cones of large branches at least 1.5m away from fire wok and expain that nobody (even adults!) enters unless asked by Forest School leader – show the correct procedure to move around the fire circle – behind the cones not across the centre. Show group the fire wok and kelly kettle, explian how it works. Show fire steels and allow them to take a turn. Using sticks collected by group or brought in, also cotton wool, use fire steels to light a fire in the wok. Allow group to come forward to help to tend the fire. Toast marshmallows by allowing 2-3 children at once to come forward and give drink of hot chocolate from Kelly Kettle (adult to supervise this and pour	First aid/welfare kit Flip chart Register – blank Evaluation Forms Mobile Phone camera Sticks Fire Steels Kelly Kettle Fire Wok Cotton Wool 2 x 5 litre water Cones Marshmallows Hot chocolate Secateurs

		Scalds from food and drink – make sure cool enough to eat or drink before children are allowed to drink or eat Please see accompanying risk assessments for the detailed assessment and mitigation measures	water, hand out mugs – make sure that plently of milk in the hot chocolate to enusre that it is cool enough to drink. Talk about other things that can be cooked on the campfire (bananas stuffed with chocolate, orange peel in halves stuffed with cake mix, toast, chestnuts etc etc and ask for their ideas. Tell them next week we are cooking more food and to bring some in – make sure they all know what they are going to be bringing in. When all have eaten, explin importance of putting out the fire and use water to put out fire. Spread the ashes and make sure that the site is reinstated and there is no trace of fire. 2.40 Wrap up session, discuss learning, favourite / most intersting aspects – least favourite aspects of session. Hand out teacher evaluation. 2.50 walk back to school 3pm arrive back at school for home time	