

Full Length Research Paper

Perceptions about forest schools: Encouraging and promoting Archimedes Forest Schools

Haq Nawaz* and Sarah Blackwell

Archimedes Training Ltd. Sheffield Technology Parks, Cooper Buildings Arundel Street Sheffield S1 2NS, United Kingdom.

Received 3 January, 2014; Accepted 7 July, 2014

The aim of this study was to find out parents' and children's perception of outdoor learning programmes with specific reference to Archimedes Forest Schools, known as Forest Schools. A review of existing research showed that there had been no rigorous evaluation of perception of forest schools. The study was conducted in the UK and mixed method design was used taking into account ethical reconsiderations. The findings of this research highlighted the importance of forest schools for children and showed enough evidence as to why parents must allow their children to attend forest schools. Listening to parents' and children's voices can inform understanding of their perceptions and opinions about Forest Schools and contribute to wider discourses on how forest schools sessions and programmes can be improved to meet specific individual and group needs. The research team did not find any evidence to prove that high risk is involved when sending children to forest schools sessions and programmes but found enough evidences that forest schools increase children academic, physical and social performance when attended over a long period of time. Additionally, it helps to improve the connection between children and nature and contributes to their positive attitude towards the environment.

Key words: Archimedes Forest Schools, parents' and children's perception.

INTRODUCTION

Background

Outdoor learning gives depth to the curriculum and makes an important contribution to learners' physical, personal and social education. Policy makers and funders are increasingly recognizing the importance of learning outside the classroom. Evidence suggests that learning outside the classroom is of significant benefits to children.

Outdoor learning supports academic achievement as well as the development of different skills, particularly in hard to reach children (House of Commons, 2005). In addition, different researches have shown the importance of early childhood experiences for later development (Wells and Lekies, 2006; Thompson et al., 2008). Children's contact with nature increases their self-discipline (Taylor et al., 2002) and cognitive functioning (Wells, 2000); at the

*Corresponding author. E-mail: 0917351@rgu.ac.uk. Tel: +44 (0)114 2211811.

same time, reduces stress (Corraliza et al., 2012). Furthermore, research evidences suggest that outdoor education and learning programs are associated with positive outcomes for children. As reported by Muñoz (2009), it encourages physical activities, healthy development and overall well-being of children. Similarly, Kellert (2005) reported that it helps children to increase their capacities for creativity, problem-solving, and emotional and intellectual development. Additionally, positive associations were observed between outdoor education and children's grades, physical fitness, memory, and behavior and school satisfaction (Trudeau and Shephard, 2008). Furthermore, Blair (2009) reported that it encourages children's socialization, teamwork and learning opportunities, while Harrington (2009) reported that real field trips provide better overall learning environments than virtual field trips. Although there are number of benefits of outdoor education, unfortunately it has been declining due to wrong perceptions that high degree of risk attaches to outdoor education (House of Common, 2005). Additionally, the local authorities have not done enough to publicize the benefits of learning outside the classroom. On the other hand, environmental degradation is one of the big issues faced by the world and different organizations are trying to change people's attitudes and behavior to environmental friendly. Wray-Lake et al. (2010) found that adolescents' environmental concerns have generally declined since the early 1990s. However, strong connection was observed between pro-environmental behaviors as adults and childhood nature experiences (Wells and Lekies, 2006; Thompson et al. 2008).

Researchers have failed to investigate the relationship between children and natural environment (Mannion et al., 2006); as a result outdoor education is in decline (House of Common, 2005). However, Learning Outside the Classroom (LOT) is going a long way to support and encourage external visits, and one of the emerging approaches to increase children's nature experiences is forest school. Forest school is an 'innovative educational approach to outdoor play and learning' (www.forestschoools.com), which usually takes place in woodland environment (Nilson et al., 2010). Forest school came to the UK from Denmark in 1995 and the practice has been developing and growing across the country (Blackwell and Pound, 2011). It was reported that children can discover new abilities and strengths at forest school which classroom environment is unable to provide (O'Brien and Murray, 2006). However, there is lack of research to identify those factors which make forest schools different from other approaches previously documented and increase parents' and children's awareness of forest school (Borradaile, 2006). Additionally, very little research is available to show barriers facing different groups who use woodland environment or forest (Molteno et al., 2012). Despite the extreme lack of research, positive and reliable evidence of the benefits of forest

school would help schools determine the priority to afford such work (House of Commons, 2005). Clearly, the literature reviews show that how to encourage forest school session in schools is still an unresolved issue that deserves further study. The current research was designed to find out parents' and children's perception of Archimedes Forest Schools in particular to fill the gap and to contribute knowledge to this poorly understood area. The main aims of this research were to find out parents' and children's perception of forest schools, to reveal critical aspects that have to be considered when promoting and encouraging such forest schools' long term programmes and the sessions that make up the strategy for holistic growth, learning and development at Archimedes Forest School.

RESEARCH METHODOLOGY

Different approaches are used to collect data but the two widely used approaches are quantitative and qualitative. Punch (1998) stated that the combination of both quantitative and qualitative methods is the best of getting the insider's perspectives and of providing deep description of the data. For this reason, the research design was the combination of quantitative and qualitative methods to get the required objectives.

Questionnaire design

The study used questionnaires as a survey instrument. The instrument was developed after a careful review of previous literature about forest schools and consultations with senior members of Archimedes Forest Schools Education, Sheffield, UK. The instrument was field tested to ensure that each question accurately conveys the intended meaning. The main theme of the questionnaire was based on perceptions of forest schools. The survey questions were divided into several sections, each with its own focus, to assist the analysis.

Data collection and analysis

The data were collected through face to face interviews, online questionnaire and focus group. The data specifically ascertain what parents and children know about forest schools and how to increase their awareness. Interviews, questionnaire and focus group provide both quantitative and qualitative data. This combination is deemed most appropriate to gain deeper insights into phenomena such as perceptions, feelings and emotions (Punch, 1998). The main variables were perceptions about forest schools, gender, education, age, awareness, distance and nature. Statistical analyses were performed to examine the difference between parents' and children's perceptions of forest schools. The SPSS (version 16) software programme was used to analyze responses. To generate the databases and to operate the responses as variables, all the data were turned into codes. The data obtained from close-ended questions were first coded and then analyzed, while the data from open-ended questions were first categorized on the basis of key word and then coded for analysis. The focus group data were used as supportive arguments in the original format. All these associations which are directly related to our aims and objectives were analyzed with the help of chi-square test.

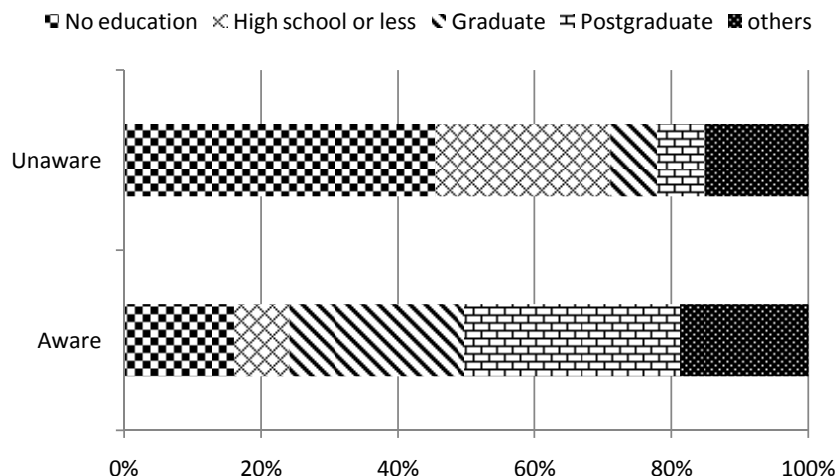


Figure 1. Respondents education and awareness of Forest Schools.

RESULT AND DISCUSSION

Characteristics of respondents

The 294 adult respondents comprised 107 (36%) females and 187 (64%) males. Ages ranged from 25 and below to over 50, with the majority (22%) in the 36-40 age range. Respondents from all walks of life took part in the survey but the majorities (31%) were with no formal education followed by postgraduate (19%). Majority of the children being interviewed were between 5-15 years while focus group children were under 10 years old.

Respondents' awareness of forest school and woodland uses

Half of the parents claimed that they were aware of forest schools, but no significant relationship was observed between gender and their awareness. In contrast, a significant relationship was found between ages of respondents and awareness of forest schools ($\chi^2=17.59$, df 6, $p < 0.05$). A significant relationship was also observed between respondents' education levels and awareness of forest schools ($\chi^2=73.38$, df 4, $p < 0.05$), postgraduates and graduates being more familiar with term than those in the lower education levels (Figure 1).

A significant relationship was noticed between parent's awareness of forest schools and taking children to woodland or park ($\chi^2=10.91$, df 4, $p < 0.05$). It can be seen from Figure 2, that those parents who were aware of forest schools were giving their children woodland or park visit on daily and weekly basis compared to others.

Furthermore, woodland visits given to children by their parents were significantly influenced by woodland distance from their homes ($\chi^2=22.27$, df 8, $p < 0.05$).

Children's woodland visits were significantly influenced by their attendance in Forest Schools programmes ($\chi^2=15.60$, df 4, $p < 0.05$). Figure 3 shows that children having experience of forest schools' programmes were frequently visiting woodlands compared to others.

The results revealed some interesting insights into how parents and children view and understand forest schools. It was observed that parents' awareness plays an important role to allow children to use woodland. Additionally children's use of woodlands can be encouraged and promoted with the help of forest schools' programmes. These observations concur with previous research showing that awareness of a particular place/space plays an important role in influencing individual's perceptions and use of it (Hu and Ritchie, 1993; Gobster et al., 2007). Increased familiarity of postgraduate respondents with the term 'Forest Schools' may be linked to their knowledge of a greater range of concepts compared to lower education respondents (Clifton et al., 1996). Parents' and children's decisions to visit woodlands were strongly influenced by the distance of woodland from their respective homes which was also observed by Thompson et al. (2002). There are number of health and social benefits of using woodlands, and forest schools appeared to strongly encouraged children's use of their local woodland. The differences were clearly reflected between forest schools attended children and others who did not attend the programmes. Those parents who did not want to send their children to forest schools stated that high risk is involved in allowing children do such programmes. However, all of the respondents including those whose children attended forest schools failed to mention even a single incidence to show that their fear was accordingly grounded in reality. Outdoor education significantly declined due to stated wrong perceptions that high degree of risk attaches to outdoor education (House of Common, 2005).

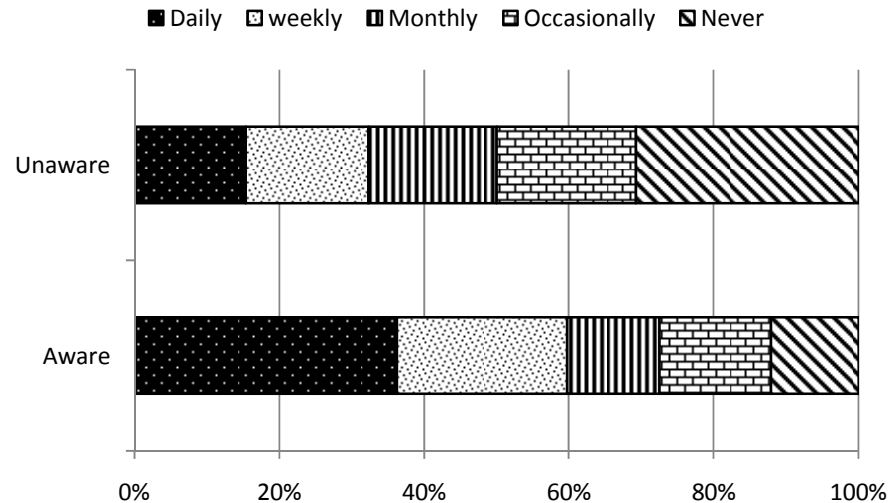


Figure 2. Respondents awareness and giving children woodland visits

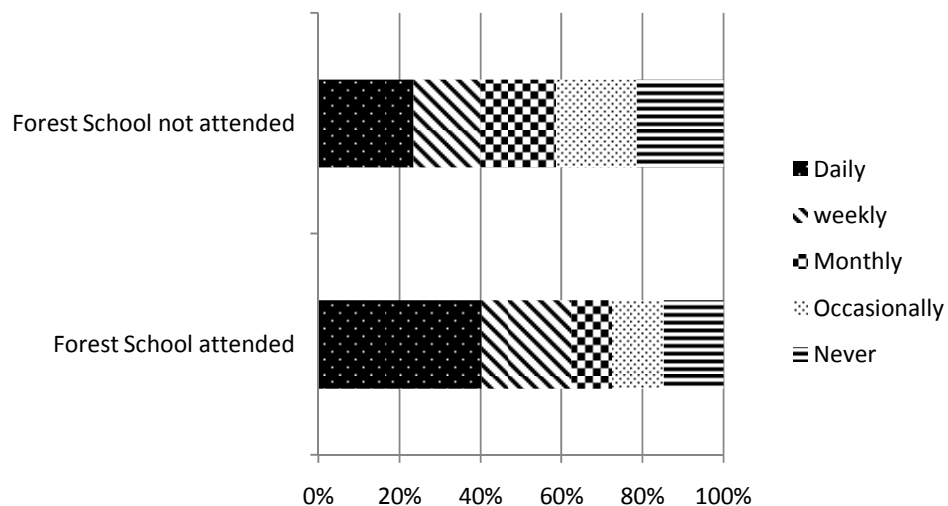


Figure 3. Children experience of Forest Schools and woodland visits

Children's attitude towards environment

Those children who attended forest schools appeared to have positive attitudes towards the environment. The majority of the children who attended forest schools' programmes appeared to get more upset when someone was seen throwing rubbish on the street as compared to those who did not attend forest schools ($\chi^2 = 0.0164$, df 2, $p < 0.05$; Figure 4).

Children's interests in reading wildlife or environment related stories were found to be significantly increased by forest schools ($\chi^2 = 0.164$, df 2, $p < 0.05$).

The results show that children who attended long term Archimedes Forest Schools' programmes appeared to

make strong connections between nature and children. Those children who had experience of forest schools showed more interest in issues related to the environment. They experienced getting more upset when people were throwing rubbish on the street. Similarly, they were taking more interest in stories and issues related to the environment. These findings give further support to the observations made by Wells and Lekies (2006) and Thompson et al. (2008). Children revealed that their interest in outdoor play increased after attending Forest Schools and now were more aware of the benefits that nature offers. They also claimed to enjoy learning and playing more in woodlands as compared to the classroom. Their ability to cope with mathematical problems

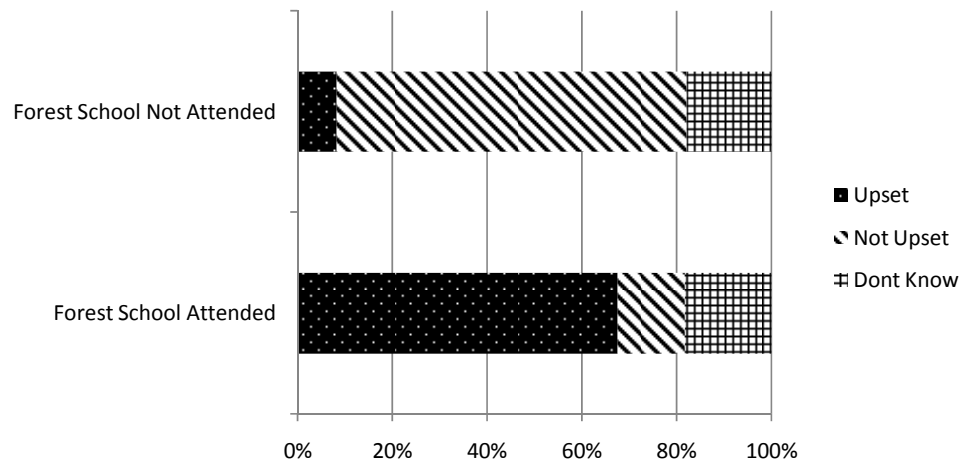


Figure 4. Children experience of Forest Schools and attitude towards environment.

has much increased due to forest schools' programmes.

Importance of children's outdoor experience

A significant relationship was noticed between Forest Schools awareness and the importance of outdoor learning ($\chi^2 = 0.012$, df 3, $p < 0.05$) and woodland visits ($\chi^2 = 90.15$, df 3, $p < 0.05$). The majority of the parents claimed that their children's self confidence and physical activeness were significantly increased during and after their attendance at their forest schools' programmes. The claim was further confirmed through data obtained from the children's focus group and interviews. Although the majority of children claimed that they like forest schools due to physical activities, it was noticed that children's vocabulary and motivation toward learning was increased after they had attended forest schools. Social inclusion of children was also increased as Forest Schools attendees claim to have more friends than others. Furthermore, Forest Schools significantly increased children's interest in school and their attitudes toward school seemed to be more positive as compared to others. Strong connections were also observed between children's memory and their attendance at Forest Schools (as children named correctly the person who took them for their Forest Schools' programme).

Conclusion

The findings of this research highlighted the importance of Archimedes Forest Schools for children and showed that a provision for attendance at long term Archimedes Forest Schools is made available for parents to allow their children to participate in Forest School programmes due to their identified benefits. The vast majority of

parents and children appreciated Forest Schools and were aware of its benefits. It is also clear that listening to parents and children voices can inform understanding of their perceptions and opinions about forest schools and contributes to wider discourses on how forest school programmes can be improved in order to achieve the widest range of benefits for children and adults. In conclusion, the research team did not find any evidence to prove that high risk is involved when sending children for Archimedes Forest Schools' programmes but found enough evidence to prove that Archimedes Forest Schools increases children's academic, physical and social performance. Additionally, Forest schools help to improve connection between children and nature and contribute to their positive attitude towards the environment.

Conflict of Interests

The authors have not declared any conflict of interests.

REFERENCES

- Blackwell S, Pound L (2011). Forest Schools in the early years. In: Miller, L. and Pound, L. (Eds). Theories and Approaches to Learning in the Early Years. Sage Publication, London.
- Blair D (2009). The child in the garden: an evaluative review of the benefits of school gardening. *J. Environ. Educ.* 40(2):15-38.
- Borradaile L (2006). Forest School Scotland: An Evaluation. Report to Forestry Commission Scotland and Forest Education Initiative Scotland.
- Clifton RA, Etchevery E, Hasinoff S, Roberts LW (1996). Measuring the cognitive domain of the quality of life of university students. *Soc. Indicators Res.* 38:29-52.
- Corraliza JZA, Collado S, Bethelmy L (2012). Nature as a Moderator of Stress in Urban Children. *Procedia Soc. Behav. Sci.* 38:253-263.
- Gobster PH, Nassauer JI, Daniel TC, Fry G (2007). The shared landscape: what does aesthetics have to do with ecology. *Landscape Ecol.* 22:959-972.

- Harrington MCR (2009). An ethnographic comparison of real and virtual reality field trips to Trillium Trail: the salamander find as a salient event. *Children Youth Environ.* 19(1):74-101.
- House of Commons (2005). *Education Outside the Classroom: Education and Skills Committee. Second Report of Session 2004–05.* The House of Commons, London. The Stationery Office Limited.
- Hu Y, Ritchie JRB (1993). Measuring destination attractiveness: A contextual approach. *J. Travel Res.* 32:25-34. <http://jtr.sagepub.com/content/32/2/25.abstract>
- Kellert SR (2005). *Building for Life: Designing and Understanding the Human-Nature Connection.* Washington, D.C.: Island Press.
- Mannion G, Sankey K, Doyle L, Mattu L (2006). Young people's interaction with natural heritage through outdoor learning. Scottish Natural Heritage Commissioned Report No. 225 (ROAME No. F06AB03).
- Molteno S, Morris J, O'Brien L (2012). Public access to woodlands and forests: a rapid evidence review A report by Forest Research on behalf of the Independent Panel on Forestry.
- Muñoz SA (2009). *Children in the outdoors: a literature review.* Sustainable Development Research Centre. Horizon Scotland The Enterprise Park Forres IV36 2AB.
- Nilson K, Sangster M, Gallis C, Hartig T (2010). *Forests, Trees and Human Health.* Springer publisher London.
- O'Brien L, Murrey R (2006). A marvellous opportunity for children to learn. A participatory evaluation of Forest School in England and Wales.
- Punch KF (1998). *Introduction to social research: Quantitative and qualitative approaches.* Sage Publications, London.
- Taylor AF, Kuo FE, Sullivan WC (2002). Views of Nature and Self-Discipline: Evidence from Inner City Children. *J. Environ. Psychol.* 22(1):49-63.
- Thompson CW, Aspinall P, Montarzano A (2008). "The childhood factor - Adult visits to green places and the significance of childhood experience. *Environ. Behav.* 40(1):111-143.
- Thompson CW, Aspinall P, Bell S, Findlay C (2002). Open space and social inclusion: local woodland use in central Scotland. <http://www.openspace.eca.ac.uk/pdf/uaresearchinfo.pdf> (Accessed on 21 Dec 2013)
- Trudeau F, Shephard RJ (2008). Physical education, school physical activity, school sports and academic performance. *Int. J. Behav. Nutr. Phys. Activity* 5, 12.
- Wells NM, Lekies KS (2006). "Nature and the life course: Pathways from childhood nature experiences to adult environmentalism." *Children Youth Environ.* 16(1):1-24.
- Wells NM (2000). "At Home with Nature: Effects of 'Greenness' on Children's Cognitive Functioning." *Environ. Behav.* 32(6):775-795.
- Wray-Lake L, Flanagan CA, Osgood DW (2010). Examining trends in adolescent environmental attitudes, beliefs, and behaviors across three decades. *Environ. Behav.* 42(1):61-85.