Forest School and its contribution in the formation of Environmental Identity

Konstantinos Tsiompanos[1*], Giorgos D. Kokkoris[2]

[1]Department of Environment, University of the Aegean, 81100 Mytilene, Lesvos Island, Greece

[2]Department of Marine Sciences, University of the Aegean, 81100 Mytilene, Lesvos Island, Greece

*Corresponding author, envm617004@env.aegean.gr

Abstract

Forest School is an outdoors educational process which was first introduced in Scandinavia and has since spread to most of the world. It is a long-term process which aims, among other things, to foster a relationship of its students with nature and for them to develop a long-term pro-environmental attitude through regular personal experiences in nature. The following research has been conducted with the primary purpose to identify and quantify the contribution of Forest Schools in the formation of its participants' Environmental Identity. The analysed data results from the questionnaires showed that Forest Schools indeed serve as an applied method of developing environmental identity to the participating students.

Keywords: Forest school, Environmental identity, Likert scale,

Forest School is *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, with its main aim being to encourage and inspire individuals of any age through positive outdoor experiences* (FSA. 2007 as in Mackinder. 2015, p.2).

Society is becoming increasingly detached to nature with new generations spending less and less time outdoors, thus missing out on the diverse learning opportunities which the great outdoors offer, while suffering the detrimental effects of this nature deficit in their physical and psychological health (MacEachren, 2013). Considering that the majority of our human faculties develop until the age of ten, pre-school and primary school are the most crucial years for exposure to outdoor experiences (Blackwell S. 2015a).

Regrettably, the fear of accidents, being held liable if something goes wrong (O'Brien *et al*. 2007), the wide variety of available indoor activities (O'Brien L. 2009) and, among other factors, the ever-increasing bureaucracy involved in excursions have discouraged schools from organising outdoor education excursions (O'Brien, 2006).

However, outdoor play is important for children. Studies have shown that decreased contact with nature increases levels of mental fatigue, among others (Roe, J. *et al.* 2011). Louv described this tendency for new generations to stay/be kept indoors as the main reason for the appearance of the Nature Deficit Disorder. Nature Deficit Disorder is described as *the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses* (Turtle C. *et al*. 2015, p.1)

Having its roots in Denmark, Forest School has been influenced by the early years Udeskole model in Denmark (Maynard, 2007). Udeskole is distinguished by educational activities outside the classroom and the early development of the relationship of children with nature is highly valued (Smith *et al*. 2017; Murray *et al,*

2005; O'Brien *et al,* 2006). Additionally with its conceptual roots in *friluftsliv*, the Scandinavian philosophy of *free air life.* Educationally, *friluftsliv* promotes learning through experience. It is based on a stance towards life where experiences of freedom in nature and spiritual connectedness with the landscape are greatly valued (Gelter. 2000, Leather. 2016). This "sensual intimacy" between land and people, has strong links with indigenous traditions and the notion of authentic experience (Loynes. 2002 as in Leather. 2016).

In the United Kingdom, the ethos behind the Forest School model is based on the following six principles, concluded by the Forest School Association in 2011:

1. Forest School takes place over an extended period of time allowing for frequent and regular sessions in a woodland or other natural environment; it is based upon observations, physical and behavioral boundaries and collaborative work between learners and practitioners.
2. Forest School aims to promote the holistic development of all participants; to develop physical, cognitive, linguistic, emotional, social and spiritual abilities of the learner and, where appropriate, to link experiences to home, work and/or school education.
3. Forest School offers learners the opportunity to take supported risks appropriate to themselves and the environment.
4. Forest School is delivered by qualified practitioners who continuously maintain and update their practice and there is a high ration of adults/practitioners to learners.
5. Forest School uses a range of learner-centered processes to create a community for learning and development that integrates play and choice and is responsive to the needs and interest of the learners.
6. Forest School takes place in a woodland or natural setting and aims to foster a relationship with nature and the development of long-term pro-environment attitudes through regular personal experiences in nature.

As pointed by Parson, forests schools have some distinctive principles which separate them from other schools. They shift the focus on learning, rather than focusing on performance while giving space to children to participate in the development of their curriculum. Additionally, the relationship between student and teacher is subtly redefined (Harris F. 2017a). Teachers are there to guide, not to instruct, thus allowing students to develop their personal meaning and knowledge. All projects are seen as of some value, albeit indirect, and never as a means to an end (Parsons, 2011).

The Forest School approach is thus an interactive one. The focus is not on the tasks *per se* but on learning, thus differing from the national curriculum. Indeed, as seen in reports by practitioners, *personal, social and emotional development is more significant than national curriculum topics at forest school* (Harris F. 2017a, p. 7)

Forest School practitioners are professionally trained and embrace the above principles, thus promoting the Forest School ethos which *focuses on raising confidence and self-esteem of children through small, repeatable tasks and nurturing their personal, social and emotional development through development of social and team-working skills* (Harris F. 2017a).

One of the main differences between Forest School and mainstream outdoor education is that a Forest School takes place in the same natural setting. This "site-specific" learning bolsters the emotional bonding of the student with the environment, an important condition for sustainable learning and warranting a positive environmental identity and practices (Blackwell. 2015b).

Clayton (2003) defines an environmental identity as "one part of the way in which people form their self-concept: a sense of connection to some part of the nonhuman natural environment, based on history, emotional attachment, and/or similarity, that affects the way in which we perceive and act toward the world" (45-46).

Furthermore Clayton (2003) introduced the Environmental Identity Scale, which is used as a measurement tool for the connection between self and nature, taking its inspiration by identity theory. This Scale, as per Olivos (2011) encompasses five general ideas:

> i) the salience, referring to the extent and importance of an individual's interactions with nature
>
> ii) the identification of one's self as a group member, as the way in which nature contributes to the collectives with which one identifies
>
> iii) agreement with an ideology associated with the group, measured by support of environmental education and a sustainable lifestyle
>
> iv) positive emotions associated with the collective, measured towards the enjoyment obtained in nature through satisfaction and aesthetic appreciation
>
> v) and an autobiographical component, based on memories of interacting with nature, related with an environmental identity as a result of experiences with nature.

The EID model is a useful tool for teachers to check and quantify the way in which environmental or nature-based learning experiences, such as those provided by Forest Schools, may be constructed to influence the development of the students' environmental identities in a positive manner (Green. 2016)

The environmental identity is socially influenced and it can be collective as well as personal. It has been observed by Kempton and Holland (2003) that the natural world becomes salient as people become more knowledgeable about it. According to them, the environment can become salient in two ways: *(1) rather than taking the natural world for granted people begin to notice it and learn about it; and (2) they become aware of environmental problems* (Williams. 2016, p.332-333).

A curriculum which focuses on learning through playing gives students the opportunity to trust their inquiring minds and to concentrate on natural phenomena which intrigue them. Teachers and peers are available to share their observations and findings freely and not in a pre-determined structured manner, thus *expanding ideas and skills in various directions depending upon the situation and its emergent opportunities* (MacEachren, 2013, p.13). Attending Forest School can be seen as a social activity, in which participants achieve learning through conversing and interacting with each other (Hein, 1999 as in O'Brien L. *et al*. 2007).

Through a plethora of pleasurable experiences, Forest Schools provide a safe ground to take risks and make decisions which, successively, complement positive attitudes and an intrinsic incentive to learn (Cumming F. *et al.* 2015). Taking risks and learning how to deal with the dangers involved, is an integral piece of a child's natural development and a critical skill in life (Maynard T. 2007).

Article 13 of the United Nations Convention on the Rights of the Child provide for the right of all children to play, acknowledging in this manner the importance of play for developmental learning. Outdoor play in natural environment provided by Forest Schools affords cognitive play behaviors. It gives students the opportunity to engage with an environment and receive knowledge through their contact with it (Rout A. 2017).

Even though free play is advocated for in Forest Schools, there are many in the field who acknowledge the need for some support and structure in play, especially at the beginning. This is very close to the concept of *scaffolding,* according to which the practitioner introduces a scenario so as to ease the children into a situation and then retreats discreetly to the background, allowing for them to take over and the free learn-through-play take place (Leather, 2016). As a sociological theory, social constructivism is very close to the above concept. With it, the practitioner has the role of a general arranger and advisor, letting students learn for themselves in their own personal manner.

The previously analysed principles of child-led, child-initiated and play-based learning are *well explained through social constructivism and also provide support and a theoretical basis for guided discovery learning in other forms of outdoor education* (Leather, 2012, p.3).

Methodology

The researcher observed fifteen primary school students aged nine to twelve from the Plomari Forest School over a period of eight months. In the end of the eight months period, the forest school students and fifteen of their classmates from their local primary school who did not attend Forest School sessions filled in a questionnaire based on Clayton's Environmental Identity Scale. It was anticipated that the observed results would point into a significant increase of environmental identity in Forest School participants as opposed to non participants.

The Forest School sessions aimed overall at fostering collaborative work between learners and practitioners, aid participants to develop skills such as emotional intelligence, motor skills, social skills and wherever possible to link them in everyday context such as school and family life. Furthermore, the sessions were aiming also in laying the foundation for creating a sense of community where it would facilitate learning through the incorporation of play and other offering choices to learners that are being placed in the centre of their learning experience. The learner-centric approach provides the learners with the ability to take corroborated risks and build self-esteem in a context appropriate to their stage of development and the given environment.

The questionnaire (Table 1) was formed by twelve of the questions of the EIS chosen by the researcher. Some of the original questions were omitted as they included concepts and ideas too complicated for the age of the participants.

Data collected from the questionnaires are of the Likert scale-type (Likert, 1932). These types of data have advantages such as simple to construct, likely to produce a highly reliable scale and easy to read and complete for participants. Disadvantages include central tendency bias - participants may avoid extreme response categories,

acquiescence bias - participants may agree with statements as presented in order to

"please" the experimenter, social desirability bias - portray themselves in a more socially favorable light rather than being honest, lack of reproducibility, validity may be difficult to demonstrate - are you measuring what you set out to measure (Jamieson, 2004).

Individual responses are normally treated as ordinal data because although the response levels do have relative position, we cannot presume that participants perceive the difference between adjacent levels to be equal (a requirement for interval data). E.g. the difference between 1 and 2 is not necessarily equal to the difference between 2 and 3.

Table 1 - Sample of questionnaire used in research

- I spend a lot of time in natural settings (woods, mountains, desert, lakes, ocean).
- I think of myself as a part of nature, not separate from it.
- When I am upset or stressed, I can feel better by spending some time outdoors "communing with nature."
- Living near wildlife is important to me; I would not want to live in a city all the time.
- I feel I have a lot in common with other species (animals, birds etc)
- I like to garden.
- Learning about the natural world should be an important part of every child's upbringing.
- I would rather live in a small room or house with a nice view than a bigger room or house with a view of other buildings.
- I really enjoy camping and hiking outdoors.
- Sometimes I feel like parts of nature—certain trees, or storms, or mountains—have a personality of their own.
- I would feel that an important part of my life was missing if I was not able to get out and enjoy nature from time to time.
- I keep mementos from the outdoors in my room, such as shells or rocks or feathers.

All statistical tests and handling of data took place in the statistical language R (R Core Team, 2020).

In order to statistically test for differences in questionnaire responses between the students who attended the Forest school and those who did not we used the nonparametric Mann-Whitney test for comparing the two independent groups. It has been argued that the use of t-test produces equivalent results (de Winter and Dodou, 2010).

When learning outdoors, it was observed that children reacted in a very different manner than when taught in the indoors nursery environment, which in turn meant that the practitioners had also to change their approach and properly adapt (Swarbrick, N. *et al*. 2004).

The difference between outdoor education and forest schools is in the approach. The age in Forest School groups are younger, starting at kindergarten, and is based on long term child-initiated play-based activities in the same natural environment (Leather, 2012).

Forest School programs *have an important role in supporting the development of environment-related concepts in children to allow them to understand their own roles and responsibilities relating to the natural world* (Blackwell S. 2015a, p. 122).

Results

Responses of the two categories of students i.e. the students who attended the Forest school and those who did not are presented in Figure 1. Students responded to all questions in the questionnaires.

The Mann-Whitney test indicated that there is a statistically significant difference between the two categories (Mann–Whitney $U = 19438$, $n_1 = n_2 = 180$, $P < 0.001$ two-tailed).

Discussion and Summary

This research had to always take into consideration that such identity develops in unique ways and is greatly affected by family, socio-cultural and geographical contexts, when assessing a student's environmental identity. Environmental Identity is certainly not formed solely by outdoor educational programs such as the Forest School (Green. 2016).

There were a number of observations by the practitioner at the end of the academic year. Most importantly, it was observed that Forest School participants had developed a sense of confidence in themselves and developed their motor skills. The observation came mostly when children were engaging in open-ended activities. Those mainly child-led activities increased significantly their initiative and motivation as well as intrigued their curiosity. Other observations included a change of attitude towards animals and insects and increased familiarity with nature's elements (water and fire) which was totally absent at the start of the academic year.

All Forest School activities nurtured children's communication, social and team building skills and additionally, in younger children it was observed that it aided towards improvement of their concentration levels, especially through tasks that needed very fine motor skills.

Although these findings are not particularly observed throughout the questionnaire, it is worth mentioning that the children who attended Forest School most frequently, were the ones who the enjoyed the biggest transformation. Regarding the non participants group, it has to be noted that they came from the same educational environments, as they all attend the same school and their social environment is also very similar as well. Both groups of children live in the same village (Plomari, Lesvos). Again, we cannot state with certainty if the non participant group attended outdoor or nature-focused activities due to the fact that we have no access to their extra-curriculum activities.

Overall the questionnaires cemented what the practitioner had anticipated before conducting the research. Nevertheless, when evaluating the benefits of Forest Schools, one must be agile and ready to recognise exaggerations and gaps in research, as there is a tendency to *make claims for the benefits and efficacy of the experience for children that, it may be argued, overreach the available evidence,* such as claims for granted benefits like an increase in confidence and self-esteem (Leather, 2016; Maynard *et al*, 2007).

Early major studies of the Forest School effects were funded by the Forestry Commission and that research further showed that Forest Schools had a ripple-effect, in that the children's experiences also affected the wider family (O'Brien L. *et al*. 2006). Additionally it observed that it was changing the perspective of teachers regarding their students (Kemp N. *et al*. 2016).

More findings showed that, through Forest Schools, the children develop an understanding of and respect for the natural environment and all its beings. Therefore, initiating motivation to explore the outdoors more and become more aware of local environmental issues. It offers its students the possibility "to understand the life cycle, handle natural and sustainable materials, and offers everyday opportunities to raise ideas about personal impact and compassion" (MacEachren, 2013, p. 12). In this manner, it increases of the chances of having a long-lasting impact on the shaping of future leaders and protectors of the environment.

Indeed, it is a fact that research results so far have focused almost exclusively on observations of practitioners, which make the observer ratings untrustworthy. Miller and Parker in 2006 raised the relevant alarm and *advised caution when teachers make judgments about pupils' self-esteem* (Leather, 2016, p. 7). As further cautioned by Swarbrick and Maynard, *there is also a gap in research which needs to be addressed with objective, systematic methods beyond evaluative small-scale local projects to fully explore the adult role in Forest School (*Mackinder M. 2015, p.4).

As far as the validity of any research on the influence of FS sessions on environmental attitudes, as pointed out by Turtle in her research results, other variables, other than participation on FS sessions, need to be considered, such as *involvement in environmental education, outdoor education or the promotion of environmentally sustainable behavior* (Turtle C. et al. 2015, p.11).

Research on Forest Schools acknowledges their contribution to the development of social and citizenship skills (Knight, 2009; Swarbrick *et al,* 2004) and their positive impact on mental health and physical activity (Maynard, 2007 as in Harris F. 2017a) On the whole, it is 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 (Ridgers N. et al. 2012,* p. 60*)*

Environmental education can improve its effect through the daily experience offered in Forest Schools, thus giving nature itself a central role in the promotion of its protection (MacEachren, 2013). Forest School incorporates aspects of and is influenced by many movements, including outdoor learning, connecting children to nature, child-led learning and personal, social and emotional development of children (Harris F. 2017a).

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Figures

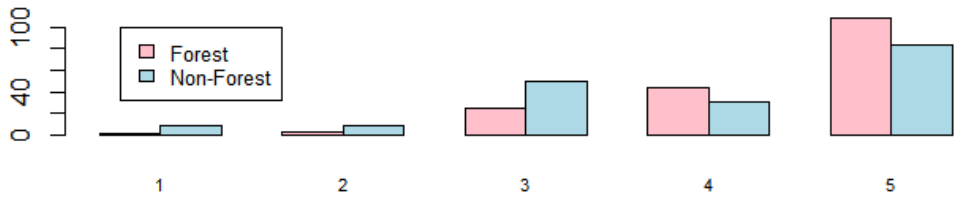

Figure 1. Responses of the two categories of students i.e. the students who attended the Forest school and those who did not.