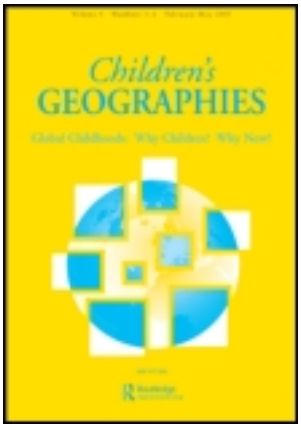
This article was downloaded by: [The University of Manchester]
On: 01 June 2012, At: 01:17
Publisher: Routledge
Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Children's Geographies
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/cchg20

Encouraging play in the natural environment: a child-focused case study of Forest School

Nicola D. Ridgers [a], Zoe R. Knowles [b c] & Jo Sayers [d]

[a] Centre for Physical Activity and Nutrition Research, Deakin University, 221 Burwood Highway, Burwood, Victoria, 3125, Australia

[b] Research Institute for Sport and Exercise Sciences, Liverpool John Moores University, Tom Reilly Building, Byrom Street Campus, Liverpool, L3 3AF, UK

[c] REACH Group, Liverpool John Moores University, 2 Rodney St, Liverpool, Merseyside, Liverpool, L1 2UA, UK

[d] The Mersey Forest, Risley Moss, Ordnance Avenue, Birchwood, Warrington, WA3 6QX, UK

Available online: 22 Feb 2012

To cite this article: Nicola D. Ridgers, Zoe R. Knowles & Jo Sayers (2012): Encouraging play in the natural environment: a child-focused case study of Forest School, Children's Geographies, 10:1, 49-65

To link to this article: http://dx.doi.org/10.1080/14733285.2011.638176

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.tandfonline.com/page/terms-and-conditions

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings,

demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Downloaded by [The University of Manchester] at 01:17 01 June 2012

Children's Geographies
Vol. 10, No. 1, February 2012, 49–65

Routledge
Taylor & Francis Group

Encouraging play in the natural environment: a child-focused case study of Forest School

Nicola D. Ridgers[a]*, Zoe R. Knowles[b,c] and Jo Sayers[d]
[a]*Centre for Physical Activity and Nutrition Research, Deakin University, 221 Burwood Highway, Burwood, Victoria, 3125, Australia;* [b]*Research Institute for Sport and Exercise Sciences, Liverpool John Moores University, Tom Reilly Building, Byrom Street Campus, Liverpool L3 3AF, UK;* [c]*REACH Group, Liverpool John Moores University, 2 Rodney St, Liverpool, Merseyside, Liverpool L1 2UA, UK;* [d]*The Mersey Forest, Risley Moss, Ordnance Avenue, Birchwood, Warrington WA3 6QX, UK*

Downloaded by [The University of Manchester] at 01:17 01 June 2012

There is concern that children are becoming disengaged from the natural environment and are not being afforded the opportunities to play in such environments. To examine children's perceptions, knowledge and experiences of play in the natural environment, 17 children from one school participated in small focus groups before and after a 12-week Forest School that took place within a school woodland area. Using two qualitative approaches, we found that Forest School had a positive influence on children's natural play and their knowledge of the natural world around them.

Keywords: qualitative methodology; children; natural play

Introduction

The term play is colloquially used to describe the various activities and behaviours that children engage in (Lindon 2002, Pellegrini 2009). While play is difficult to define due to the complexity of the behaviour (Powell 2009), there is a general acceptance that play is enjoyable, fun, intrinsically motivated and self-directed (Titman 1994, Lindon 2002, Powell 2009). However, a United Kingdom Government review (DCSM 2004) noted that parents are concerned that the current generation of children have fewer opportunities to play compared to previous generations. Indeed, the changing nature of play is closely linked to societal changes in safety attitudes (Veitch *et al.* 2006, Staempfli 2009). In recent years there has been a concerted effort in the UK to promote play, yet the primary focus has centred on structured provisions and containing play in acceptable spaces (Powell 2009). Such approaches may be self-defeating, particularly as when given the choice, children prefer unstructured settings, choosing to play and enjoying play in natural environments and/or with natural elements (Titman 1994).

Natural environments have been defined as 'environments not designed or cultivated by humans' (Fjørtoft 2004, p. 24). The diversity of the natural environment can meet the children's needs for a stimulating and varied play environment, whereby the type, creativity and inventiveness of play is

*Corresponding author. Email: nicky.ridgers@deakin.edu.au

ISSN 1473-3285 print/ISSN 1473-3277 online
© 2012 Taylor & Francis
http://dx.doi.org/10.1080/14733285.2011.638176
http://www.tandfonline.com

closely related to environmental features (Fjørtoft and Sageie 2000, Staempfli 2009). Indeed, the natural environment affords complex, challenging and exciting play opportunities, and encourages high levels of physically active play through diverse movements (Moore and Wong 1997, Fjørtoft and Sageie 2000). Play in the natural environment also enables children to understand the world around them and to encounter and solve real problems (Staempfli 2009); described by Titman (1994) as the hidden curriculum. There is concern, however, that children are becoming disengaged from playing in the natural environment due to lower levels of freedom, perceived dangers and a risk adverse culture (Woolley *et al.* 2009). This may have far reaching consequences for engagement with the natural environment across the life course, particularly as childhood experiences influence their connectedness with the natural environment later in life (Bixler *et al.* 2002). Since a progressive detachment to the natural environment generally occurs during adolescence as socialisation skills develop (Bateson and Martin 1999), it has been indicated that children who have little access to the natural environment during childhood may lose their connectivity with the natural environment (Woolley *et al.* 2009). Consequently, efforts are needed to encourage natural play in school aged children.

One such approach to play in the natural environment is Forest School; an initiative that enables people of all ages the opportunity to engage in hands-on learning in a woodland environment (Murray and O'Brien 2005). The scheme has been successfully used in Nordic schools, and since 1995, it has become more widespread within the UK. Forest School is typically introduced during timetabled school sessions in mainstream schools (usually preschool and elementary), where children access woodland sites either within the school grounds or local community, dependent on each schools location and situation. During Forest School, children engage in activities such as building shelters, cooking on camp fires, and identifying plant and wildlife (see Table 1). The focus of the scheme is on the whole child and their experiences therefore develop the children's independence and self-esteem through their engagement with the natural environment (Murray and O'Brien 2005, Forest Education Initiative 2008). Moreover, children learn at their own pace by engaging in a range of activities that can be linked back to national curriculum objectives, including understanding science, technology, mathematics, and physical development, health and well being (O'Brien and Murray 2007). Emerging research suggests that children benefit from engagement with Forest School in a number of ways. Increases in motivation, concentration, confidence, knowledge of the natural environment, and an awareness of others have all been documented (O'Brien and Murray 2007). However, these observations were reported in young children (aged 3–5 years), and results were based upon practitioner reflections and feedback. Consequently, the views and experiences of the children participating in Forest School are required to inform future attempts at implementing and evaluating this initiative to encourage play in the natural environment.

This study, therefore, aimed to investigate the children's perceptions, knowledge and experiences of play in the natural environment (termed natural play for the purpose of this article) both prior to and following their engagement in Forest School. A secondary aim was to examine whether it provides an appropriate mechanism for connecting children with the natural environment through exploring changes in their leisure time activities and behaviours. Two analyses of the collected data were employed to provide the reader with a sense of the children's experiences represented through their own thoughts and views and to demonstrate perceptions of the journey through the project.

Methods

Participants

Seventeen children (six boys, 11 girls) aged 6–7 years from one Year 2 class in a North West England primary school returned informed written parental consent and child assent to

Downloaded by [The University of Manchester] at 01:17 01 June 2012

Table 1. Simple overview of Forest School sessions and their associated activities, games and questions asked.

Week	Session overview	Activities, games and questions asked
1	Rules and games	What sort of dangers are there in the woods? What could you hurt? Introduced special rules about the fire pit and ropes. Building trust between children using blindfolds.
2	Jigsaw search and wood store building	Searching for jigsaw pieces in teams around the wood that when put together spell a word. Introduced collecting wood for building a fire.
3	Explore and draw the woodland area	Introduced mapping their environment using natural elements to create a 3D map of the main features of their forest school area.
4	Flags and mini beast hunting	Created a flag using natural dyes to decorate it. Introduced where mini beasts can be found and how to look after them.
5	Building shelters	Introduced the basics of shelter building using sticks, rope and knots. Environmental art (free choice of activities).
6	Building shelters and mini beast hunting	Revisited their shelters to see if they were still standing, and hunted for mini beasts near and in the shelters. Learning about new tools-pull saws.
7	Trees and shelters	The nutrient game. Introduced information about how trees grow. Revisited building shelters which didn't damage trees and plants.
8	Measuring the age of a tree and identifying trees	Showed children how to estimate and measure the age of a tree, and how to identify different species of trees.
9	Making mobiles	Created mobiles using natural resources. Introduced weight of resources and how to tie sticks together.
10	Making dyes, bunting, and elder jewellery	Created dyes using natural resources. What colours can be found in a forest area? Made a piece of jewellery using elder wood.
11	Making dyes and elder jewellery	Continued session from last week. Can you remember what resources made the colours for your bunting?
12	Parent and child session. Introducing parents to Forest School and rules	1,2, 3 Where are you? Hiding game, blindfolds and using senses in the forest, building trust, treasure basket. Options for free play and toasting marshmallows on the fire
12	Forest School party	Children's choice of activities – free natural play. Children toasted food parcels to celebrate their achievements.

Note: Session 12 was split in to two 1-hour sessions, which explains why there are 2-week 12 sessions.

Downloaded by [The University of Manchester] at 01:17 01 June 2012

participate in the project. The class were purposely selected by the school as their teacher was undergoing a Forest School co-coordinator qualification with a view to enabling the initiative to be continued in the school in subsequent years. Ethical approval was granted by the University Ethics Committee.

Settings

This study reported data collected as part of a pilot study that introduced Forest School in a primary (elementary) school located within The Mersey Forest (http://merseyforest.org.uk), which is the UK's largest community forest covering 465 square miles across Merseyside and North Cheshire. The school was selected as a member of teaching staff was undertaking the Forest School co-ordinator qualification, and had expressed an interest in engaging in a pilot project after being approached by the Mersey Forest to participant in a pilot project. Following this, the school agreed to coordinate and assist the project, while The Mersey Forest helped the school to prepare the woodland area in their grounds, which was well established yet overgrown and underused.

The delivery of Forest School occurs through timetabled school sessions that range from a minimum of 2 hours a week for a minimum of 6 weeks to whole days across the whole

school year depending on the age of the children. In some schools, classes travel either on foot or by motorised transport to areas that can be used for Forest School, depending on the distance travelled. In this pilot study, the children participated in 12 sessions that were 2 hours in length (thus 24 hours total). The sessions took place during the morning, and ran for 12 consecutive school weeks between March and June 2009 across the spring and summer terms when the weather was generally mild. The sessions were led by external and qualified Forest School co-ordinators. All sessions took place outside amongst the schools woodland area, which had undergone some minimal clearing prior to the start of the sessions and were typical of park and forest site maintenance. The activities undertaken by the children over the 12 week period are shown in Table 1. During the sessions, children wore their own clothes and were encouraged to dress appropriately for the outdoor environment. Spare outdoor wear were available to loan from the school during inclement weather.

Downloaded by [The University of Manchester] at 01:17 01 June 2012

Procedure

Initially, all children and parents in the selected class were invited to an afterschool meeting to inform them about Forest School and the concurrent research project. Children who returned written consent and assent were recruited in to the research project ($n = 17$), but all children in the class took part in Forest School ($n = 26$). At baseline and post-programme, the third author conducted small (two to three children) focus group discussions that asked the children about their experiences of play and natural play, and to identify whether any barriers to play and play in the natural environment exist. The interviews followed a semi-structured format using open-ended questions such as what do you think we mean by nature?, what is (natural) play?, where do you go when you go outside to play?, and describe any places you are not allowed to play when you are outside? In the focus groups following Forest School, children were also asked about what they enjoyed about the sessions, what they learnt, and whether they continued to engage in the activities they learned during the sessions. Questions included what did you learn from Forest School?, what was your favourite activity in Forest School?, and what games that you learnt in Forest School do you play now? The focus groups took place in a small quiet area in the school, and lasted 20–30 minutes. A teaching assistant was in the vicinity of the interview area in the event of assistance being needed by the interviewer. All interviews were recorded using a digital recorder, and were transcribed verbatim for further analysis. In total, 12 interviews were conducted and 147 double-spaced pages were created from the transcription process.

Data management and analysis

The presence of author two as an experienced qualitative researcher in psychology and sport social science allowed the team members more familiar with quantitative measurements and play to explore different and complimentary ways of representing data. Qualitative methods were explored as a technique for obtaining children's personal experiences and reflections both in relation to play in the natural environment and Forest School (Kesby 2007, Twum-Danso 2009), as this approach can obtain children's views and experiences on the reality in which they live their lives (Twum-Danso 2009). Indeed, a qualitative approach respects the expert knowledge of the participant (Kesby 2007), where children are the focus of the research as opposed to a subcomponent of larger research concerns (Horton *et al.* 2008, James 2010) and can therefore provide insights in to their experiences (Kesby 2007). We acknowledge recent concerns that research in this area has a large emphasis on qualitative case studies (Vanderbeck 2008), yet we (the authors) felt the approach below was the most appropriate way within this project to hear the children's voices relating to their experiences (Horton *et al.* 2008).

To examine the collected data, a mixed analysis procedure was used using pen profiles and the use of verbatim quotations (see Knowles 2009). Krane *et al.* (1997) argue that a wide array of techniques offering the same conceptual processes exist by which to handle qualitative data, for example manual tagging, 'cut and paste' using a word processing data files or a specialist software designed for qualitative data analysis. The authors add that: '...none of these procedures directly affects the validity of the study, they are merely ways for the inquirers to work with their data...' (p. 215).

In supporting new methodologies and forms of representation within qualitative research, pen profiles were firstly constructed from the transcripts. These profiles provide a composite of key themes from the data deduced via an efficient process which offers examples of verbatim data as opposed to more comprehensive (in number) and truncated (due to space) offerings within content analysis Raw Data themes. Verbatim quotations were then used directly from the transcripts in order to expand the pen profiles. These extracted quotes, or a statement made by the children, were self-definable and self -delimiting in the expression of a single recognisable aspect of the children's experience.

The consultation process of triangulation took the form of a presentation by the second author in which the pen profiles and verbatim quotations were demonstrated to the other two authors. These authors then critically questioned the analysis in this session, and interrogated the data independently tracking the process in reverse from the pen profiles to the transcript. A further meeting allowed the research team to offer alternative interpretations of the text or profile. This process continued until an acceptable consensus had been reached by the group.

Methodological rigour in qualitative research can be demonstrated using 'trustworthiness criteria' (e.g. Gould *et al.* 1996, Knowles *et al.* 2001). Through trustworthiness criteria, an investigator persuades other scientists including themselves that the findings are worthy of attention (Lincoln and Guba 1985, Hardy *et al.* 1996). Within this study credibility and transferability (qualitative equivalent of internal and external validity, respectively) were demonstrated through verbatim transcription of data and triangular consensus procedures. Dependability (qualitative equivalent of reliability) was demonstrated through the comparison of pen profiles with verbatim citations and triangular consensus processes.

Results

Pen profiles

Children's play

Baseline data on children's play revealed that play was perceived most frequently by the participants as fun ($n = 5$), enjoyable, and it involved interacting with their friends or playing on their own (Figure 1). This supported previous research pertaining to children's play (Titman 1994, Lindon 2002, Powell 2009), which has indicated that play is self-sustaining, incorporates a range of different activities and behaviours, and that the activities appears to happen for its own sake (Pellegrini and Smith 1998).

Following Forest School while the theme of play emerged again, it was directed to what the children perceived play *to be*, and what their play *involved.* The responses indicated that the activities undertaken during Forest School stimulated imaginative play within the natural environment outside of school, particularly with the boys. In addition, some girls talked about their social interactions with others through games and different activities, providing examples of opportunities for social activities through Forest School and to their overall social development (Figure 2).

Downloaded by [The University of Manchester] at 01:17 01 June 2012

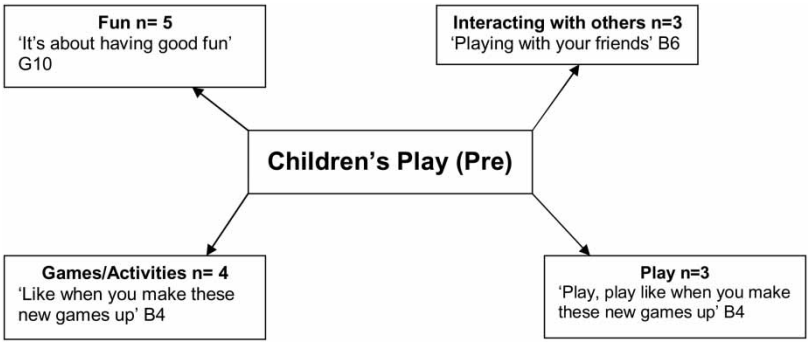


Figure 1. Definition of children's natural play prior to Forest School (baseline).

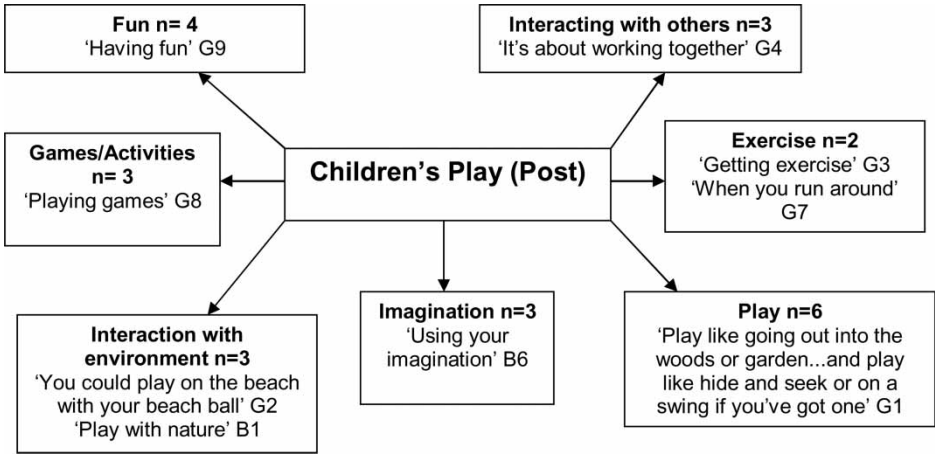


Figure 2. Definitions of children's natural play following Forest School (post-programme).

Natural play

Baseline data on experiences and perceptions of natural play indicated children understood that natural play generally consisted of playing outdoors though this was restricted to playing in parks or their gardens at home (Figure 3). A number of children lived close by to a large park with a woodland area and play activities were associated with the trees there, whether it was climbing the trees or using them to hide behind. Some children associated natural play as freedom and choice, where they could play in the manner that they wanted to (Freedom and Choice, B6, Figure 4).

Post-programme data suggested that the children had developed an awareness of the range of opportunities that the natural environment afforded their creative play (Fjørtoft and Sageie 2000, Staempfli 2009). In addition, the children were reporting a greater *range* of natural play environments compared to baseline indicating that they were beginning to look beyond their gardens and local parks to other places they could engage in natural play (e.g. beach). Some children reported that they did not understand the term natural play itself, though they were able to describe instances of playing in the natural environment.

Forest School sessions and activities post-programme

An overview of the sessions undertaken was reported in Table 1. From the list of activities during Forest School, making a den using elements from the natural environment was a popular activity

Downloaded by [The University of Manchester] at 01:17 01 June 2012

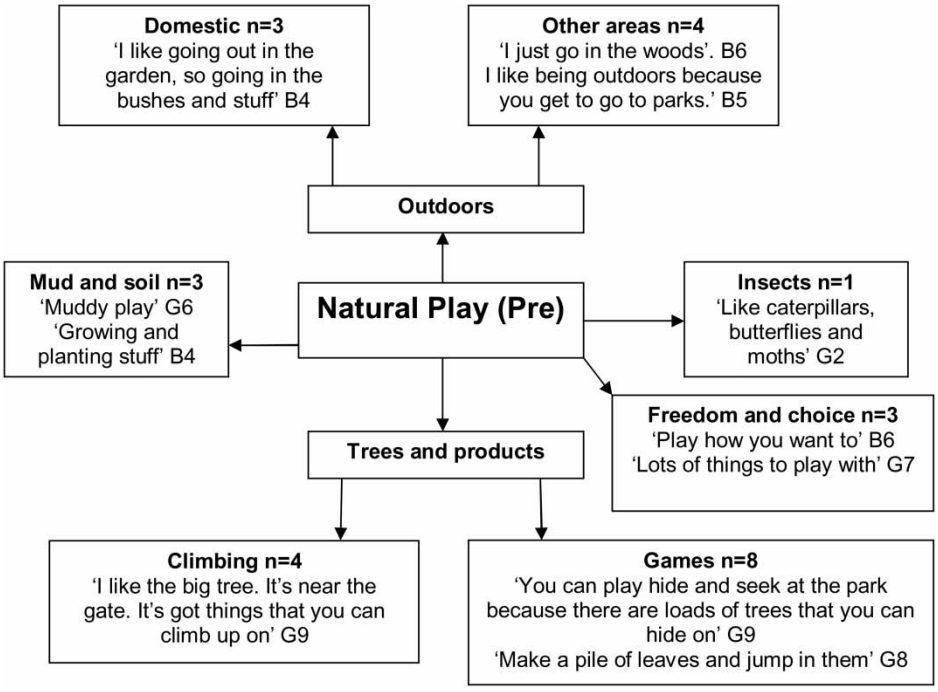


Figure 3. Children's experiences of natural play prior to Forest School (baseline).

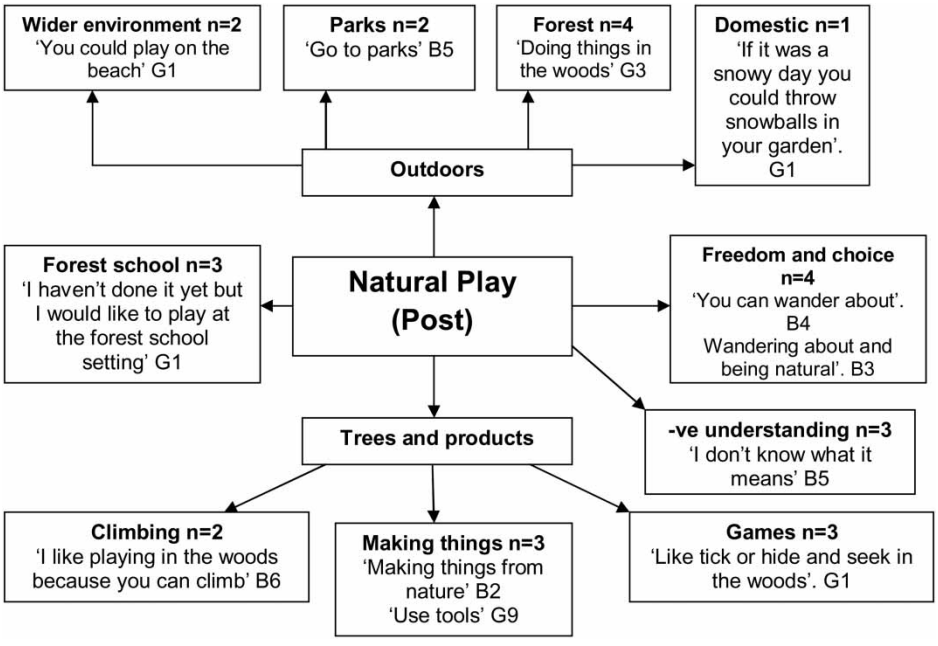


Figure 4. Children's experiences of natural play following Forest School (post-programme).

Downloaded by [The University of Manchester] at 01:17 01 June 2012

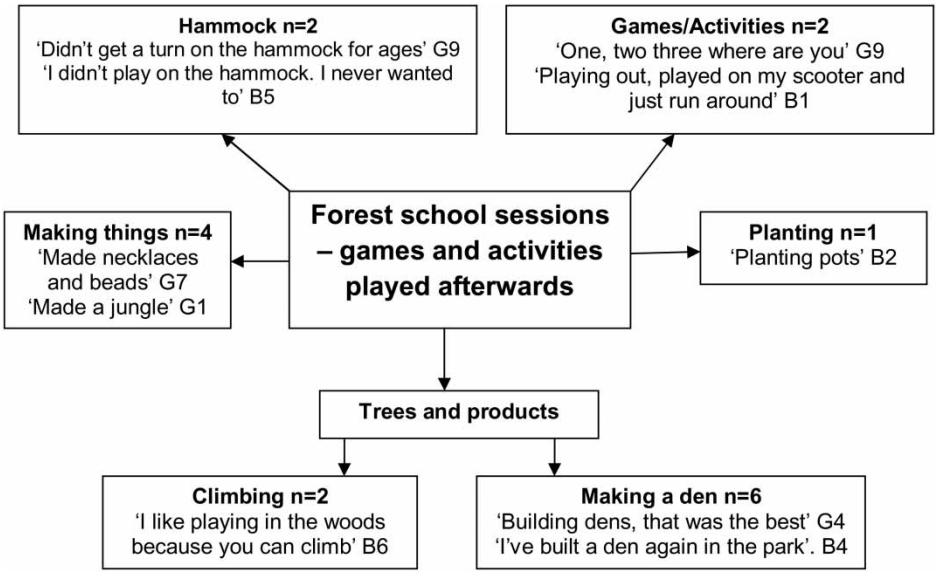


Figure 5. Transfer of Forest School activities to leisure time behaviours.

that was replicated by the children at home or in their local area (Figure 5). In addition, several children reported playing a specific game taught during Forest School called 'one, two, three, where are you?' both at home with younger siblings and at school with their friends. In some cases, the children were occupying teaching roles with others and leading these games, indicative of both role confidence and an appreciation of the game. Fewer children talked about tree climbing at following Forest School ($n = 2$) compared to baseline ($n = 4$), reflecting the range of activities undertaken during Forest School may have encouraged a variety of new play behaviours (see Figure 4).

Barriers to play

A range of barriers were suggested by the children in relation to their play at home and within the natural environment. Similar barriers were reported pre- and post-programme, with the majority relating to parental constraints that were closely linked in to safety concerns (Figures 6 and 7). Parental fears of abduction ($n = 4$), heavy road traffic ($n = 4$ pre, $n = 7$ post), and minimising injury risks were stated by the children as reasons why they could not play near to their houses or in the natural environment. Indeed, many children stated that they were not allowed to go to the local park, for example, without adult or older sibling supervision, and were subsequently reliant on their families for taking them to play in natural environments. Weather was reported as a barrier to play at baseline, however it was noted that weather was perceived as less restrictive to outdoor play post-programme. During Forest School, children accessed the woodland area in all weathers, and it appears that their desire to play outdoors had overcome their perceptions of the weather being a barrier.

Knowledge and understanding

O'Brien and Murray (2007) noted that the children's knowledge and understanding of the natural environment was characterised not only by the interest that they had in the woodland and respect for the environment but the use of the natural environment for play. In our study, the children reported awareness of safety and routines, such as camp fire safety, and were able to justify why particular activities had been undertaken and what had been learned. In addition, an

Downloaded by [The University of Manchester] at 01:17 01 June 2012

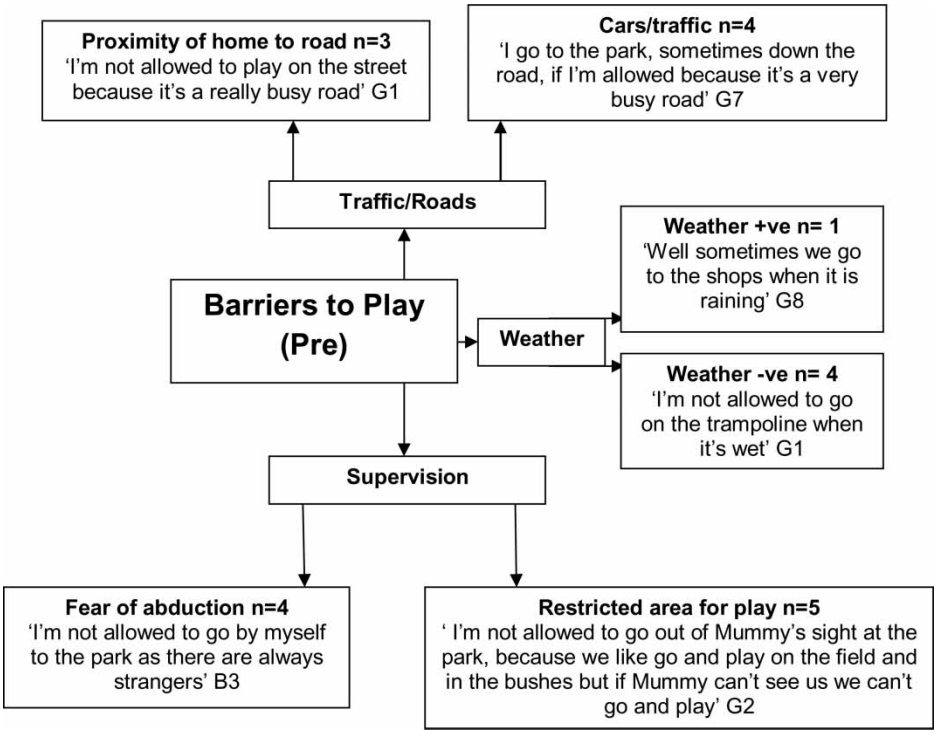


Figure 6. Children's reflections on barriers to free-play (baseline).

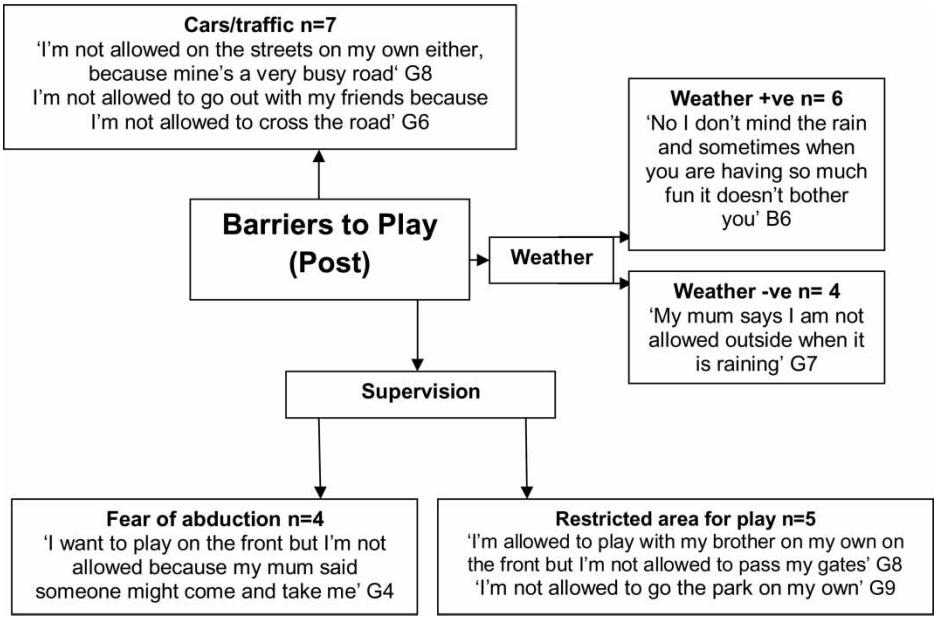


Figure 7. Children's reflections on barriers to free-play (post-programme).

Downloaded by [The University of Manchester] at 01:17 01 June 2012

appreciation of the natural environment developed that included respecting the habitat of other living creatures (e.g. plants and wildlife).

Interest in nature

At baseline the children identified some elements of the natural world that captured their interest and some children reported a curiosity about specific nature and wildlife. Following Forest School, more children reported their motivation to find out more about the natural environment had developed, and they were becoming more aware of local environmental issues. For example, three of the children argued why some of the red squirrels in a pine wood located in a neighbouring area were dying, and they were able to justify the points they had made based on their own experiences. Some of the children described how they hunted (their own description) for mini beasts in their own garden and how they handled the creatures once they had found them. It was apparent that the skills they had learned during the Forest School sessions had been transferred into their home environment and discovery play and provided further support for the changes in their knowledge and understanding of the natural environment (see Figures 8 and 9).

Facing fears

Murray and O'Brien (2005) noted that children who lack regular contact with the natural environment require time to become comfortable and familiar with it. At baseline, very few children reported any fears that they had that related to being in a natural environment. Post-programme, some of the children reported that they had initial fears of elements of the natural world, particularly in relation to mini beasts ($n = 4$) or due to a lack of perceived competence in climbing trees. However, they were also clear that they had started to face these fears as a consequence of Forest School activities. More specifically, the reported having fears, particularly of wildlife, and while some overcame these issues, some of the children did not. When asked why they were no longer scared of some wildlife, the children stated that it was because they had learnt that the creatures could not hurt them (Figure 10).

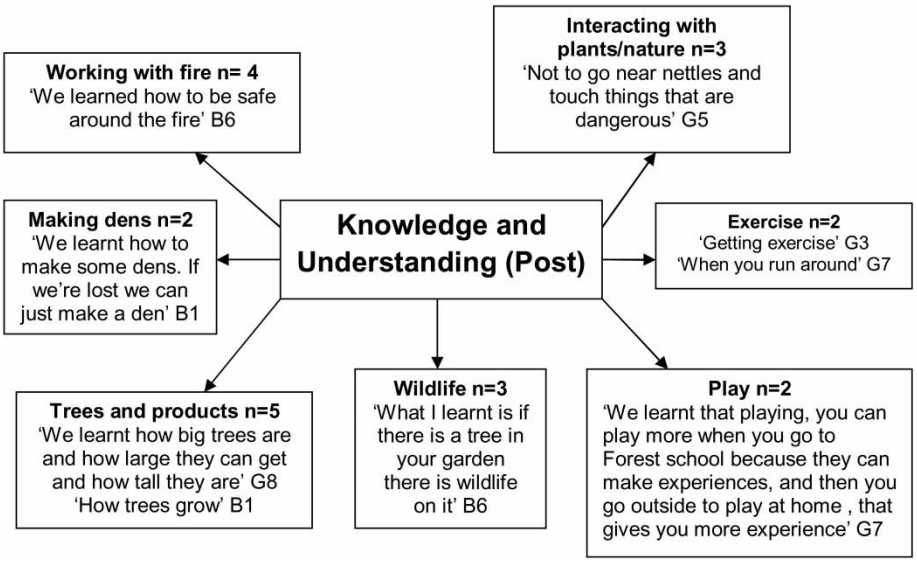


Figure 8. Children's knowledge and understanding of the natural environment (post-programme).

Downloaded by [The University of Manchester] at 01:17 01 June 2012

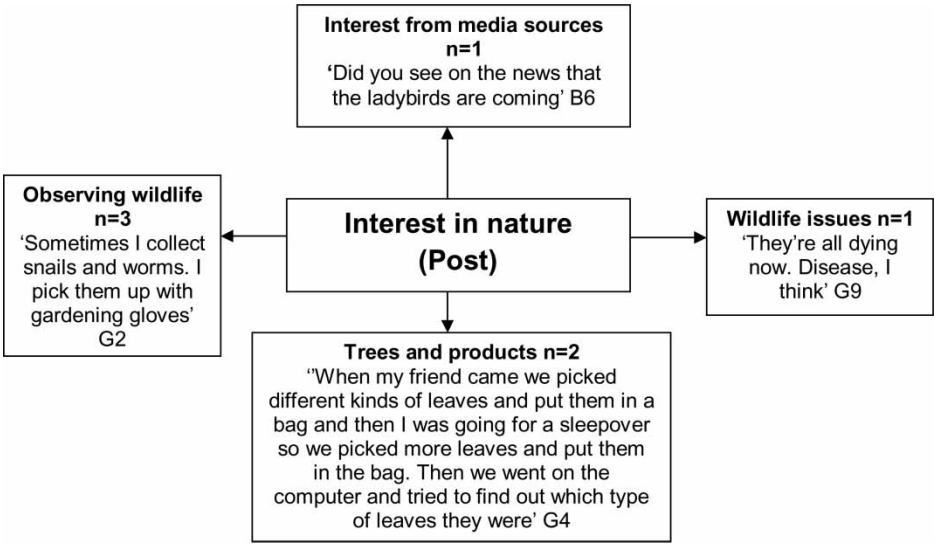


Figure 9. Children's interest of the natural environment following Forest School (post-programme).

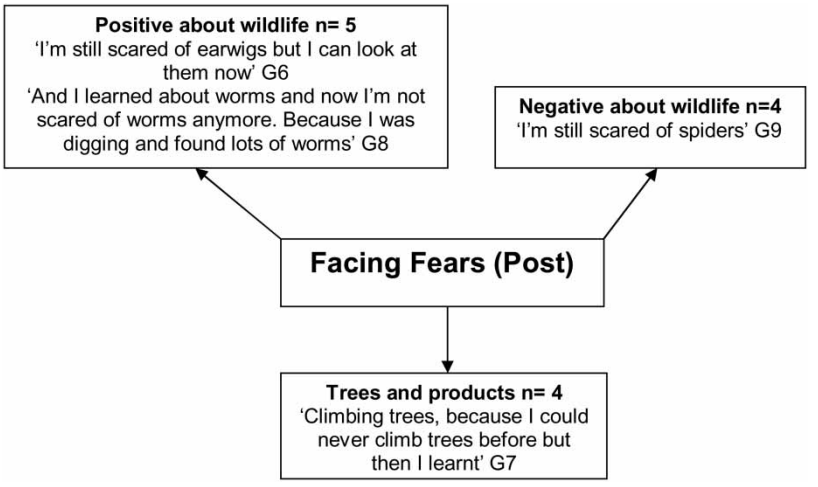


Figure 10. Challenging children's fears of the natural environment during and after Forest School (post-programme).

Synthesis of pen profiles

The aim of this study was to investigate children's perceptions, knowledge and experiences of natural play prior to and following their participation in Forest School using a qualitative approach. The pen profile data revealed positive changes to children's knowledge of natural play, their natural play experiences, and their knowledge and understanding of the world around them. Barriers to play were also identified.

Veitch *et al.* (2007) noted that physical environmental features, such as busy roads, may influence children's access to play spaces. Children in our study reported that their parents' concerns about traffic, proximity to busy roads, weather, and fears of abduction were linked to the children

Downloaded by [The University of Manchester] at 01:17 01 June 2012

being unable to play in the outdoor environment, particularly if out of sight of their parents. Notably, these parental constraints on play, viewed as attempts to minimise safety risks (DCMS 2004, Veitch *et al.* 2006, Staempfli 2009) were consistently reported at baseline and following Forest School. This suggests that some children are restricted in their opportunities to play and explore their natural environment (O'Brien and Murray 2007). In some ways, this indicates that when children are allowed to play, it occurs in acceptable and safe areas (Powell 2009). The only barrier that appeared to change was that of the weather. Although some children reported that their parents stopped them from playing in the rain post-programme, others noted that it was fun and they sometimes ignored parental instructions when they were asked to go inside. To help to encourage and facilitate natural play in younger children in the future, parents could be invited to the Forest School sessions more regularly and become increasingly involved in some of the sessions. Indeed, this may help the parents to understand this environment and consider removing some of the barriers associated with natural play (Staempfli 2009).

Natural environments provide opportunities for challenging and diverse play that tests children's competencies, enables them to manage their own perceptions of risk, and helps their creativity and observation and motor skills (Fjørtoft and Sageie 2000, Crain 2001, Fjørtoft 2004, Murray and O'Brien 2005). Moreover, an active engagement with the natural world helps to develop through hands on active involvement, rather than through classroom based activities (O'Brien and Murray 2007). Our data (Figure 4) suggest that an awareness of affordance of the natural environment for play has been fostered through their engagement in Forest School, with activities being replicated in the home and local environment. While we must be cautious that these findings relate to the children who wanted to take part in the study and potentially having a greater interest in Forest School, it is possible that Forest School has stimulated varied play in these children.

We previously stated that Forest School encouraged active involvement. Activities undertaken included making jewellery and dens, tying knots, measuring tree trunks, climbing trees, making flags, and cooking on open fires; all of which can be linked back to national curriculum overall objectives (O'Brien and Murray 2007). Notably, while some of these experiences challenged some children to face fears that they had about the natural environment, they were also able to reflect on the experiences in a generally positive manner, even though some fears still persisted. Developing aversions to nature can impact on children's attitudes, behaviours and emotions when playing in the natural environment (Bixler *et al.* 2002, Kellert 2002). Bixler *et al.* (2002) observed that regular contact with the natural environment can develop a love of nature. Based on the children's accounts, it can be argued that overcoming such fears can be assisted by regular and safe exposure with that fear. Through the Forest School programme, children learned that they could achieve a physical task (e.g. climbing trees) or that many creatures could not hurt them. Overall, it could be suggested that the diversity of Forest School activities and regular contact with the woodland area has encouraged children to challenge their own barriers and to test their feelings and emotions within a safe and increasingly familiar environment.

There is some evidence that the children's knowledge and understanding of the environment developed across Forest School. Following Forest School, the children were able to recollect safety routines (e.g. fire safety, tool use) and rules to protect them and the surrounding environment (e.g. plants, trees, wildlife). Similar to O'Brien and Murray (2007), children had begun to learn the names of trees and mini beasts, and they know where to look for creatures in the woodland site. Respect for the natural environment was also evident, showing cognitive development as they had a greater understanding of the world around them. This sensitivity toward natural and natural processes is termed biophilia, and it is viewed as naturalistic intelligence (Kellert 2002). It appears that Forest School developed biophilia, and encouraged children to emotionally connect with and develop and appreciation of the natural world.

Downloaded by [The University of Manchester] at 01:17 01 June 2012

Downloaded by [The University of Manchester] at 01:17 01 June 2012

Reflection on the data analysis process and collection

Traditionally at this point, this would be the final section of the paper, and a conclusion would be presented based on the pen profile analyses. However, for authors 1 and 3 there was a certain sense of unease and frustration that while some interesting changes had been observed in the children, a more detailed and richer picture of the children's experiences could be presented. More specifically, we felt that there was more depth to this story than we have initially presented through the analysis and grouping of short verbatim quotes. As a result, we explored various ways of presenting the children's data focused on the children's own experiences using their language and thoughts. This would certainly build on the recommendations by O'Brien and Murray (2007) who stated 'The voice of the children and their experiences needs to be a stronger part of any future Forest School evaluation to a much greater extent than was carried out in this work' (p. 254), though potentially not in the manner that would typically be expected.

The resultant piece presented below is a collection of the children's voices (Kesby 2007). Indeed, it provides an additional way to understand and represent the children's world and experiences (Korbin 2010). It reflects that every child's experience is a collection of different thoughts and reflections (Horton and Kraftl 2006) and provides an alternative way in which those intended to benefit from the project can be heard (Barker 2008). We have provided it with some semblance of structure for the reader, but essentially, this is their forage in to children's experiences of Forest School and natural play.

Children's voices

The following section presents a monologue using the children's own words. For the purposes of the reader the text in italics give a summary of or direction towards the next phase of the writing. There is no interpretation offered at the end of this section as, in the spirit of the paper, we conclude by offering the last words to the children. The monologue starts by exploring the child's perception of the term play (Figure 11).

> Play is about having good fun, playing with your friends, using your imagination where you make these new games up, letting people join in, playing gently, making things, when you do activities what [sic] you like. I like playing with swings. I like playing on the see-saw. I like playing on the see-saw because I bounce up and down. If I'm waiting for my friends, then I wait for them, and then go and play hide and seek, or play on the swings.
>
> *I don't know what natural play means but I think it's about* playing stuff outside, throwing leaves in the air, making a pile of leaves and jumping in them. *Me and my friends* collected leaves but they were muddy. *It's also about* climbing up trees, making dens from sticks. You could play on the beach, you could play anywhere. I like doing outdoors because you get to go to parks and get to play with lots of different things. You can play hide and seek in there because there's loads of trees that you can hide in. I like the big *tree* near the gate. It's got thingies [*branches*] that you can climb up. You can *also* go and hide behind it. Some trees are so fat, aren't they? You can actually hide behind the trunks and jump out on people. I got stuck in a tree once. I couldn't get down. There was, like, little holes to climb up to put your feet in and you look down and you go, 'Oh, no.' *Natural play is also about* growing stuff and planting and stuff like that. I like going out into my garden. My garden is massive so I always go in it.
>
> I'm not allowed to go by myself [*to the park*] because there are always strangers. I'm not allowed to go out of Mum's sight at the park, because we like to go and play on the field and in the bushes but if Mum can't see us we can't go and play. I'm not allowed to play in the woods, I'm not allowed to go and play somewhere where my mum or dad can't see me. If you go far away from your mum and dad, somebody might nick you. I'd like to play out in the front *garden* but I don't think I should because my mum never lets me. My mum said somebody might take me. I'm not allowed on the streets on my own either, because mine's a very busy road. I live on a really, really busy road. I am not really allowed to play going down the streets. It might be a bit dangerous. *One of my friends is allowed to* play out in the street. They play on their bike and do tricks. They can do a wheelie.
>
> I used to go to my next door neighbours because there didn't used to be a fence, and my next door neighbours is nice to explore as well because he has lots of plants and things that you can spin around and chimes that I can play with but now my dad has built a fence. *Sometimes* when I'm about to go to my friends house there's a car blocking

Figure 11. Building a den at Forest School with my friends (photograph courtesy of J. Sayers, 2009).

our pavement so I'm not going to my friend's house, though sometimes I can because I climb over the car when my mum or dad isn't looking. *I do have a bike but* it is right at the back of the garage. I've got my car in the garage that I really can't get past.

I learned lots in Forest School. You don't just have to play inside, you can play outside. We learnt that you can play more when you go to Forest School because they can make experiences, and then you can go outside to play at home, that gives you more experience. We don't kill the creatures and we don't break or kill the trees by ripping them off, *because* if there is a tree in your garden there is wildlife on it. I learnt how to look after the forest properly, how to survive in the woods, how to make trees grow, how to hold tools and cut wood, how to tell how old a tree is, how large they can get and how tall they are, how to make pictures of trees, how to tell how good a petal is at making paint, not to go near nettles and touch things that are dangerous, *where* you could find lots of millipedes, and how to make a Forest School flag. We used some wood and tree bits *for our flag* and dipped them into water. We know how to make fires. We learned how to be safe around the fire. You can't walk through it when the fire is going or if it is even going you might even get burnt. We got to learn how not to stand too close to the fire. We sit on a log. You have to kneel up like this and you get it like that and then you toast *your marshmallows.*

I could never climb trees before but then I learnt. Sometimes when I go up small trees I climb up and I go upside down. The first week at Forest School I thought I saw a big monster. It was a just a little tiny bee! I was scared of bees and flies and wasps because they do make a loud buzzing noise when they go near your ear but when I went into Forest School I learned that bees can't hurt you and flies can't hurt you. I was like 'Ah there's nettles' … 'Ah there's a bug' … [laughter]. And when it came to like the second or third week I was really like 'Oh there's nettles!' 'Who put that bug in there?' I'm still scared of earwigs and spiders but I can look at them now. And I

Downloaded by [The University of Manchester] at 01:17 01 June 2012

learned about worms, and now I'm not scared of worms anymore because I was digging and I found lots and lots of worms. I saw lots of insects but I'm not scared of many sorts of insects because some of them are very nice and because I like all insects because some of them do things for you. Bees make honey. I saw a grass snake once. It was in a bush. I wanted it to be my pet.

At Forest School I learned to respect everyone else. I really liked the way that we could all join in with everything, and then sometimes we split groups because then we get to meet, we get to play with new people. We worked together to build something in the trees that we could hide in. We had to work together as a group and then we made it like an Indian hut. It was covered in leaves and I put sand on the leaves to cover the holes but it didn't really stay. We *even* got to make air freshener out of pine needles. Most of them went in our den. I was helping four groups at once. I was helping Adam, Liam and Gerard the most, because they had to do some untying and move *their den.* I liked their den because they put all twigs in and you couldn't see them. *We also played games at Forest School*. I teach [sic] my friends *one, two, three, where are you* and we play it together. We hide in the garden. *Sometimes* I play with my brother. I do think that I can play with my little brother more when I'm outside. Sometimes he wants to play but when he loses he gets bad tempered.

In my garden and I like to plant seeds, because I planted some of the ones you gave me at the session and they've already turned into little shoots. The peas and beans and things have just gone up and they're growing, they've got like tiny peas. I've *also* planted potatoes, lettuce, strawberries, bulbs, and like flowers. Sometimes when I come out of school I go in my garden and see if I can see any butterflies and birds and stuff like that. *Last weekend* we were on a day out with my Mum and Gran and we collected snails in a bucket and we took them home and we picked up logs on the way and we built a snail house. I've *also* made like a little hutch for a frog. We've got a door and he's in and out the door and we put water in it. Sometimes I collect snails and worms. I pick them up with some gardening gloves. I put them in this pot with like all holes in so I can watch them, and I put leaves in but when they start climbing up then I let them out for a bit so that they can like go in the fresh air again. *My friend has* an eco-garden. There's a little pond made out of a plastic tub, and *she* planted some seeds and there's a little rockery made out of little rocks and seashells. *When my friend came* to *my house* we picked different kinds of leaves and put them in the bag and then I was going to for a sleep over at *my other friend's house* and we picked more leaves and put them in the bag. Then we went on the computer and tried to find out which type of leaves they were.

I've built a den again. It's not fell [sic] down yet. I tried to kick mine down but it wouldn't even kick down because I just put some wood at the bottom in wood then hammered a big log into a tree and then another one in to the fence and then get a sheet, rip it apart and hammer it to the bottom and hammer it to the side then you just hit and hammer it on the fence then you just need to sew it so it is waterproof. And now we're making stuff for it like washing line. And a chimney and door. When we first made it and we pretend [*sic*] it's a rocket. Me and Ollie, when he came to my house we pretended that there were zombies coming, and we were going like this *[machine gun sound]*, and I said my Mum was a mummy zombie. *At Forest School*, we were pretending that we were in the real army and we didn't know where to go back to get back, so we were saying get in the war now. I think that I had the most fun making my own *pretend* fire. You put dirt on the top; make it look like you've used it.

My brother was dead jealous when my mum told him *about Forest School*. I really didn't want to do it but when I went home I told my mum and I was like, really like 'I want to go back'. It was really fun. *It* was just amazing.

Downloaded by [The University of Manchester] at 01:17 01 June 2012

Conclusion

This case study has explored children's perceptions knowledge and experiences of play in the natural environment prior to and following participation in Forest School. In doing so it provides an appropriate mechanism for connecting children with the natural environment through exploring changes in their leisure time activities and behaviours. To investigate these aims, we undertook two analyses of the focus group data to pay attention to the variety in which practices can be undertaken (Horton and Kraftl 2006), and to provide space for the children's voices themselves (Kesby 2007). The pen profile analyses indicated that Forest School facilitated interactions with the natural environment, and the activities that were undertaken provided opportunities to develop the participants' knowledge, interest in nature and the world around them. Moreover, the pen profiles highlighted that the hands-on activities experiences that children gained through Forest School by physically entering the environment facilitated learning (Kesby

2007, O'Brien and Murray 2007). It is still unknown, however, whether long-term effects can be gained from a relatively short-term project, and thus more longitudinal research is needed to explore this issue further.

The children's voices provides an alternative view of their experiences, and gives a voice to those who were intended to benefit from the Forest School Programme (Barker 2008). The self-reflections that the children offer through this collective piece shows a greater level of detail concerning their perceptions, knowledge and experiences, offering a simple honesty to the reality of participating in the case study (Horton *et al.* 2008, Twum-Danso 2009) and an alternative approach to researchers attempting to understand children's experiences of nature. In this study, there were examples of social skill development, confidence when interacting with the natural world, understanding, interest, motor skills and leadership skills, all of which are important components of a child's development as well as having key links to their connectivity with nature (Woolley *et al.* 2009). Again, sensitivity towards nature is highlighted, suggesting that Forest School helped children learn *about* and connect *with* the natural environment. In addition, there was evidence some children had been inspired to continue their learning about the environment beyond the structured sessions, and to share this knowledge with those around them. However, it is unknown how the sharing of this knowledge with their families influenced the family and their attitudes towards nature. Future research could examine how school-based projects impact on the family as regards to knowledge and perceptions of nature, and if this has influences engagement in natural play during family leisure time. Most critically, however, children enjoyed Forest School, which by way of a simple conclusion, is a fundamental component of any definition of play.

Downloaded by [The University of Manchester] at 01:17 01 June 2012

Acknowledgements

This project was funded by Natural England through the Natural Connections National Pilot Project in The Mersey Forest. Forest School Initiative Lancashire ran the Forest School sessions, and Sefton Borough Council and their Coast and Countryside Service provided session support. Thank you to the participating school, and the Year 2 teacher who co-ordinated the Forest School sessions.

References

Barker, J., 2008. Methodologies for change? A critique of applied research in children's geographies. *Children's Geographies*, 6 (2), 183–194.

Bateson, P. and Martin, P., 1999. *Design for a life*. London: Jonathon Cape.

Bixler, R.D., Floyd, M.E., and Hammutt, W.E., 2002. Environmental socialization: qualitative tests of the childhood play hypothesis. *Environment and Behavior*, 34 (6), 795–818.

Crain, W., 2001. How nature helps children develop. *Montessori Life*, 9 (2), 41–43.

DCSM (Department for Culture, Sport and Media), 2004. *Getting serious about play: a review of children's play*. London, UK: DCMS.

Fjørtoft, I., 2004. Landscape as playscape: the effects of natural environments on children's play and motor development. *Children, Youth and Environments*, 14 (2), 21–44.

Fjørtoft, I. and Sageie, J., 2000. The natural environment as a playground for children: landscape description and analysis of a natural landscape. *Landscape and Urban Planning*, 48 (1–2), 83–97.

Forest Education Initiative, 2008. *Background to FEI Forest Schools* [online]. Available from: http://www.foresteducation.org/forest_schools.php?page=4 [Accessed 15 January 2009].

Hardy, L., Jones, G., and Gould, D., 1996. *Understanding psychological preparation for sport: theory and practice of elite performers*. Chichester: Wiley & Sons.

Horton, J. and Kraftl, P., 2006. What else? Some more ways of thinking about and doing children's geographies, *Children's Geographies*, 4 (1), 69–96.

Horton, J., Kraftl, P., and Tucker, F., 2008. The challenges of 'children's geographies': a reaffirmation, *Children's Geographies*, 6 (4), 335–348.

James, A., 2010. Interdisciplinarity – for better or worse. *Children's Geographies*, 8 (2), 215–216.

Kellert, S.R., 2002. Experiencing nature: affective, cognitive, and evaluative development in children. *In*: P. Khan and S. Kellert, eds. *Children and nature: psychological, sociocultural and evolutionary investigations*. Cambridge, MA: MIT Press, 117–152.

Kesby, M., 2007. Methodological insights on and from children's geographies. *Children's Geographies*, 5 (3), 193–205.

Knowles, Z., 2009. *Exploring the themes and processes of reflection: enhancing professional training curricula in higher education and sports social sciences*, Thesis (PhD). Liverpool John Moores University.

Knowles, Z., Gilbourne, D., Borrie, A., and Neville, A., 2001. Developing the reflective sports coach: a study exploring the processes of reflective practice within a higher education coaching programme. *Reflective Practice*, 2 (2), 924–935.

Korbin, J.E., 2010. Interdisciplinarity and childhood studies. *Children's Geographies*, 8 (2), 217–218.

Krane, V., Andersen, M.B., and Strean, W.B., 1997. Issues of qualitative research methods and presentation. *Journal of Sport and Exercise Psychology*, 19 (2), 213–218.

Lincoln, Y. and Guba, E., 1985. *Naturalistic inquiry*. Thousand Oaks, CA: Sage.

Lindon, J., 2002. *What is play?* London: Children's Play Information Service.

Moore, R.C. and Wong, H., 1997. *Natural learning*. Berkeley, CA: MIG Communications.

Murray, R. and O'Brien, L., 2005. *'Such enthusiasm –a joy to see': an evaluation of Forest School in England*. New Economics Foundation.

O'Brien, L. and Murray, R., 2007. Forest School and its impacts on young children: case studies in Britain. *Urban Forestry and Urban Greening*, 6 (4), 249–265.

Pellegrini, A.D., 2009. Research and policy on children's play. *Child Development Perspectives*, 3 (2), 131–136.

Pellegrini, A.D. and Smith, P.K., 1998. Physical activity play: the nature and function of a neglected aspect of play. *Child Development*, 69 (3), 577–598.

Powell, S., 2009. The value of play: constrictions of play in government policy in England. *Children and Society*, 23 (1), 29–42.

Staempfli, M.B., 2009. Reintroducing adventure into children's outdoor play environments. *Environment and Behavior*, 41 (2), 268–280.

Titman, W., 1994. *Special places, special people: the hidden curriculum of school grounds*, Godalming, Surrey: World Wide Fund for Nature/Learning through Landscapes.

Twum-Danso, A., 2009. Situating participatory methodologies in context: the impact of culture on adult–child interactions in research and other projects. *Children's Geographies*, 7 (4), 379–389.

Vanderbeck, R.M., 2008. Reaching critical mass? Theory, politics, and the culture debate in children's goegraphies. *Area*, 40 (3), 393–400.

Veitch, J., Bagley, S., Ball, K., and Salmon, J., 2006. Where do children usually play? A qualitative study of parents' perceptions of influences on children's active free-play. *Health and Place*, 12 (4), 383–393.

Veitch, J., Salmon, J., and Ball, K., 2007. Children's perceptions of the use of public open spaces for active free-play. *Children's Geographies*, 5 (4), 409–422.

Woolley, H., Pattacini, L., and Somerset Ward, A., 2009. *Children and the natural environment: experiences, influences and interventions*. London: Natural England.

Downloaded by [The University of Manchester] at 01:17 01 June 2012