



## **Speech and Language Development in a Forest School Environment: An Action Research Project**

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## Abstract

Within England, there is an emerging increase in the number of Forest School sites that are available for children to access from early years settings. This research, as part of a BA (Hons) in Early Childhood Studies, studies a forest school environment and analyses what impact the natural environment had on a group of 3- and 4-year-olds' speech and language. Although much research exists on how children develop in the outdoors physically, and imaginatively, very little independent research exists as to the benefits of such an environment on speech and language development. A group of children were selected, and their development was noted prior to attending forest school sessions. After attending sessions for 8 weeks, their development was reassessed. During the research, it was discovered that there was a strong emphasis on self-esteem levels within the natural environment, and investigations were carried out to ascertain whether there was a correlation between the two areas. What was discovered was that all children benefited: speech and language skills improved, but most surprising was a significant improvement in children's levels of self-esteem and sense of personal power. When dealing with young children, ethics is paramount, and this case discusses ethical considerations.

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## Learning Outcomes

By the end of this case study, you should

- Have a better understanding of the ethical issues involved when researching young children
  - Be able to discuss the advantages and disadvantages of different methodological approaches
  - Understand the impact of a forest school environment on a group of children
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## Speech and Language Development in the Outdoors: Project Overview and Context

The purpose of this research was to establish whether access to a natural environment could benefit children's speech and language development.

This research was undertaken in a day nursery setting, situated in a village location. The provision is set in the centre of the village, in a converted warehouse. The nursery is open from 8 a.m. until 6 p.m., 51 weeks of the year, and takes children from the age of 3 months up to the age of 5 years.

Parents and children access the setting from a distance of up to 15 miles away. This means that the demographics of the users differ vastly. Saying that, however, the setting did not have any children in attendance who had English as an additional language, or had a statement for special educational needs.

The setting is spacious, light and offers a welcoming and stimulating environment, but what was lacking was outdoor provision. There is a very small sized courtyard, which is used in the best way possible, space dependant, but this does not offer children complete access to the outdoors, as is 'the expected norm' (Department for Children, Schools and Families (DCSF), 2008b). In order for children to benefit from an outstanding provision, it was necessary for the setting to improve the outdoor facilities, and this was the main driving force behind the establishment of a forest school site. This site is a 5-minute walk from the setting. The forest school is led by a member of staff who is qualified as a forest school leader and assisted by two other members of staff, one of whom is qualified to a level 3 standard.

The setting was opened in 2006, and at that time, it was deemed acceptable that no on-site outdoor provision was available. Government attitude has changed over that short period of time, and it, therefore, has become an area for personal research, leading me into exploring the benefits of a natural environment, particularly with an emphasis on speech on language development as, again, this is an area that has had strong government focus over recent years.

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### History of Forest School

A forest school 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 woodland environment. (Murray & O'Brien, 2005, p. 11)

Forest schools were a concept that originated from Scandinavia in the 1950s and have built on the pioneering work of Margaret Macmillan (1919), who stressed the importance of outdoor play for health and well-being and ultimately improved child development. Swarbrick, Eastwood and Tutton (2004) report that the Danish government introduced forest schools, created in woodland areas, in order to expand nursery provision and did so not with the intention of providing children with a natural environment but more so out of necessity. Whether they stumbled on this by accident or not did not deter a group of student nursery nurses from bringing the concept to England in 1995, and the concept has since become a popular way of extending early years provision.

It is reported that only 10% of children state that they play in the countryside on a regular basis, compared to 40% of adults reporting that they did similar when they were young (Natural England, 2009). Also, 80% of children report that they are supervised when playing in this kind of environment. It is therefore of paramount importance that children are given access to the outdoors. Increasingly, settings across England appear to have embraced the concept of forest

schools, realising the importance for children to be within a natural environment, and sites are now widespread across the country ('Forest School in England and Wales and Its Impact on Young Children', n.d.).

Storli and Hagen (2010) interestingly report that children show no greater levels of physical activity whether they are playing in a playground, manufactured environment or a natural environment, so although much of the literature speaks of physical benefits of being in the outdoors, it could be argued that this is not the primary benefit of a forest school. Indeed, O'Brien (2009) reports that the forest school steps beyond the traditions of school outdoor play and provides a concept that happens within school timetables, at regular times, and embraces the national curriculum. This highlights that forest schools should not be an 'add-on' to provision, or seen as a 'break' to learning, but should be an integral aspect of the setting and should be as integral to the children's learning as should the blackboard in a classroom.

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#### **Government Policy Regarding Outdoor Play and Speech and Language**

It is widely documented that children need access to the outdoor environment. It is stated, in the Early Years Foundation Stage (EYFS) Statutory Guidance (DCSF, 2008b), that access to the outdoors should be 'the expected norm'.

The number of children with speech and language problems highlights concerns regarding academic achievements, and as this is linked to economic well-being in later life (Department for Education and Skills (DfES), 2004), this is recognised as an area that requires intervention at the national level. This is a recognised issue and is the reason that the previous government launched the Every Child a Talker (ECAT) programme (DCSF, 2008a). The aim of the programme is to focus support at an early age in order to minimise the number of children with speech and language difficulties and to intervene at an early stage.

The lack of access to the natural environment for children is being highlighted as a potential problem. Louv (2008) goes so far as to say that children of today could be suffering from 'nature deficit disorder' (p. 36), and the results of this disorder is difficulty in concentration, health and mental health issues in later life and diminished use of the senses. Interestingly, the DfES is now advocating courses in the natural environment, including forest schools, for children who require 'alternative education provision' (*Alternative Provision Directory*, n.d.). The children for whom this provision is predominantly recommended are those at risk of exclusion, or those who are already excluded from mainstream schooling. It could be argued, therefore, that if forest schools, or similar, became a compulsory element of early years education, then the concept would not need to be used as a remedial exercise but more of a preventative measure.

The general state of the public's health is also a major concern to the government. HM Government (2011) reports that in the United Kingdom, two out of three adults are obese, and this results in increased illness and premature death, and ultimately a cost to society. The aim of the current government is to 'build people's self-esteem, confidence and resilience right from infancy' (HM Government, 2011, p. 8), and the aim is to increase the number of health visitors by 2015 in order to focus on this area. This is a big commitment from government and is therefore a key issue for the leadership of the country. Any influence that early years providers can have within this area, therefore, will be crucial, and it is clear why there is such a great emphasis from government on outdoor environment being an aspect of any early years provision, helping to keep children active, healthy and boosting confidence.

What is interesting to note, however, is that there is no directive that early years settings have access to nature. The statutory guidance states just that 'wherever possible there should be access to an outdoor play area' (DCSF, 2008b, p. 35). If natural environments and, even more precisely, forest schools, are shown to be so beneficial, then surely it should be 'the expected norm' for all provision to access this kind of environment at every opportunity, wherever possible.

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### Overall Research Aims and Paradigm

Action research was the overarching paradigm while carrying out the investigation into whether a natural environment can make a difference to children's speech and language. MacNaughton and Hughes (2009) introduce this approach perfectly by stating

Action research begins with hopes, dreams and desires. An action researcher hopes that they can create a change for the better, dreams of a better world and desires to make a difference. (p. 5)

By implementing the forest school concept and engaging children in the natural environment, it was intended that any differences were visible and beneficial. The aim was to analyse the impact of the changes by working predominantly in an interpretivist manner. Roberts-Holmes (2005) suggests that 'interpretivist researchers are interested in the complexity and diversity of human interactions' (p. 40), and by carrying out the research in this way, this has focused on a qualitative methodological approach (Mukherji & Albon, 2010), analysing the views and actions of children and parents. It was also the intention to analyse results and statistics, looking at levels of achievement before and after the intervention, therefore working within the realms of quantitative research also.

Although different viewpoints exist as to whether both qualitative and quantitative should be combined (Mukherji & Albon, 2010), it is argued that the combination of both methods can

provide a greater degree of accuracy and aid triangulation (Denscombe, 2007). Johnson and Onwuegbuzie (2004) go so far as to say that mixed methods are ideal for those with 'accountability for educational quality' and often result in 'superior research' (p. 24).

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### Research Objectives

The research question of 'can a natural environment make a difference to speech and language?' can be broken down into areas that require further investigation, and the research questions that follow were designed to support in this investigation:

- how does speech and language improve/differ after a forest school programme has been undertaken?
- how do levels of self-esteem improve/differ after a forest school programme has been undertaken?
- how do children, keyworkers and parents view the programme?
- if there is a noticeable difference, why?

The object of this research was to investigate the benefits of a natural environment to speech and language development. In order to do this, it was first necessary, within the quantitative vein, to carry out baseline assessments. These were undertaken prior to the children attending the forest school, in order to ascertain their levels of speech, language and communication ability before the intervention of the natural environment. This was undertaken using the government-produced monitoring tool for speech and language as this was a known tool to the setting and was undertaken by the children's keyworkers. These staff know the children best within a setting environment and were able to provide a clear and accurate assessment of the children's current levels of development.

As the literature had raised significant evidence supporting improvements in self-esteem while in a natural environment, it was also decided to carry out a similar process using the National Federation for Educational Research (NFER) scales (Morris, 2002) and assess the children's self-esteem levels before and after their forest school attendance. The purpose of this was to analyse whether this had any correlation to the speech and language results.

Once baseline assessments had been undertaken, the intervention phase could then commence (McNiff & Whitehead, 2006). Two groups of eight children attended forest school over an 8-week period, and while there, they were able to fully engage with the natural environment. Staff were instructed to act as they would normally and interact with the children in their usual fashion with no preset agenda. In order to evaluate the impact of the intervention, it was then necessary to revisit the assessment statistics at the end of the programme and reassess the

children in order to ascertain any change in abilities.

In addition to finding out the statistical information, and to aid triangulation, it was also deemed necessary to investigate how parents, keyworkers and children viewed the forest school concept and what benefit they felt it had been. It was therefore decided that a semi-structured interview be conducted with parents, and then subsequently with keyworkers, to discover their findings. The purpose of the interviews was to ascertain what impact the parents and keyworkers had noticed on the children's development as a result of the forest school attendance. A semi-structured approach was decided upon as the facts to discuss were not of a fixed response nature (Bell, 2007), and although it was necessary to lead the questioning to an extent, I wanted to provide parents the freedom to express their findings in a less formal manner.

In order to hear the children's views and give them a voice in the research, a focus group was held with the children who attended the forest school. Mukherji and Albon (2010) report that there are positive benefits to listening to children both for the researcher and for the children themselves. The children's voice was important in this exercise, as it was felt necessary to discover how they viewed the forest school experience. The children were shown photographs of their time in the natural environment and were encouraged to talk about their experiences, and what they enjoyed. A prompt sheet was drawn up to aid the flow of conversation during this focus group, should it be needed (Bell, 2007).

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### Reliability and Validity

The baseline assessments and assessments after the intervention were undertaken by two practitioners, who were asked to discuss their results. By striving for objectivity, these individuals needed to remain non-judgemental, non-speculative and non-biased (MacNaughton, Rolfe, & Siraj-Blatchford, 2001), and this in itself could have been problematic. Although the assessment was a quantitative exercise, in essence, it could have become qualitative, as it was open to individual opinion and subjectivity. As I had a personal interest in this project, it was imperative that I remained as subjective as possible. It could be argued that this was not possible, and 'subjectivity of the individual sociologist is central to the knowledge produced' (Letherby, Scott, & Williams, 2013, p. 1). However, by undertaking the double collection method and comparing results, the practitioners presented what was deemed to be a reliable set of data.

The reliability of the interviews also had to be thoroughly considered as the parents knew me as the manager of the provision, and could view the interview as a judgement on them and their parenting. It was therefore essential to not only word the questions very carefully but also validate this information elsewhere. The same interview with the children's keyworkers and practitioners was the solution to this issue. Putting the interviewee at ease was an area that

needed great consideration in this instance, as the interviewees were customers and staff employed by myself. It was essential that the subjects did not feel pressured into providing the answers that they felt were what I wanted to hear. An explanatory letter was distributed prior to the interviews with the aim of minimising this risk.

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### Sampling Procedure

Children were chosen by the preschool room leader to attend the forest school sessions, based on their attendance and when the sessions could be undertaken. It was therefore a random sample of children from the preschool room, where children are aged 3 and 4 years, who were observed and monitored. Two groups of children took part, with 8 children in each group. Of these 16 children, 5 (31%) were girls and 11 (69%) were boys. This is representational of the whole group as, on roll, there were 29 children: 20 (69%) boys and 9 (31%) girls.

All of the children who attended the forest school sessions were assessed using the speech and language scales, and the NFER scales, and once these assessments were completed, the parents of those children who showed the greatest improvement were selected for interview. They were not informed of the reason for the selection as it was felt that that might lead the responses to the questions. The keyworkers to these children were also approached.

All of the children were invited to join in with the focus group, and five wanted to take part, the others expressing their right not to be included. All children who took part in the focus group were encouraged to have an input in the discussions.

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### Ethical Considerations

Any research undertaken was carried out with individuals of their own free will, utilising their right to decline, and it was ensured that they did not feel under any duress to undertake the research (British Educational Research Association (BERA), 2011). When considering the research methods, it remained of paramount importance to be ethical and transparent in the delivery, analysis and administration of such research at all times.

With this in mind, it was first necessary to obtain written permissions from all parents of children who were in attendance on the forest school sessions, ensuring that they had full understanding of the process and purpose, and were aware that they and their child could withdraw from the research at any time. MacNaughton and Hughes (2009) report that although traditionally it has been sufficient for parents to provide permission for their child to be included in such research, it has become more prevalent that children also provide informed consent. Article 12 (*United Nations Convention on the Rights of the Child*, n.d.) states that a child has a right 'to express his or her views freely – about everything that affects him or her'. It was deemed necessary,



therefore, for this action research to ensure that the children concerned were aware of what was happening, why it was being carried out and that they did not have to partake should they prefer not to, and this was done by explanation at various points throughout the process.

The assessments that were carried out were done in a non-obtrusive manner, and children were not made to feel uncomfortable at any time when any observations were being made. Although parents had given consent for their children to be included within this research, I was aware that as the parents were not there while the research was being undertaken, this made the fact that they had the right to withdraw their child at any time a difficult concept. MacNaughton et al. (2001) report that this is often an issue in child-care settings and that one possible solution is for the children and the researcher to be monitored throughout the research process to ensure that the child's welfare remains paramount. The forest school leader agreed to do this, and the research continued on the basis that she would raise her hand at any point she felt that observations were becoming intrusive or were having a negative impact.

Any documentation that was taken did not have children's names on it but was coded, and then stored in a confidential manner. Children and parents had total anonymity throughout the research process. The semi-structured interviews were carried out in a manner that no identifiable factors were shown in the presentation of the findings, and the results collated as such.

The focus group with the children was carried out in a way that made them feel as comfortable as possible, and presented itself as more of a conversation rather than an interview. Roberts-Holmes (2005) states that children can feel threatened in a one-to-one interview, and a focus group therefore gave them the chance to voice their views but in a situation in which they felt comfortable and able to voice their opinions. Nolan, Macfarlane and Cartmel (2013) report that when undertaking research with children, it is essential that the issues of power are considered. My position within the setting automatically put me in a position of power, and by adopting a multi-modal method of analysis, it was hoped that this could eradicate the issues that this may create. With this in mind, a keyworker was present in the focus group to ensure that I was not alone with the children, from a safeguarding perspective (Mukherji & Albon, 2010), and also to help the children feel more comfortable. Photographs of them within the forest school environment were shown on a projector for them to feel valued and also to remind them of their experiences as there was a time delay of a couple of weeks between them finishing the forest school sessions and the focus group.

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### Findings Regarding Speech and Language Development

The data collected highlighted that all areas of speech and development had seen an overall

improvement. This suggests that the natural environment, and the experiences offered by a forest school environment, had enabled children to develop their speech and language skills in a positive manner.

Wilson (2008) states that 'children have an inborn sense of wonder and a strong desire to explore the world around them, yet they need an interested adult to provide encouragement, support, and guidance to keep their spirit of inquiry alive' (p. 35). This correlates with the findings as the feedback that children provided, within the focus groups, was heavily influenced by the adult guidance at the time, saying things such as 'You must not go near the fire' and 'I liked digging snails but I had to remember to put it back', which indicates that adult interaction and encouragement were a pivotal aspect in their memories, and therefore their verbal recollection of the experiences.

The results show that the desire to speak about forest school was noticeable because the experience was clearly so enjoyable. Parents talked of their children's extreme delight at conveying their adventures, and when children reported back to the focus group, they excitedly talked about their experiences at forest school. The most significant improvement in speech and language development was shown in the area of social communication, whereby a total of 80% of children were shown to be ahead of development, after intervention. These results appear to confirm the theory of Moss and Petrie (2002) that children show greater development when they are able to immerse themselves in experiences in which they interact with others. The social element of the forest school seems to be that which has had the greatest impact, both on speech and language and on self-esteem levels, and this is the element that parents reported as having the most noticeable impact.

It appears that although clarity of speech is shown to have improved, and range of vocabulary and listening and attention skills have improved, the most significant impact is that on social communication. Children have shown a greater desire to communicate and have shown a passion for the experiences that they have been involved in. This was highlighted particularly by parents with one parent stating, 'She seemed to develop the skill to talk about what she'd done, and the memory to retain it'. It could be argued that this excitement and desire to communicate occurred because the whole experience was something completely different from what the children would normally experience throughout their time at nursery, and the benefits of this may be diminished if the forest school became the 'norm'. This is something that could only be ascertained with a long-term study and was beyond the realms of this research project.

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#### **Findings Regarding Self-Esteem Levels**

The results regarding self-esteem levels have been overwhelmingly positive. It has been seen

that the children who were at risk of being vulnerable and having very low levels of self-esteem have all improved dramatically and moved into the 'very high' category. The 'sense of personal power' category was the one in which remarkable improvements occurred and this is extremely positive. The self-esteem assessment and supporting materials state that 'this component of self-esteem is the greatest predictor of success in later life' (Morris, 2002, p. 23) and relates to how children see themselves in relation to others. This is relevant to the sense that children have that their views and opinions count and is probably the most unexpected outcome of this research. It is my belief that because children have become enthusiastic and keen to share their forest school experiences, they have gained more attention and interest from adults, and their peers, and this has made the children feel more valued and worthwhile. It may also be that because these children were party to the research that was being undertaken, that too has impacted on their sense of personal power. What is important to note is that any focus groups took place after the assessment of self-esteem levels were undertaken, so this would not have impacted upon the results within this area.

Lees and Urwin (2002) theorise that children who struggle with speech and language have difficulties in developing emotionally, which impacts on how friendships are made which in turn has an impact upon self-esteem. When analysing interviews with parents, it was noted that all parents felt that a benefit of the forest school experience was that it improved friendships and that it helped to join in the kind of experiences offered alongside their peers, even going so far as to say that they did things that would not normally do, because of the peer presence. One parent said,

'Whereas he'd have complained with me and being with all of his friends has made him realise that it's actually ok and quite fun to play in the rain and the cold.' (Taken from transcript of parent interview)

The findings from both speech and language assessments and self-esteem assessments align with Gest, Domitrovich and Welsh (2005) in their theory that academic achievement and self-esteem levels are a two-way relationship, as the results here show that as speech and language skills improve, then so do self-esteem outcomes, or vice versa.

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### Evaluation of Research Design

This research project has highlighted that children's speech and language have improved, and their self-esteem levels have all reached a high level. What cannot be ascertained, however, is that the forest school experience was the sole influence on these areas of development. It cannot be categorically stated that forest school was the driving force behind these improvements. It is my emerging theory that it was a strong influence, but in order to be able to

prove that forest school was indeed pivotal in this development, it would have been necessary to carry out a similar assessment process on the other children in the preschool room who did not attend forest school and compare and contrast the results accordingly. McNiff (2010) states that action research is an ongoing, cyclical process and this has definitely been the case with this research project as there are many more questions to answer after the research than there were before it began. It may also be of benefit to expand the research to include children who attend a different setting, and have the opportunity to experience a forest school for the first time, to ascertain whether these results can be generalised to all settings or are specific to the setting in question.

All of the children involved loved the forest school experience and embraced the concepts wholeheartedly, and the parents who were interviewed were all very positive and supportive about the process. It would be interesting to research the implications further, by analysing outcomes for children who have English as an additional language or have special needs. One of the limitations of this research was that all children were White British, and had no special needs, as this is the demographic set-up of the setting.

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#### Exercises and Discussion Questions

- 1.The role of the practitioner (or keyworker) was not given a focus in this research. Could the depth of research have been improved if the keyworkers were asked to undertake activities while working with the children?
- 2.How else do you think I could have ensured I was being ethical when working with such young children?
- 3.Do you think I was right to undertake research in my workplace? List the advantages and disadvantages of this.
- 4.Do you agree with my random sampling method? Do you think it should have been done differently? If so, how would you have chosen which children to study, and why?
- 5.Where would you take this research next? What questions has it raised for you?

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