Outdoor education in Finnish schools and universities

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Background

Due to the electronic media the amount of time that children spend in nature has declined in the recent time. However, it is important for children to learn about nature and it is also healthy for children to spend time in nature (Kuo, 2010). An empathic relation to nature (Palmberg & Kuru, 1998), nature sensitivity (Nykänen & Kinnunen, 1992), environmental awareness, attitudes, and conceptions can be fostered by repeated nature experiences (Gilbertson, 1990) and long-term nature education (Palmberg, 1989). Students who have had a meaningful experience in nature are more likely to prefer spending time outdoors, express concern about environmental issues, consider themselves strong environmentalists, and express interest in studying the environment or pursuing an environmental career (The Nature Conservancy, 2011).

Pupils' knowledge can be built up by concrete experiences, interests, emotions, and values through outdoor education (OdE) (Bogner, 1998). OdE includes the study of both natural and artificial environments (Knapp, 1996). Gair (1997) defines the concept as all activity that includes education in the outdoors. McRae (1990) has divided OdE into knowledge focused outdoor teaching and learning, ecologically focused outdoor EE and outdoor leisure education focusing on personal growth. Advantages with OdE are its deductiveness (Dahlgren & Szczepanski, 1997) and hands-on activities (Kolb, 1999). Nundy (2001) explains activation of different senses as reinforcement between the affective and the cognitive domain where one influences the other and provides a bridge to higher learning. First hand experiences and interactive learning situations are important in forming of personal opinions, attitudes, and values (Balschweid, 2002). The benefits of OdE include improved interpersonal and intrapersonal skills; environmental awareness and stewardship ethics; physical, mental, and social health; and ability to learn and concentrate (Cottrell & Raadik-Cottrell, 2010). Positive attitudes of pupils toward environment have also been found to increase in OdE (Mittelsteadt et al., 1999).

In order to encourage the promotion of Environmental Education (EE) and Sustainable Development Education (SDE) in Finland, a national strategy for EE (A National Strategy for…, 1991) has been created, as well as a strategy for SDE (Loukola et al., 2002). EE, SDE and OdE take place in a large variety of applications in formal (schools and universities) and informal educational institutions in youth work and social services in the public and private sectors.

Next we will first explain how EE, SDE and OdE are arranged at schools. After that the description of nature and environmental schools and universities will follow.

EE, SDE and OdE at schools

At Finnish schools, the term "outdoor education" represents teaching and learning that takes place outside the classroom with the aim to achieve goals in the National core curriculum for basic education (NCC, 2004, 39) and in the National core curriculum for upper secondary schools (NCC, 2003, 28–29). In the basic education (pupils aged

7–16), the theme is "Responsibility for the environment, well-being, and sustainable future" and the objective (NCC, 2004, 39) is:

> "…to raise environmentally conscious citizens who are committed to a sustainable way of life. The schools must teach future-oriented thinking and building the future on ecologically, economically, socially, and culturally sustainable premises."

In the upper secondary schools (students aged 16-18), the theme is "Sustainable development". Students are encouraged to pursue a sustainable lifestyle, to take action for sustainable development, and to examine the challenges of SD (NCC, 2003, 28–29).

In Finnish schools, OdE is usually arranged in the form of trips, excursions, and camp schools. Trips are done during all grades; excursions in the home country and abroad in the upper grades (13-18 years old pupils), and camp schools in the lower grades (11–12 years old pupils). A camp school is defined as education that takes place in a different location than education as usual. It lasts for consecutive days including over-night lodging (usually 3–5 nights). It should support teaching and learning processes at least in one subject or through an integration of different subjects (Sipilä, 1997). Camp schools are not compulsory but are found to be encouraged by school traditions and teachers' personal experiences. Typical themes are nature and environment. Adventure, physical, and cultural activities are seen as important for the building of pupils' social competence (Miemois, 2005).

Based on the study objectives, contents and methods of the NCCs, teachers plan school curriculums taking into account local conditions. All Finnish teachers are able to do this based on their Bachelor degree and Master degree programmes in the universities.

<u>Basic education at the Teacher training school of the University of Oulu as an example</u>

Three different EE themes including SDE and OdE have been put into practice at the primary level of the teacher training school of the University of Oulu (Oulun normaalikoulun…2004). In the first theme "Immediate surroundings", pupils investigate local environments biogeographically. In autumn and spring, they observe actual changes in nature. In winter, pupils investigate cultural and social environment and make trips, excursions and camp schools in Northern Finland.

In the second theme "I and environmental conservation", pupils study biodiversity and SD. Recycling and improvements in nearby environments are long-lasting projects in studying personal and collaborative responsibility.

The third theme is "Finland and Northern Countries". In autumn, pupils acquaint themselves with biogeography in Fennoscandia. In winter, they study relationships between man and nature. They also cooperate with foreign schools via distance learning systems, and visit twin schools in other Northern countries.

At the lower secondary level, the aim is that pupils adopt relevant environmental knowledge and develop their skills, readiness and responsibility in environmental issues (Oulun normaalikoulun…, 2004). The 7th grade pupils investigate weather, water, and soil in different ecosystems and study cultural environment and effects of human beings on ecosystems. The 8th grade pupils investigate physical, chemical and biological factors in nature. The 9th grade pupils study e.g. endangered species and everyman's rights including ethical questions.

Teaching methods are those related to sensitivity, science and values education. Sensitivity education is based on experiential learning. Students study through observation and interaction with their environments. However, as Dewey (1933) pointed out, experiences do not automatically equate learning. Hands-on activities, interactive learning, and reflective discussions on feelings, emotions and experiences are needed (Mabie & Baker, 1994). Science education (for instance fieldwork) is based on inquiry-based learning where students work together to solve problems (Welch et al., 1981). In values education, using values clarification teachers engage with students in direct experience and reflections in order to increase knowledge, develop skills, and clarify values. Product and process evaluation, based on the objectives, is emphasized. Beside teachers also pupils and parents should participate in the evaluation processes (Jeronen & Kaikkonen, 2002).

EE, SDE and OdE at the Nature and Environmental schools

Nature and environmental education have a long tradition in Finland (Kuronen, 1997). The first nature trips and excursions, as an informal part of camp schools, were carried out in the 1950s. They were added to the official programmes in the 1970s. The first nature school center was set up at Siuntio in 1986 (Kuronen, 1997). Today, we have 26 nature and environmental schools (NES) (Suomen luonto- ja ympäristökoulujen liitto, 2011). In two last years, plans have been made about the NES creating a network named LYKE (Ryhmien **L**uonto- ja **Y**mpäristökasvatusta sekä **KE**stävään elämään tähtäävää kasvatusta tukeva verkosto) for promoting nature and environmental education and sustainable lifestyle (Luontokoulutoiminnan vakauttaminen…, 2011).

The NES-action can be a part of formal education on all levels from nursery school to universities, or it can be an after-school activity. The action is not bound by place. It can be arranged by societies, municipalities or the private sector in "nature schools" or "in environmental schools" (Jääskeläinen, 1997). A NES usually belongs to a primary or secondary school. From one to two teachers share the responsibility and act as teachers in a NES. The Finnish NESs do not have pupils of their own. Pupils from neighbourhood schools visit them during their school days. The NESs get their funding from the local municipality similarly to all primary and secondary schools in Finland.

In the NES-programmes, the principles of Agenda 21 (Documents, 2007) have been taken into account. The NESs foster a sustainable way of life and environmental responsibility. The educational idea focuses on the knowledge of nature, nature exercises, acquiring nature information, and study skills. (Luonto- ja ympäristökoulut Suomessa, 2008). The purpose is that pupils understand human beings as a part of nature. An important aim is to foster environmental sensitivity and interest in nature, and to promote a responsible lifestyle (Suomen luonto- ja ympäristökoulujen liitto, 2011). Teaching methods are based on deductive logic. Pupils acquire information through their own senses via investigation, traveling and playing, and solving problems based on their own age level (Luontokoulutoiminta, 1997). Consequently, they construct their own picture where knowledge is attached to certain parts of their earlier knowledge without losing the context (Dahlgren & Szczepanski, 1997). Beside

constructivist methods, teachers use the traditional methods based on inductive reasoning, from detail to general conclusion (Kohonen, 2001, 41).

EE, SDE and OdE in universities

In Universities, EE, SDE and OdE are taught partly as included in subjects, partly as different kinds of courses. Students in educational sciences, psychology, special education, social education, and students of traveling make different kinds of study reports, e.g. bachelor and master theses (Kujala, 2008). Some scientific universities (SU) and universities of applied sciences (UAS) have curriculums for EE and SDE integrated with OdE.

Teacher education in the University of Oulu as an example of SU

In the University of Oulu, EE has been a core area since 2001. At the faculty of education, the main aim of EE is to create a holistic conception of the environmental situation and environmental threats at the local, regional and global levels.

Until now, the basic level has consisted of 25 ECTS points. It has three parts: Nature environment (9 ECTS), Pedagogical and psychological environment (8 ECTS) and Social environment (8 ECTS). Nature environment includes information about ecology, environmental threats, and the relationship between human beings and nature. Students investigate environmental threats e.g. through problem-based learning, making trips and visits in local factories, and using Internet and distant learning environments. The aim is to reflect attitudes and actions, and to understand the relationship between human beings and nature. In Pedagogical and psychological environment, the students study the effects of human beings on environments. They investigate the built environment via economical, technical, and socio-cultural information. Through ethical and aesthetic activities (e.g. taking photographs and videos) and critical discussions, they ponder how to work for a better environment. In Social environment, the aim is to form a view of an active citizen and attain readiness to participate in social decision-making. Students investigate values and moral issues. In all three parts, they discuss how to teach environmental topics at different school levels.

The intermediate level consists of 35 ECTS point. Its aim is that students familiarize themselves with the social and the political history of environmental questions. They study history and methodology of environmental research, environmental politics, education, psychology, and philosophy and write a theoretical or empirical research report.

The advanced level consists of 50 ECTS points. The students can choose courses in social studies or environmental pedagogy and philosophy, sociology or psychology. In addition to these courses, they have literature exams and a graduate thesis about an environmental theme.

Evaluation and assessment are based on the objectives. Dissertation theses have also been made in EE.

Universities of Applied Sciences

Adventure education is taught in seven UAS. Methods contain common threads composed of the following elements (Karppinen, 2012):

- Participants are introduced to new situations in which they are challenged and encouraged to discover new sides of themselves.
- The experience is direct and holistic, incorporating exercise of the body, heart and mind.
- The experience takes place outdoors.
- The learning experience is a structured process with a social element.
- Reflexivity clarifies the significance of the experience.
- Learning is action-based and participatory.
- The activities are goal-oriented.

Based on the law (351/2003), the main task is to develop work life and livelihoods. The courses are usually given as basic courses (Kujala, 2008). An important objective is to learn how to arrange educative adventure situations in workplaces. UAS in Oulu offers optional courses such as Adventure based education in social work and social pedagogy.

Finance of Outdoor education

According to Finnish law, basic education is free of charge, including trips, excursions, and camp schools. However, the finance is seldom a problem because experiential elements are included into biology (e.g. field trips), geography (e.g. field work) and sport lessons (e.g. orienteering); and lakes, rivers, forests, fields, and parks are near to schools. Based on the curricular objectives, teachers plan the camp school-programmes and act as responsible instructors. Equipment is mainly similar to that used in the classroom such as laboratory and field work devices. Some devices (e.g. paddles, hooks, and lines staves) can also be made during handicraft lessons. If the school has money an adventure guide acts as a teacher. In addition, camp schools are arranged by sports institutes and nature, youth and camp centres. In that case, the programmes are prepared by them. From these programmes teachers choose the ones that are appropriate for their classes. In this case, camp schools are financed by different events organized by pupils and their parents, school funds and other fundraising. Parents' participation in fundraising is important and some parents participate in camp schools as guardians, but the responsibility is the teachers' (Miemois, 2005).

Conclusions

OdE is no *lapis philosophorum* of education although it possesses many excellent qualities. Negative aspects are that in many Finnish schools, the groups are big, pupils might not feel comfortable learning outdoors (e.g. phobias), it might be a health risk (e.g. allergies) or it might be impossible for pupils to access the area (e.g. physically challenged) (O'Neill & McMahon, 2005). The learning situation might become too unguided for pupils optimal gain of knowledge and consist more of fun and doing than of learning (Kirschner, Sweller, & Clark, 2006). There are also conflicting results on OdE the impact of OdE on knowledge and attitudes, as some studies have shown negligible impact (Knapp & Barrie, 2001).

Many teachers do not like to arrange OdE. According teachers, the reason is the lack of time and of knowledge of new environmental issues and educational methods. Preparing the pupils for learning by appropriate activities is demanding because pupils' various backgrounds (Jeronen et al., 2009).

Chawla (2009) emphasizes the important role of socializers (e.g., family members, teachers, other adult mentors) within the context of the surrounding culture. This has also been noticed in Finland. Nowadays, when developing a new curriculum for 2016 there has been discussion about how schools could create contacts with different actors in society. Chawla has argued that children come to value environmental actions through a variety of mechanisms (interest/enjoyment value, attainment value, utility value, and relative cost) and OdE should provide opportunities for children to develop a sense of efficacy to achieve environmental goals. It has also been suggested that if the main objective is the development of emotional and social skills and if the action includes different kind of activities around the year (e.g. canoing, slalom, fishing, hiking) OdE minimizes marginalization of students (Kujala, 2008). Kuo (2010) also emphasizes the importance of OdE for health giving recommendations on how to increase people's nature contact by providing as much nature, in as many forms as possible; bringing nature to people; and bringing people to nature.

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