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Cooperative Learning in Outdoor Education

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Sammanfattning
Abstract
Interpersonal growth is one part of the definition of outdoor education. Collaboration and common purpose are key phrases in cooperation learning. Both those two teaching methods are including students' social development. To find out the effects of teachers' and students' attitude toward cooperative learning in outdoor education, this study explores the benefits and limitations of group work in outdoor education theoretically. Also, this study explores the attitudes of teachers and students regarding group work in outdoor learning. Questionnaires were used to find the students' opinion of group work in outdoor education, during the analysis of data, thematic analysis was conducted with interview data to find out teachers' attitudes. The participates of this study mainly had a very positive attitude towards group work in outdoor education, although some limitations were identified, such as students sometimes lost focus, were absent or were less involved.

Nyckelord
Keywords
Cooperative, Outdoor Education, Learning, Group

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1. Introduction

Currently the world we live in is changing all the time; we live with global environmental problems, social issues and financial crisis. In the educational field the concern of including sustainability in education plays a very significant role for reaching the level of a sustainable society (Hill, 2012). In rethinking of our education, Orr (2004) argues that all education is environmental education, e.g. the subject of economy is related to ecology environment (Orr 2004, p12). Good experiences of physical expertise and outdoor life are very important for people both in their early childhood or their adolescence. Spending time in outdoor nature is one of the teaching aims in the Swedish Physical Education (Skolverket, 2011). Humberstone and Stan (2011) argue that outdoor learning has many benefits and that all can enjoy the outdoor learning and experience outdoor.

On the other hand, not only outdoor life but also social life is one of the aims in Swedish education, e.g. respect others, helping others, understanding others (Skolverket, 2011). Cooperative learning, one method of teaching, is able to reach the Swedish goal of education from a social perspective. Many studies about cooperative learning have already found that cooperative learning can have positive effects on students' social relationship (Wichadee & Orawiwanakul, 2012). Traditional classroom teaching usually includes less cooperative activities (Gillies & Boyle 2012). Comparing students taught in the traditional way of teaching with students taught in a cooperative way shows better social skills and appropriate social behaviors (Lavasani et al., 2011).

In the goals of education, school education needs to help students learn to make their own standpoints from obtained knowledge as well as personal experience (Skolverket, 2011). In the academic perspective, both cooperative learning and outdoor education have studies that prove they are effective learning methods. Hsiung (2012) find out that students learning in a cooperative environment enjoy a higher academic performance, compared to students in the individualistic learning environment. These conclusions were found by comparing students' scores (Hsiung, 2012). Another interesting finding found by Fägerstam (2012) is that a group of students working outdoors to learn mathematics once a week outdoor improved more than the students that were studying full-time indoors. Outdoor learning improves student's interest and enjoyment (Fägerstam, 2012).

In order to reach the goals of education from both social and environmental perspectives, some of the studies combine outdoor education and cooperative learning. Humberston and Stan (2011) found that some students believe the group activities in the outside offer them a chance to know friends, or be closer with their friends, and learn teamwork (Humberstone & Stan, 2011). Similar with Humerston and Stan (2011), Fägerstam (2012) also found that outdoor education can improve students' cooperative work in school work, especially for "shy students" and during the outdoor learning, the relation between teachers and students can also be improved (Fägerstam, 2012). In different to traditional classroom teaching which includes less cooperative activities in the classroom (Gillies & Boyle, 2010), outdoor education offers students nature and large space. Many students are likely to work together to solve problems when they are participating in outdoor learning, as indicated in a study by Fägerstam (2012).

Therefore, this study focused on cooperative learning in outdoor education to better understand the goals of education from a social and environmental perspective.

2. Statement of purpose

The goals of Swedish education include both environment life and social life. However, in the reality of education there is probably too little cooperative work and also too little outdoor learning. The aim of this study was to show that an increase of cooperative learning in outdoor education can be used as a benefit to reach the goals of Swedish education. The study focused especially on group work in outdoor education.

The research questions were:

- What is the benefit and limitation of cooperative learning methods in outdoor education?
- What are the students' and teachers' attitude toward group work in outdoor education?
- Does outdoor education offer opportunities for students to cooperate?

3. Methods

In this part, the methods were designed to obtain information about teachers' and students' attitude towards cooperative learning in outdoor education. Two methods were used to obtain data: interviews and questionnaires. Many organizations were involved in this study for example museums and regular schools. 106 students and 6 teachers participated in the questionnaires and the interviews respectively, the data was later analyzed.

3.1 The methods of data collection

In order to take advantages from both qualitative and quantitative research, this study combines quantitative and qualitative research. In other words, mixed methods were applied in this study (Bryman, 2008. p. 603). Quantitative and qualitative modes have many differences. Compared with quantitative, qualitative inquiry is for describing or explain the social problems. It is more focused on certain groups instead of different varieties in the quantitative method. When conducting the quantitative research, the researcher is more or less involved in the method and the results are usually extrapolated to include other non-studied areas. On the opposite, the qualitative method involves more with the researcher's subjectivity and the results cannot be extrapolated for other areas (Sowell, 2001. p 9). A Combination of survey research and qualitative interviews were included in this study.

3.1.1 Interview

This study applied semi-structured interviews. There are four types of interviews: structured interview in which questions are asked in the same way. The second one is semi-structured interview which opens up the interview. Third and four are the unstructured or focused interviews, which is different from structured and semi-structured interview by their open-ended character. Group and focus group interviews are methods that give the interviewer an opportunity to discuss the topic in a group (May, 2011. pp 149-154).

The reason why to choose semi-structured interview is that it can use techniques from both structured and unstructured interview (May, 2011. p 134). On one hand, it contained the structured answering the structured question. On the other hand, it allows the interviewer to drop or deepen a question in order to skip irrelevant questions or get into a question more fully, if this is relevant for the study. In summary, semi-structured interview was chosen, on the one hand, the research questions were answered because it was pre-chosen which questions would definitely be asked. On the other hand more information could be retrieved because there may be other or different questions that were asked depending on the situation of the interview.

Conducting a successful interview has many rules. In order to make good use of it, some tips about conducting interviews were used in this study. First the schedule needs to depend on the hypotheses of interest and to avoid questions that can be answered by a mere "yes" or "no" in the interview. All the questions asked in the interview were useful for the research question. Second, make certain they understand the concept of the question and feel safe or free to answer the questions. In this

study all the questions used in the interviews were based on the research questions and also asked in a clear way. Third recoding the responses; using videotaping or audiotapes or simply a coding sheet are valuable methods to collect the response. Fourth timing; give enough time for unexpected answers or develop the topic (Furlong et al. 2000. pp 532-539). All the answers from the interviews were recorded.

3.1.2 Questionnaire

There are four type of questionnaires: mail or self-completion questionnaire, telephone survey, face-to-face interview schedule and internet based surveys which have increasingly started to be used (May, 2011. p 103). In mail or self-completion questionnaire the respondents fill out themselves (May, 2011. p 103). In this study self-completion questionnaire were applied to collect data from students.

The reasons to choosing self-completion questionnaire are that self-completion questionnaires strengths are low cost, often ensure anonymity, provide enough time for interviews, generate less bias from the interview and is able to cover a large topic (May, 2011. p103). Compared with interviews, questionnaire covers more topics. There are several benefits using self-completion questionnaire. First, more questions can be asked in the questionnaire and the answers are less biased. Second, surveys are able to show the relationship between variables (May, 2011. p 96). In this study, one of the questions is if outdoor learning offer many opportunities to cooperate, this questions was asked in order to find out the relationship between outdoor education and cooperative learning. The questionnaire worked satisfactory to find answers to the questions asked. Third, since the questionnaire is anonymous, it may be an advantageous method when questions might touch sensitive issues (May, 2011. p 104). In the open questions students can answer what they really want to say in anonymity. Fourth, there is more time for the students to answer their questionnaire (May 2011 p 104). Students can give the answer under less stress to ensure 'as good as it gets' quality of the answer. However there are a couple of weaknesses; one of the weakness is that there is no control of who answer the question and how they interpret the questions, it is impossible to prove the answer, the response rate may also be low (May, 2011. p 104). In this study, email reminders were sent out to people in order to raise the response rate. In summary, questionnaire was chosen because it is a low cost method, and more topic could be covered in the study. On the other hand students may get more time to finish the questionnaire, and they will probably feel comfortable to answers it because no names were required to fill in the questionnaire.

3.2 Participants in the study

Teachers in a regular school and museums were interviewed in this study. More specific, five teachers from middle and senior high school, and one museum staff were interviewed in this study. The reasons for choosing museums to be part of this study is that outdoor education is widely used in different organizations except schools, for example nature schools, preschool, training center and museums. Unlike the regular schools, nature school teachers and museum staff focus mostly on the outdoor teaching. Most of them are experienced in teaching in the outdoor with different methods. Museums in Sweden also have a person in charge of outdoor learning with visitors and students. They have different teaching goals from middle or senior high schools' teachers. However, one employee from a museum was also interviewed as part of the school teacher category of interviewees.

But at the same time, regular schools in Sweden have many different compulsory subjects to teach according to the Swedish law (SFS: 2010:800). Some schools do get involved in outdoor education in different ways as a way to reach the goal in the different subjects, for example: field trips, outdoor sports or different games or activities during the break time and 'summer and winter camps'. And in some subjects such as science and art, teachers also spend some time outside to explore the nature and reach the teaching goal with outdoor learning methods. Teachers in middle schools, however they also use the outdoor learning with their students. Therefore these teachers' opinion and how they teach in the outdoor are of the same importance to the study. In summary, teachers from different schools or organizations were involved in this study to offer more various opinions regarding outdoor learning.

Not only teachers, but also students are essential in the survey part of this study, the students' perspective is important because students are the main participants in education. How the students themselves feel about cooperative activities in outdoor learning is one of the research questions from the students' perspective. Their feedback is important to get a good understanding of the students' attitude and how to improve the cooperative learning in outdoor education from the students' position. Therefore their opinions and answers of the survey were important for the data in this study. The students come from two different schools from senior high school, middle school and elementary schools.

3.3 Data collection

In this study the questionnaire as well as interview was used to collect more data in this field. Data was collected during the winter of 2012 in Uppsala. The paper questionnaire was applied in one school in Uppsala. 98 students from elementary school and middle school did this survey. They are year 4 to year 9 students. Questions were focused on students' view about cooperative learning in outdoor education. In a school in Uppsala hiking was one activity that the school organized as part of a "Choice day" for the students. A choice day is not a regular school curricular day; instead it is a day for students to choose activities. During this day teachers are offering different activities for student to choose. One of the activities is combined hiking in the outdoors with art and writing. Students got the chance to spend more time outdoors in the surroundings near the school, get their creativity started and turn their impressions of the beautiful winter landscape into a piece of art or

some creative writing. After elementary and middle school the students finished all the activities in choice day, they were handed the questionnaire to fill in. The questionnaire focused on the students' opinion of what they learn by being in the outdoors, and how they learn, especially in cooperating and team building. All students were given the paper questionnaire to answer the same questions in the classroom. The paper was collected by staff after the student finished. Questions in the questionnaire all focused on the students' side to get to know of the students' opinion about outdoor cooperative learning. The questionnaire focused mainly on students' perspective because surveys can test people's attitude and behavior by asking questions (May, 2011. p 96). This study used questionnaires to get to know how students feel about cooperative learning and if they learn efficiently from each other. All questions can be seen in Appendix 2.

The survey from senior high school was carried out in the end of a language class, the teachers collected their paper after they finished filling in the questions. 8 surveys were collected from one senior high school.

For the interviews, different kinds of questions were asked (see Appendix 1). During the interviews there were many direct and indirect questions. The interviews took place in schools and other organizations and the duration of each interview was 15 to 20 minutes. Each interview was audio-recorded and afterwards transcribed and summarize. There are several main questions in the qualitative interview; introducing question, follow-up questions, probing questions, specifying questions, direct questions, indirect questions and so on (Bryman, 2008). The interviews in this study used different kinds of questions to get to know the answer of the research questions from the teachers' point of view.

The table below illustrates the procedure of the methods (table 1).

Table 1 The table outlines the methods that were used and the participants.

Method	Semi-structured interview	With 6 teachers in school and museum
	Self-completion questionnaire	With 106 students in schools

Since both quantitative and qualitative methods are involved in this study, analysis was also conducted on the quantitative data and qualitative data. Many techniques can be applied in data analysis for quantitative data e.g. univariate analysis, bivariate analysis, multivariate analysis. For qualitative data it is more difficult to handle large datasets with many interview transcripts and field notes (Bryman, 2008. p 538). Both quantitative and qualitative analyses were conducted to gain a better understanding of the data.

Quantitative data collected from questionnaires in this study were mainly using univariate analysis,, such as for example question 4. "Do you like doing outdoor activities with your classmates or alone?" The answers were collected and plotted in a pie chart showing the different percentage of the students' opinion to work alone or together. Question 6 and 7 were "Did you learn or share skills or knowledge with others in outdoor activities? And another question is how much you did learn

from your classmates in outdoor activities? Those answers were analyzed with bar charts showing if most students learn something through their team work in outdoor learning. Question 5 “Why do you work alone or together with others in outdoor activities?” was asked with the aim to find the reason they learning together in outdoor from the students point of view. These answers were also shown with pie charts. Bivariate analysis was used in the analysis of two variables at a time in order to see if they are related or not (Bryman, 2008. p 325). This was done to figure out if “learning together outdoor” and “learning result” has a relation or not.

This study was conducted with thematic analysis. It is important to decide which way of analysis to use and also equally important to match the type of analysis with the aim of the study (Branu & Clarke, 2008). The benefits of choosing thematic analysis are that thematic analysis can show the reality and also deepen to see the “reality” (Branu & Clarke, 2008). The analyzing process followed the phase of thematic analysis summary by Branu and Clarke.

First to familiarize with the data: All interviews were recorded during the interviewing and then were transcribed. Second generating initial codes: in order to find out the similarity between different answers, all the questions answers were summarized. Third: Find the theme: The theme is catching something critical to the study aim and reflect patterned of answers or meaning in the data set (Branu & Clarke, 2008). The theme of this study was chosen based on the aim of finding the attitude of teachers towards cooperative learning in outdoor education. The attitude divided into positive and negative and many phrases e.g. communicate, cooperative, social, abstract, were used as theme in order to see the pattern of data set (see figure 1). Fourth: Checking themes: The theme map of the data sets. Fifth: definition and label: All themes from the data set were clearly named each by a short phrase. Sixth: Producing the result: the results were shown in the list of findings in the result part.

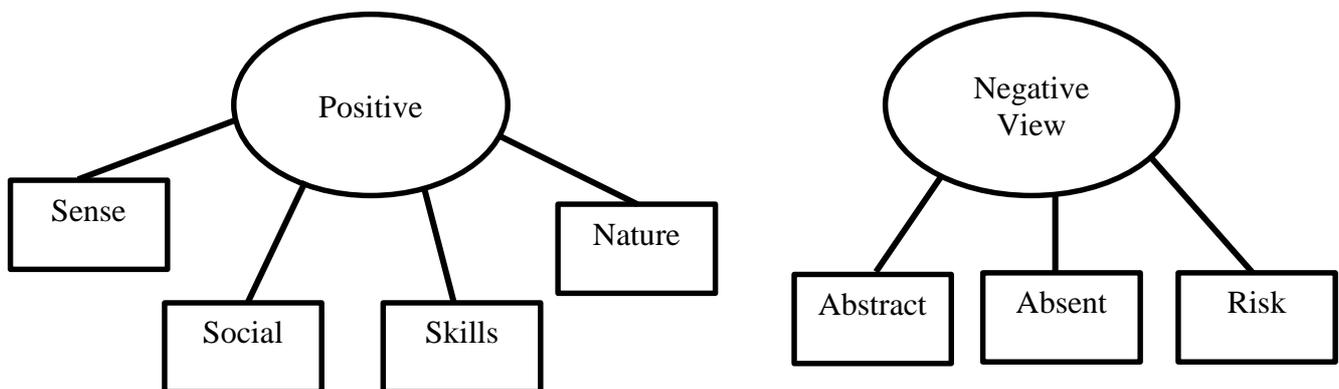


Fig 1 Theme map in analyzing interview data

3.4 Ethics

One of the definitions of ethics is to disciplines of a study, for example, philosophy, law etc. (Resnik, 2011). In this study, permission was approved from all participants to conduct the questionnaire and interviews from the school. When an interview was performed with a teacher, the teacher was informed of the purpose of the interview. Before the start of an interview, the participant was informed that the interview would be recorded. None of the participants found this troublesome. Students participating in the questionnaire study were also informed of the aims with the thesis, parents were also informed in a letter from the school. Permission was given from both teachers and the participating students to conduct the questionnaire study, all of the students agreed to fill in the questionnaire. Teacher and students personal information were not published, all the names were kept anonymous, because they did not have to fill in their name on the questionnaire. In the study none of the names from teachers and students were used in data processing.

4. Literature review

4.1 Learning

The motivation of learning comes from the curiosity of knowing about the world around us. This encourages people to try out new things which they never did before (Hills, 2001. p. 3). Learning can be seen as a combination of head, hands, and heart, teaching methods can also be divided into physical-based (hands), knowledge-based (head) and affective methods (heart) (Gilbertson et al., 2006. p. 128). In order to help students improve physically, the physical method is an effective teaching method. The meaning of physical methods is teaching that involves kinesthetic element or hands on. Almost all of the outdoor education classes include physical activities which require physical involvement of individuals, e.g. rope courses, hiking and fishing (Gilbertson et al., 2006). Young children like physical movement and also enjoy doing practical activities with others. These activities benefit the development of their brain and sensory systems (White, 2008. p. 67). Cognitive methods are used for building knowledge; these methods are common in education. The definition of the cognitive method is teaching students about topic background knowledge which includes videography, using simulation, peer teaching. For example teaching about landscape requires the students to know about geomorphology. Affective methods are the heart element of learning. For example emotion-based learning, guided discovery, visual imagery, storytelling, scenarios and case study. One whole lesson is usually integrated with physical, emotional and mental parts (Gilbertson et al., 2006).

People usually prefer one of the four ways of learning:

- Pragmatists: they prefer to learn with an obvious result, they can know what they can do after they learn the skill.
- Activists: learning by doing is what activists prefer to do.
- Reflectors: they prefer more time being used on observation instead of doing immediately.
- Theorists: They prefer leaning in a well-organized way, usually they first learn the background and then deep more into the subject (Hills, 2001. p. 88).

4.2 Cooperative Learning

The psychology perspective in studying education has moved the focus from the individuals' learning to learning in groups. Individuals solve problems by communication with each other in a group (Baker et al., 2013, p. 6). Cooperative learning is getting more and more popular in many areas of our life, especially in education and working (Järvenoja, et al., 2013). Johnson and Johnson et al. (1975) defines cooperative learning as "the instructional use of small groups so that students work together to maximize their own and each other's learning". All the methods used in cooperative learning share this idea that students learn together so that they create a better learning for themselves and others. However, each cooperative learning method has its own components and focus (Slavin, 1994, p. 1). Collaborative learning is also defined as learning together in a team and helping each other (Hills, 2001, p. 78). The method Student Team learning developed by Johns Hopkins University is the main part of cooperative learning. It is one of the cooperative learning methods but focuses on team goals and team achievement. The Team will win on the condition that all of the teams reach the teaching goal (Slavin, 1994, p. 2). It includes Student Team-Achievement Divisions (STAD), which uses a teacher to present the goals and groups, the group can only win if all teams in the group pass the quizzes. Another method Team-Games-Tournaments (TGT) uses the same teacher presentation but replaces the quizzes with weekly tournaments. In the method Jigsaw II each team has a different "expert" when they work in the group. Then the expert gets together with other teams "experts" to discuss or do their roles responsibility, then they come back to their team to share what they learnt from the other teams. Accelerated Instruction (TAI) is a method that mainly focuses on teaching math to grade 3 to 6 students. Cooperative Integrated reading and Composition (CIRC) focus mainly on students reading and writing.

Other cooperative learning methods are Group Investigation, in which group need to do a final project together so they need to discuss and study together during the project, and Learning Together, a method which was developed by David and Roger Johnson at the University of Minnesota. In this method the Team's achievement depends on the group product. The method Complex Instruction is widely used in science, math and social studies. There are also the Structured Methods Structured Dyadic Methods, which is for pair work instead of a four people team (Slavin, 1995, pp. 4-11). There are many different methods and techniques used in cooperative learning. However, student team learning or learning together in a group is one of the most studied methods in cooperative learning (Slavin, 1995, p. 5). In the following section this method is described in more detail.

4.3 Student team learning

Both human and animals work together for survival in the world. Especially in the human world, sharing and cooperative work has already become our way of life (Hills, 2001). Humans also have a sense of togetherness and like to share their experience (Crook, 2013). Key phrases to the meaning of team are “collaboration” and “common purpose” (Hills, 2001. p. 6). As mentioned before, student team learning is one method of cooperative learning. There are three concepts that are important in this method. They are team rewards, individual accountability and equal opportunities for success. Team Rewards: teams may gain their reward if they reach the goal instead of competing with other teams to get the rewards. Individual accountability: team members need to help each other to learn in order to get team success. Equal opportunities: The improvement of the student is compared with their own performance in the past which can also contribute to the whole team’s success (Slavin, 1995. p. 5). In order to learn efficiently in the team, there are four elements to help team members when they learn together. The elements are feedback, achievement, motivation, and expertise. Feedback: feedback needs to be given to both team member and the whole team as soon as possible. Achievement: team members will feel achievement for themselves and for the whole team. Motivation: learning needs motivation. Expertise: learning efficiently can be done by learning from avoiding same ‘mistakes’ (Hills, 2001. p. 4). Good teamwork can stimulate more cooperative communication (Hills, 2001. p. 10). In order to achieve more interaction inside a team, trust, respect, understanding and spirit are required for better communication in the teams (Hills, 2001. p. 80).

In the team, there are different varieties of ways according to how students and teachers interact. ‘One to one’ interaction includes a teacher with one student, for example tutoring, and one student with another student for example peer study. ‘One to many’ interaction includes a teacher and one class. ‘One in many’ which means cooperative together, for example team work (Baker et al., 2013. p 46). The role of the team leader and the members are different. The team leader needs to show the instructions clearly, sometimes similar to the parent’s care of the kid. The leader also needs to help members who participate inside the team; in addition the leader needs to inspire the team to achieve the team goal. On the other hand the regular team members are required to be aware of their own contributions to the whole team (Hills, 2001. p. 125). The motivation to work together with others needs to be encouraged in cooperative learning and team work. The feeling of being happy about others’ achievement in one team is not something that comes natural to everyone. It needs team building and culture understanding (Hills, 2001. p. 3). People can learn from each other in a team and build their sense of social value (Beames & Atencio, 2008).

4.4 The benefits of cooperative learning

Most of the research on cooperative learning show very positive results (Wichadee & Orawiwatnakul, 2012). One of the benefits is cooperative learning have positive effects on student's social relationship (Wichadee & Orawiwatnakul, 2012). Students gain social skills through joining in group activities in the cooperative learning method e.g. student learn to listen, see, respect and think of others (Lavasani, et.al, 2011). They enjoy to learn from others (Gagnon & Roberge, 2011). Group work can be helpful for individual, families, and community's development (Gutman & Golan, 2012).

Better achievement is also another benefit of cooperative learning through cooperative learning (Wichadee & Orawiwatnakul, 2012). The cooperative learning lessons usually spend more time in activities and less time in teacher's instructing. A study by Myllymaki shows that students have stronger motivation to learn in a cooperative environment and also tends to memorize what they learn with a positive feeling (Myllymaki, 2012). The same results are presented in another study, where it was shown that during the group work, ideas and viewpoints can be shared so that the student can improve their learning (Gagnon & Roberge, 2011). This shows that students in a cooperative learning environment obtain a better academic performance in their homework and exams than students who mainly study individually (Hsiung, 2012).

4.4.1 Definition

There are different definitions of outdoor education among different countries (Higgins & Nicol, 2002). The concept of outdoor education is related to a variety of purposes, forms and attitudes (Sandell & Öhman, 2012). As the name, outdoor education means learning in outdoor by direct experiences (Gilbertson et al., 2006. p. 5). Another definition of outdoor education was redefined by Priest (1986) is focus on all different relationships, Priest (1986) defined outdoor education as experience with the outdoor environment, individuals learn about their relation with others, natures and inner development (Priest, 1986). According to various foci, outcomes and place make up the concept of outdoor learning. What students learn in outdoor is nature, society, about themselves, skills and group fieldwork. After learning in the outdoor they can gain knowledge, attitudes, values, skills, group interactions, personal coping strategies and personal development (Rickinson et al., 2004). The European Institute for Outdoor Adventure Education and Experiential Learning define outdoor education as a combination of outdoor activities, environmental education, personal and social development (Higgins & Nicol, 2002). Outdoor education is a way of learning by different activities which are organized outdoors. Personal development is important in outdoor learning and evolves by outdoor activities and outdoor education (Neuman, 2004).

Some of the definitions are different from former definitions that were mentioned above. They define the outdoor from ecological perspective focus. For example, outdoor education has three parts: ecological relationship, physical skills and 'interpersonal growth or educational skills' (Gilbertson et al., 2006). Ecological relationships, developing physical skills and interpersonal relationships are usually stressed in outdoor education. It is important for students to learn some basic nature concepts so that they have a better understanding of the nature (Gilbertson et al., 2006).

It is also a subject in the field of education in the nature and landscape (Szczepanski, 2002). Outdoor education to some extent is similar to experiential learning. There are many models of outdoor education, e.g. the environmental concerned model and the landscape model. One of the models is trying to balance the outdoor education with environmental concerns (Sandell & Öhman, 2012). A good outdoor leader takes the opportunity to guide students experience within the environment (Higgins & Nicol, 2002).

4.4.2 Benefits of outdoor education

4.4.2.1 The need for outdoor education

Today students physical contact with nature is decreasing, and for the new generation nature is more abstract and unreal, thus far away from them (Louv, 2008. p. 2). Some youth are afraid of the forest because there are dangerous animals in the forest in their homelands". (Klartext SR, 2013). Some parents or adults are not aware of the value of nature to the students, some families live in the city and do not have a garden, causing children to get less opportunities to be close to the nature. Living in modern time it is difficult to find opportunities for physical experience in nature which is an important element of children's health and happiness (White, 2008. p. 33 and p. 67). With the modern life we also experience a lot of environment problems. It is important for the society to develop a sustainable environment (Sandell & Öhman, 2012).

4.4.2.2 Benefits from the outdoor learning environment

Outdoor education supplies a natural environment (White, 2008. p. 2). Compared with home, the outdoor environment is more open wildly and beautiful (Beames & Atencio, 2008). Compared with traditional classroom teaching, outdoor education offers an unique opportunity for students to learn in the nature environment, which is also important and can be a complementary course in school (Mygind, 2007). The students can have physical contacts with the landscape and better understand themselves (Stewart, 2008). Outdoor learning provides natural material e.g. water, plants, shells, sand and soil (White, 2008. p. 59). For example, water can be used from rivers, ice, lakes and seas which are all part of the natural landscape (Orr, 2004. p. 54). By providing natural material students, especially younger children, can contact with the nature directly and play with natural materials in many different ways which is a value to their own development in many subjects (White, 2008. p. 21).

In this outdoor environment, students also feel more freedom and leisure. Many fun activities can be done in the outdoor for example, hunting, fishing, hiking, canoeing and picking mushrooms or berries in the open field (Sandell & Öhman, 2012). There is a real living world in the outdoors such as plants and animals, younger children show a strong interested in the living world. Growing a plant offers a huge opportunity for learning in many different subjects. Children enjoy smelling the flowers and learning the texture of the plants. Students can learn the behavior of wild animals e.g. butterflies, insects and birds by simply watching them (White, 2008. p. 33-39). Activities in the outdoor education make students learn and get an understanding about the world we live in, they

also get additional contact with nature closely. Environmental conditions such as air, soil and water are areas in the 'global village' (Higgins & Nicol, 2002).

The relationship between humans and landscape is also called landscaping (Szczepanski, 2002). Outdoor education builds a more close relation between students and nature resources (Gilbertson et al., 2006). It was not until the turn of the 20th century that nature protection became an important term. Today, there is a relation between outdoor education and environmental concern, and with students participating in more outdoor activities, they will have their own experiences of nature and develop their willingness to care for and in the end defend nature (Sandell & Öhman, 2012). Outdoor education has already been shown from studies to have a positive effect on peoples' behavior and attitude towards the environment (Szczepanski, 2002). Outdoor leaders can use the environment as a source to illustrate and discuss their subject, or make students experience the relation between people and nature (Sandell & Öhman, 2012). Students can get a better idea of the environment when their knowledge and feelings are connected to the environment connected with the environment (Stewart, 2008).

4.4.2.3 Benefits from learning in the outdoor

Outdoor education can be treated as a term of anti-ill (Sandell & Öhman, 2012). Students spend a lot of hours inside the school, only physical education class offers a bit of relaxing with physical activities (Mygind, 2007). Offering both physical activities and mind training, outdoor education gives students a good chance to exercise (Mygind, 2007). Outdoor education can keep students in a good physical health (White, 2008. p 3). In the environmental setting, students can more easily combine the knowledge and physical skills (Higgins & Nicol, 2002). Our health in the mind and body, both rely on nature (Louv, 2008 p. 3). In nature, children have more freedom because they are in a world far away from adults (Louv, 2008. p. 7). The children are outside, usually a place with a lot of open space which cause children to feel free (Filer, 2008. p 3). For children being outdoor gives them the opportunity to be careless (White, 2008. p. 3).

As mentioned before outdoor education offers a large range of physical practices, e.g. riding, hiking and canoeing (Gilbertson et al., 2006). Physical outdoor activities can include walking along and jumping off walls, climbing and using swings etc. All of these activities have a high value for the students' mental and physical health. Increased mental health is gained from physical movement because it can bring alertness to the child's brain. Pleasure and satisfaction can be obtained through physical activities. Increased physical health is gained because the body's muscles, bones, tendons and nerve connections, that can be developed by physical activities outdoor (White, 2008. p. 69). Many teachers believe that outdoor learning have a close and positive relation with physical exercise. A study by Mygind (2007) also proved that average activity level of students during outdoor learning days is much higher than that of traditional school days.

Interpersonal growth or educational skills mainly means that students also improve their interpersonal growth when they are conducting individual work or group work (Gilbertson et al., 2006). For example when teaching in the forest students works together in groups. They are given tasks to solve together (Mygind, 2007). More social interactions and skills can be improved when they are helping each other in the outdoors (White, 2008. p. 3). As mentioned before Mental health can grow as well in the outdoors (White, 2008. p 3). Being outside has a positive impact on children's mental health and development (Filer, 2008. p. 3). The nature offer students to develop e.g. their creativity, imagination and the ability to solve problems. Creativity and imagination happens when students explore and find new ideas. The ability to solve problems is a life important skill in the modern society. Students can meet a lot of situations within the uncertain environment (White, 2008. p. 89). A study by Wilhelmsson (2012) showed that one of the motivations to choose outdoor learning is because it can improve communication and problem-solving skills in many outdoor activities. It is not only interpersonal but also the people's social network will be improved by outdoor education. It is indicated that individuals may also benefit from outdoor environment in a social perspective if the outdoor leader combines education within the community. Outdoor education would help people to develop their own social capital. For example, outdoor programs that cooperate with the community focused on caring of people, individuals in a group may care for both their classmates and people far away from them. However, sometimes the programs may not reach so much interaction among the participants, e.g. by face to face contact (Beames & Atencio, 2008).

4.4.2.4 Other benefits from outdoor education

Outdoor education is applied in various circumstances, locations and cultures in the whole world (Stewart, 2008). It is well known that all study subjects can benefit from being in the outdoor and there are many cross-subject ideas in the outdoor education (Filer, 2008. p. 4). With outdoor education the student's knowledge in ecology can increase (Sandell & Öhman, 2012). Outdoor education can break the obstacle between different curricular and develop new knowledge, attitudes and skills (Higgins & Nicol, 2002). Also, shown in a study by Wilhelmsson (2012) a higher interaction with the study subject usually happened in the outdoor learning. Outdoor education is based on "interdisciplinary curricula" (Gilbertson et al., 2006). For example, in other subjects, it is important for environmental thinking as well, because we are part of the nature. For example, in the economy subject, studies should combine economy knowledge with society and ecology (Orr, 2004. p. 12) Learning outdoor can bring students to a real-life environment which can help students to experience more and extend their abilities (Pfouts and Schultz, 2003). The education goal is a mastery of the whole person instead of the sum of all the subjects. The subjects are the tool to reach the goal (Orr, 2004. p. 13).

To some extent, learning by doing in the nature is more easily compared with only thinking of the knowledge itself (Louv, 2008. p. 79). And learn by doing (a learning way preferred by activists) is also one of the four ways that a student can learn (Hills, 2001. p. 88). Children are doing the physical movement almost all the time in the outdoor and it is easy and effective for them to learn by doing and moving (White, 2008. p.70). It is also similar with the study result from Wilhelmsson (2012) which showed that most teachers choose outdoor learning because they are hoping to improve students learning by using contact with the nature. Movements help young children to learn deeply and give them fuller meaning and lasting memories (White, 2008. p 69). Young people learn by movement (White, 2008. p. 69). When students are doing things, they gain experience. From the experience the students can learn a lot by asking questions about their own experience (Stewart, 2008).

4.4.3 Reasons of learning together in the outdoor

To summarize, people have the motivation for both being cooperative and being in the nature. Humans are a multi-sensory animal which means that we understand the world through our five senses and combine pieces of information interacting with each other (Higgins & Nicol, 2002). Both youth and adults need to interact with the environment (Higgins & Nicol, 2002). This is different from traditional classroom teaching, which usually also contains some cooperative activities in the classroom (Gillies & Boyle, 2010). Some studies have shown that children have more friends if they spend more time in the outdoors (Louv, 2008. p. 79). Outdoor education offers students nature and large space. Many students are likely to work together to solve problems when they are part of outdoor learning, as indicated in one study by Fägerstam (2012). There are many activities in outdoor education that involve cooperative learning methods (Fägerstam, 2012). The outdoor education can be very beneficial if the teachers interact with the students in a proper way (Humbeston & Stan, 2011). Because it offers a lot of activities which improve leadership training and teamwork and other skills. This effect is obvious; especially it can be seen in the youth and early age education (Szczechanski, 2002). Cooperation and learning to understand other people,

solve problems etcetera are part of outdoor education (Neuman, 2004. p. 20). Nature gives the opportunity for students to be creative by using all their senses (Louv, 2008. p. 7). A rich multi-sensory environment can be offered by outdoor education (Filer, 2008. p. 3). Outdoor space also gives a wide range of choice to work and experience together (White, 2008. p. 73). Humberston and Stan argue that children shows a very positive attitude toward outdoor learning experience also, at the same time children enjoy working together with their friend and learning how to communicate or interact positively with their friends (Humbeston & Stan, 2011).

As for motivation people have an instinct to experience non-human environments and nature, also it is an important part of people's daily life, especially for people in urban areas. People also go outside for different purpose e.g. health or socialize with others (Sandell & Öhman, 2012). A study by Wilhelmsson (2012) shows that teachers choose to use outdoor learning mainly because group work is part of many activities in the outdoor, it can encourage cooperation to reach the social cognition teaching goal. It is a similar situation with the students' motivation, because collaboration can be work can be successful when students have a strong motivation to participate in group work (Mullins, et al., 2013). Outdoor education or outdoor experience can be treated as 'team-building' (Sandell & Öhman, 2012). Younger children have a strong motivation to join in with others when there are physical movements in the activity (White, 2008. p. 67). In outdoor physical activities, students usually tend to share their pleasure and joy with others during physical movement. In addition, when working together they can gain respect and feel themselves socially valuable from their peers. Even more, simply helping each other in physical activities can help students to work with others and even make friends. Especially among boys, physical interactions e.g. rolling down a hill is popular (White, 2008. p. 70). For example in construction activities that require communication skills and cooperation with others to solve the problems (White, 2008. p. 116).

Students can benefit both from outdoor and cooperative learning in certain aspects. It is said that individuals, according to which group they are in, can get various benefits by learning from team members or being in a group. Outdoor education plays a very critical role in people's social values such as trust, care and social network in the outdoor education community. In their literature study Beames and Atencio (2008) find that many outdoor education programmers have already tried to improve the students' social ability and social values by organizing teamwork and solve tasks by working together in a group. Similar to another literature study by Auay (2012), it was shown that outdoor education programme can be applied in an aesthetic way which combines ourselves, others, nature (Quay, 2012). Several studies conducted indicate that students tend to have a good relationship in the outdoor education within a community (Beames & Atencio 2008). The students are building healthy relationships with others, build trust and they get good communication by joining activities. Outdoor education has a lot of team activities that can be offered in the environment (Beames & Atencio, 2008).

5. Results

This section will show the results and relate the results to the research questions. The first research question was: what are students' and teachers' attitude to group work in outdoor education. The second research questions were: 'Why use cooperative learning in outdoor education? Or what is the benefit and limitation of cooperative learning methods in outdoor education?' Combing data from both questionnaire and interviews, I find that the answer to the first research question mainly from the survey data. Results from the interviews with teachers were used to answer the second research question. First the result from the questionnaires are presented, and second the result of the interviews with several teachers is presented.

5.1. Questionnaires

Findings from questionnaire: Most students have a very positive view of group learning in the outdoors.

When describing the way of learning outside, most of the students prefer to learn with someone either with a group or whole class or simply with their teacher. Over 55% of the students prefer learning outside with a group of classmates (Figure 2A), and about 35% choose to learn with teachers or all classmates. On the opposite side only 10% prefer to study alone (see Figure 2A). In more detailed questions for learning outside with their classmates, Figure 2B and figure 2C shows that more than half of the answers are "3". This means that they enjoy it very much and almost 45% of the students experience good learning outside with their classmates and 25% of the students feel it is easy. However, there are a few negative views about the learning outside with classmates. E.g. a few students feel it is difficult and bad to be learning outside with their classmates (Figure 2C). The students mostly choose bad place and long time for the activities as the reason why they have this negative view (Figure 2D).

Findings: Most of students prefer to work with others when they are learning outdoors but most of them prefer to interact with their classmates instead of only with their teacher.

Almost 60 present of students enjoy learning in the outside with a group of classmates, 30 % of students prefer to work with the whole class including their teacher. However, less than 5 % of the students are willing to only work with teachers (see Figure 2A).

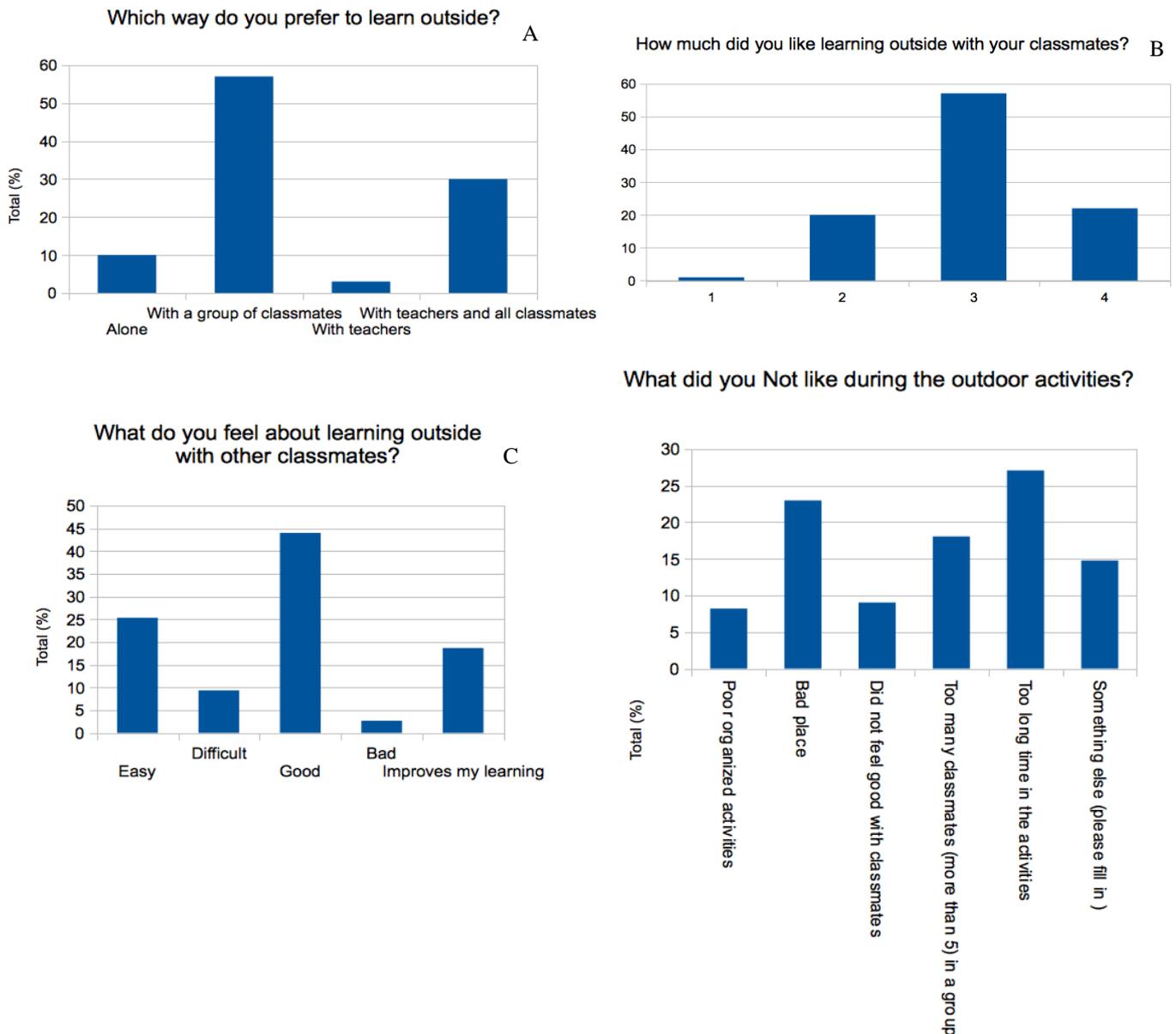


Fig 2 The figure shows the results from students' questionnaire related to the students' attitude to group work in outdoor education.

Findings: student development mainly is cooperative work and physical in group work outdoor learning.

Almost 40% of the students believe that they learn how to cooperative with others through group work in outdoor education, they also think they improve their physical health. Knowledge, competition work and personal development have relatively low percent (see Figure 3A). In addition, the feedback of the efficient of group work, almost half of the student believe they learn very much from others in the outdoor activities (see Figure 3B).

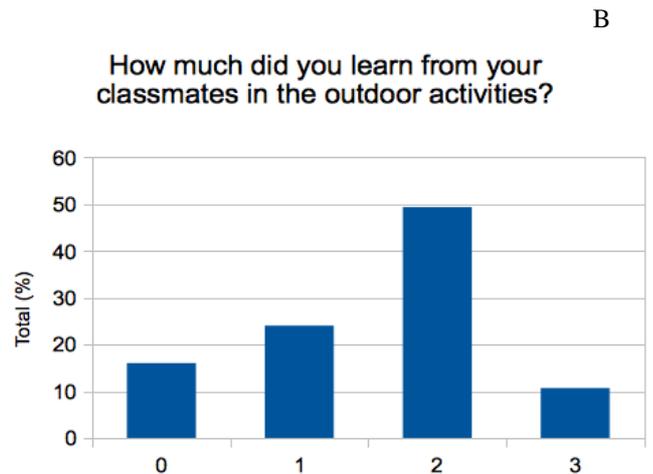
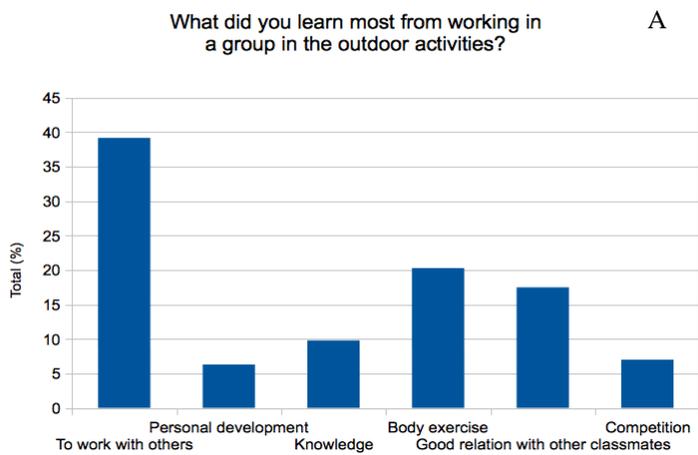


Fig 3 This figure shows the efficiency of group work in outdoor education from the students' perspective.

Findings: Students are efficiently involved in the group work in outdoor learning and outdoor learning can offer students more opportunity to work with others (see figure 4).

As it is shown above, most students trust each other in the group work, and over 30% students believe outdoor education offer them a lot of opportunity to work with others. On the other hand, very few students think they get less involved with others and do not feel trust to their classmates when they are cooperating.

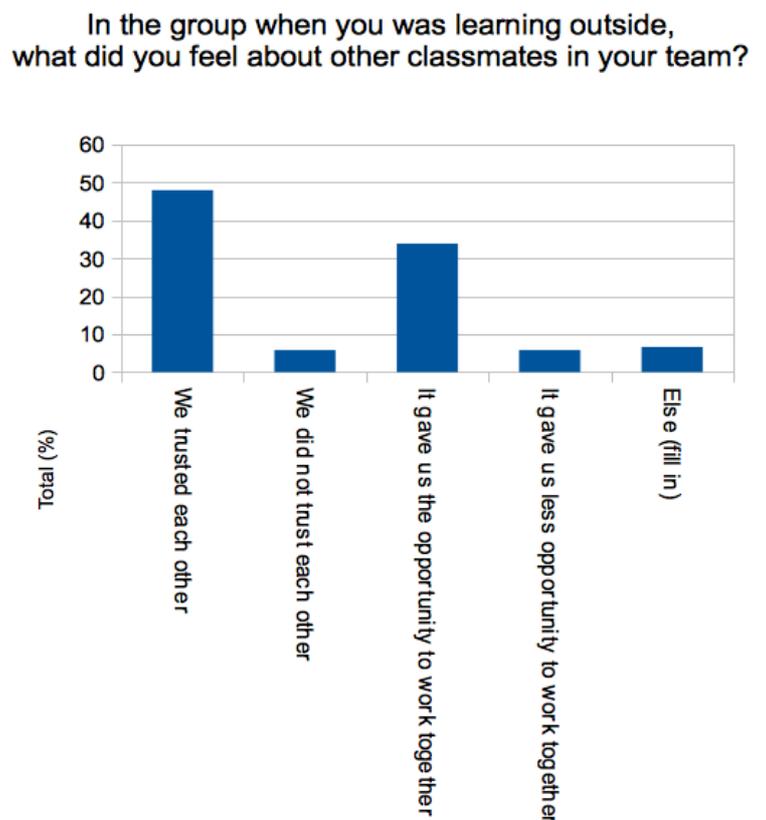


Fig 4 Involvement in group work

5.2. Interviews

By using the thematic analysis method on the data from the interviews, some themes were chosen to better understand the teachers' attitude toward cooperative learning in outdoor education. The theme contains both positive and negative attitudes toward group work in outdoor learning. The positive part includes: senses, communication, cooperation, nature, skills and personal development. The negative part includes: involvement, abstraction and risk. The following part shows the results from the interviews by summarizing all the different themes in both a positive and negative part.

First, "senses": The students take full advantage of their senses when they learn outside in a group. They are walking, talking, seeing, smelling and hearing during outdoor education. The interviewed teachers believed that the students will remember if they are seeing or doing it. Second, "nature": Nature was seen as positive and a new environment for students to learn and experience. Third, "communication": Students have much team work and therefore have an opportunity to communicate with each other. However, sometimes miscommunication happened in groups which cause trouble for the group work. Fifth, "cooperation": All of the teachers believed that outdoor education can offer students more opportunities for group work, and they organize students in different group sizes. For most of the teachers, the outdoor education offers them an opportunity to organize more team work, pair work, or even whole classes as a big group working together.

Sixth, "abstraction": One problem with the group work in outdoor education was that students tend to lose attention. This was mentioned in five interviews of six interviews. Seventh, "involvement": Losing focus has many different reasons, First, the students' personalities, e.g. some students are talkative or some are really shy. Second, being outside give the students a feeling of freedom. Sometimes because of being absent, that may cause trouble for other team members. Eighth, "risk" There are risks in outdoor education; teachers do worry that risks might happen during the outdoor activities, e.g. students are disappearing. Nine: "solution": one popular suggestion is that teachers give instructions inside to avoid distraction.

Table 2 is a summary of the answers from the interviews .This summary was done to find similarities by comparing their answers. Teachers' names are anonymous below, the time column shows the total number of times certain words with the same meaning were mentioned. E.g. sense, look, or talk, communicate, during the answering of the interview.

Table 2 Segments of cooperative learning in outdoor education showing the attitude during the interviews with teachers.

Theme	Sample of teachers narratives
Senses	<p>“Describe landscape..... teach them how to see them, what they look like.” (Ms. M)</p> <p>“We usually walk and look around and talk about what we see. E.g. We discuss the different trees.” (Ms. P)</p>
Communication	<p>“It is easier to discuss outside. The classroom isn’t really inviting people together to conversation.” (Ms B)</p>
Social	<p>“(They can improve) A little bit social, the orienteering is social sport.” (Mr. G)</p> <p>“They learn more social things, the language should be oral things.” (Ms. P)</p>
Skills	<p>“(Practicing asking for the way in Chinese during outdoor activities) student improves the ability and skills of asking way using Chinese.” (Mr. C).</p>
Nature	<p>“It is a different environment, all the classes are similar and the schools are similar. As long as they go outside, they go wild; they enjoy it and like it.” (Mr. G)</p> <p>“It is more space; you can do more things outside.” (Mr. G)</p> <p>“If teaching topic connected with nature, I think it will work well.” (Ms. P)</p> <p>“I also think they learn to respect the nature.” (Mr. G)</p>
Personal development	<p>“We have much problem solving.” (Mr. G)</p> <p>“They are learning more independently. e.g. they make so many of their own decisions , solve a lot problems also on their own “ (Ms. S)</p>
Cooperative	<p>“On purpose, I use a lot of peer teaching, they are teaching each other. Because it is much fun for them, and somehow they learn better if they learn from another student.” (Ms. P)</p> <p>“It is easier to do (cooperative learning) outside and get them involved because they can move around.” (Ms. B)</p> <p>“The engagement between students is a little bit more when it is done outside...they engage more with others compared with studying inside.” (Ms. S)</p> <p>“I usually divided them into different groups, and let them look after each other.” (Ms. B)</p>

Abstract	<p>“Some students just run somewhere they cannot be seen, not doing their work.” (Mr. G)</p> <p>“The student see it (outdoor) as a free place, they do not have the convention as we taught in school, when they go outside they do not know the rules necessarily.” (Ms. S)</p> <p>“I am a little bit worried if I take them out, we try to do something. But there may be too many distractions and they do not work properly.”(Ms. P)</p> <p>“The disadvantage is that they may feel too free...you (the teacher) would not want them just to disappear.” (Ms. M)</p>
Involvement	<p>“If the group is larger, what is happening is usually that one student takes control and the other students just follow.” (Ms. S)</p> <p>“If it is a group work, sometimes if student did not do the job.it is difficult for the others.” (Ms. P)</p> <p>“Always some students do not want go outside or do not want to work with others which cause trouble for the rest of the group.” (Ms. P)</p> <p>“Some students are really shy or not willing to talk or work with others, or some of them are too talkative, either way cannot promote cooperative learning.” (Mr. C)</p>
Risk	<p>“One student got lost...we had a lot of practice before, but he just did a mistake. Later we review what he did wrong using the map, and make him understand ” (Mr. G)</p> <p>“In group three, one person feel the others did not listen to him, then he just walked away, he just spent the time, maybe just in the schoolyard, and am not immediately there...in a way it is maybe more dangerous than inside” (Ms. S).</p>
Solution	<p>“Giving instruction is more difficult (in the outside).” (Ms. S)</p> <p>“We try to teach them most of the staff before we go to outside. Because the outside, you will not all the time keep an eye on all the students...or do the course more intensive.” (Ms. G)</p>

In summary, findings from both the interviews and questionnaires are that both students and teachers have a very positive attitude towards group work in outdoor education. The benefits of outdoor learning with group work can be summarized into interaction with other classmates socially and interaction with the nature and in personal development.

On the other side, the problems of the group work in outdoor learning are different from different perspectives, Teachers are mainly concerned if students are concentrating during the lecture or not, and worry about the risks that may happen. Students mostly complain about the location of the outdoor activities, or the time e.g. doing activities too long.

6. Discussion

As mentioned in the introduction, the research questions were: what is the benefit and limitation of cooperative learning methods in the outdoor education, and what are the students' and teachers' attitude toward group work in outdoor education. The discussion section will begin with discussing the major findings of the research questions.

6.1 Benefits of cooperative learning in outdoor education

6.1.1 Improvement of interpersonal skills

The questionnaire results show that students feel that they mostly learn how to work with others in the outdoor education, at the same time in the interview results teachers believe outdoor education involves group work in which students can better communicate and cooperate with each other. All the teachers interviewed believe that outdoor education can offer more opportunities for cooperation. However, compared with working with the teacher alone, most of the students prefer to work with others when they are learning outdoor and most of them prefer interaction with their classmates instead of only with their teacher. That result is not unexpected; many other studies also have shown similar results. Fägerstam (2012) found that teachers believe that outdoor learning has its benefits of large space and an environmental relaxed atmosphere. Therefore students gain a positive effect from interaction and cooperation with others (Fägerstam, 2012). Another similar results also states that outdoor space is usually recognized as an area that is a good fit for cooperatively work (Crook & Mitchell, 2012). I agree that the outdoor area is a good place for student interaction and at the same time a lot of outdoor activities involve working with others. Therefore, during the outdoor learning in a group, students probably improve or train better to work with others.

Second, outdoor learning can improve the social ability among students by more communication. And most of the students show that they enjoy learning outside with others and also they trust others in group work. Humberston and Stan (2011) states that some students think cooperative work outside offers them a very good opportunity to know or understand their friends or improve relationship with their friends (Humberston & Stan, 2011). Some studies have shown that students tend to have more friends when they spend more time in the outdoor activities (Louv, 2008. p. 79). The teachers and students' relation can be improved at the same time too, and outdoor education can prove students' group work ability in their school work especially for "shy students" (Fägerstam, 2012). Social skills like teamwork and leadership can be improved through outdoor education by offering many different activities (Szczepanski, 2002). Also, outdoor experience can be treated as a team building experience sometimes (Sandell & Öhman, 2012). This can be because a sub-result of outdoor learning offer students more opportunity of cooperative work. Because cooperative work is like group work, team work has been shown in many studies to have a positive effect on the students (Wichadee & Orawiwatnakul, 2012). Students taught in cooperative ways have better social skills and enjoy social behaviors compared with students taught by traditional teacher-center teaching (Lavasani et al, 2011). In one Finish school teachers used outdoor learning mostly in the pupils' all-round personal development (Bentsen & Jensen, 2012).

6.1.2 Improvement of personal physical development

Teachers believe that outdoor education with cooperative learning also has a positive effect in students' personal development. Personal development here mainly means physical experiences using sensing and also whole body exercise.

First, one reason for this might be peoples' instinct and motivation, people as a special animal also have an instinct to experience nature and environment (Sandell & Öhman, 2012). Another reason could be because nature is a perfect area for people to deeply interact with their senses which contains sight, hearing, touch, smell and taste. Of course cooperation might also contribute to use of the senses for example: between students, they may also listen to others and body touch. A very rich multi-sensory experience is offered by outdoor environment area (Filer, 2008. p. 3). It is outdoor learning also includes not only group work but also individual work. Students can be independent and make their own decisions in the outdoor learning.

Physical exercise is another benefit students feel that they mainly can improve in the outdoor education. Maybe this is because students usually do outdoor learning mainly in PE lessons and in PE lessons the teachers usually do many sports. Students spend a lot of time inside the school walls, and only the PE lesson allow students to have some relaxing time with physical movements (Mygind, 2007). In one study in a Danish school physical education was ranked 6 among many other subjects or school activities in using outdoor teaching (Bentsen & Jensen, 2012). Also, in Sweden, experience outdoor and environment is one of the teaching goals in physical education (Skolverket, 2011). As mentioned before in the literature review part, physical exercise is one of the major benefits of outdoor education. Many teachers think that the relation between physical exercise and outdoor teaching is positively and closely related (Mygind, 2007). Therefore, It seems that from the student's perspective one of benefits with outdoor learning is physical exercise.

6.1.3 Limitation of cooperative learning in outdoor education

Nature gives positive effects on students and it seems like a new place for students to learn, Also nature has its own character such as being large, uncertain and so on. It also leads to some limitations for outdoor learning.

One common problem many teachers mentioned is that the students are not focused. In different to indoor studies, the outdoor place is a new and free environment. Students tend to be less disciplined. On the other hand, for the teacher, they feel it is difficult to supervise all the students. At the same time, students might have a long distance between each other and there might be bad weather e.g. windy or raining. Similarly, in another study it was mentioned that the environment was more likely disturbing and related mostly to tensions (Crook & Mitchell, 2012). A disciplinary problem is one of the barriers of outdoor education (Fägerstam, 2012). It may be because the outdoor place is a new study environment so students are not used to those learning methods at the beginning. It probably can be solved by increasing learning outside and later on they can adapt to the new environment.

Students may participate less in the group in outdoor learning. Or students may be absent, and cannot participate in the group work at all, which makes the group function less well. It might be because students lose focus as mentioned before, but it might also be mostly due to the teachers' personal ability and experience of using cooperative learning as a way to teach. Cooperative learning has many effective methods that can improve the students' participation. E.g. in team work, team reward, individual accountability and equal opportunities are elements to successful organized group work (Slavin, 1995. p. 5).

Risk is also a popular problem mentioned by teachers. It might mainly be because the new environment involves secondary problems mentioned by the interviewed teachers. It can only be solved by being well prepared in the teaching plan. Also, many teachers mentioned that in order to decrease the risk, they do the instruction inside and then take the students outside. The teacher may also try to make the lesson more intensive in the outside. I personally think those methods might be a good way to prevent risk.

6.2 Teachers and students attitude toward cooperative learning in outdoor education

Both teachers and students have a very positive view toward cooperative learning in outdoor education. Students enjoy doing group work and feel that they learn a lot from other classmates. Also, found in a study by Fägerstam (2012) the students felt comfortable when they were learning outside and at the same time they appreciated the opportunity to interact with each other (Fägerstam, 2012). I think this can be because both outdoor learning and cooperative learning. Students naturally love being outside and also to be with others. There is an inner instinct for students to experience nature and environments (Sandell & Öhman, 2012). Most people like to share their experience and enjoy being together with others (Crook, 2013).

6.3 Meaning of findings

In the literature review part, the benefits of outdoor education and the benefits of outdoor education and group work explicitly shows the importance of outdoor education and group work. Hopefully it can be a brief introduction for teachers who are not familiar with outdoor education, and that they begin to use it.

Many different teaching methods are used in different ways in teaching depending on different teaching goals. This study mainly focused on combining group work in outdoor education. It can be seen as a good combination, when teachers need to reach the goals both for environmental awareness and for social issues.

In summary the research has presented the teachers' and students' attitude toward group works in outdoor learning. Also at the same time what the benefits are and problems of group work in outdoor education. Since outdoor education is usually used as a teaching method and combined with other teaching methods, it can be seen as a feedback from the teachers and students. By discovering the teachers and students opinion, it hopefully can give feedback to other teachers. Then eventually more teachers will use it efficiently.

6.4 Limitations of this study

The interview and questionnaires in this study were mainly conducted in one school in Uppsala, so the collected data cannot represent the whole outdoor education in Sweden. Second, the data was collected during different times of the school day; some of the data was taken from physical education class, some from textile lectures, so the students' answers can be affected by these background factors.

6.5 Potential for future research

This study mainly introduced the detail of benefits and limitations of group work in outdoor education and teachers' and students' attitude to teaching or learning in the outdoors. The further research can be more focused on the next step when the teachers use cooperative learning in the outdoor. This study can work as a vehicle for how cooperative learning in the outdoors can be used more efficiently to reach the goals for both cooperative skills and environmental awareness.

7. Conclusions

One of the significant findings to emerge from this study is that outdoor education can offer a lot of cooperative learning e.g. group work which leads to improved interpersonal development of students. At the same time, this study also argues that teachers and students have a very positive attitude towards group work in outdoor learning. The benefits of outdoor learning in group work are mainly personal and inter personal development. The personal development includes using senses and getting physical exercise. Inter personal development mainly includes social abilities e.g. communication and interaction with others.

The study tries to enhance the understanding of group work in outdoor education. Also, it can be seen as a feedback for teachers and students. So in the future teaching, teachers can use group work more in outdoor education according to their teaching goals. However, the data collection was mainly conducted in one school so the result cannot be generalized to the whole outdoor education field. I suggest that a study similar to this one should be carried out in more schools. And also give more suggestions in doing group work in outdoor education efficiently. Hopefully, more teachers begin to realize the importance of group work in outdoor learning and use it more efficiently to meet the teaching goals.

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Appendix 1

Outdoor study semi-structured interview

1. Have you ever taught in the outdoor? How often?
2. How do you teach or organize students in the outdoor teaching? For example?
3. Do you think outdoor education can offer students a lot of opportunities to cooperate?
4. How big are the groups?
5. What can the students learn the most in outdoor learning?
6. What do you think of the benefits and problems in the outdoor cooperative learning?
7. What is the effect of using outdoor cooperative learning?

Appendix 2

Outdoor study questionnaire

Basic Information

Age: Gender: Boy Girl

1 How much did you like learning outside with your classmates? From 0 to 3. 0 is did not like . 3 is liked very much.

A. 0 B. 1 C. 2 D. 3

2. Which way do you prefer to learn outside?

- A. Alone
- B. With a group of classmates
- C. With teachers
- D. With teachers and all classmates

3. When you are learning in a group in the outside, how many people in the group do you think is best suited for you?

A. 2 students B. 4 students C. more than 5 students D. more than 10 students

4. What do you feel about learning outside with other classmates? (Multiple choices)

A. Easy B. Difficult C. Good D. Bad E. Improves my learning

5. What do you feel about the environment when you are learning outside?

- A. Dirty with much trash, many people and cars
- B. It is a big place with many different nature materials
- C. Bad weather
- D. Good weather

6. What did you learn most from working in a group in the outdoor activities? (Multiple choices)
- A. To work with others
 - B. Personal development
 - C. Knowledge
 - D. Body exercise
 - E. Good relation with other classmates
 - F. Competition
7. How much did you learn from your classmates in the outdoor activities? From 0 to 3, 0 is nothing and 3 is a lot.
- A. 0 B. 1 C. 2 D. 3
8. What did you Not like during the outdoor activities? (Multiple choice)
- A. Poor organized activities
 - B. Bad place
 - C. Did not feel good with classmates
 - D. Too many classmates (more than 5) in a group
 - E. Too long time in the activities
 - E. Something else (please fill in) _____
9. When you learning in a group outside what do you feel?
- A. I have a lot of things to work with the others
 - B. I have few things to work with the others
 - C. I have nothing to work with the others
10. In the group when you were learning outside, what did you feel about other classmates in your team? (Multiple choice)
- A. We trusted each other
 - B. We did not trust each other
 - C. It gave us more opportunity to work together
 - D. It gave us less opportunity to work together
 - E. Else _____
11. What do you feel working in a group when learning in the outside?
- A. Feel good B. Feel badly
12. What are your suggestions to improve learning together in outside activities?