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Original Article

In the nature playground – initiation and evaluation of the project at 9 kindergartens

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Abstract
*Statement:*Theproject 'Naturleikeplassen' (In the Nature Playground)was initiated so that more children and nine kindergartens couldinitiate, build and use their own playground in the nature. The outdoorarea that each kindergarten chose in the project was termeda 'nature playground'. *Purpose and Approach*: The main idea of the nature playground is that it creates active and joyful pedagogy which serves as a springboard to the wild. Through work and play in a permanent playground in nature, the main aim is that children,staffand parents will feel safe and confidentin the naturalsurroundings. Children and adults should learn to interact with nature on nature's premise, and by mastering and understanding nature,such interaction could create individuals who recognise the intrinsic value of nature.The nineparticipating kindergartens were offered six one-dayguidance courses.One of the criteria for joining the project was that the kindergarten should build their own Nature Playgroundfor children aged 2-6 years and use it for a minimum of two days a week for an entire year. The courses covered topics such as starting and preparing a nature playground, building cabins and swings, cooking on an open fire, climbing in woods and on boulders, making travel gear and small toys, and work with songs and nursery rhymes. The course was set up according to the experiential learning method. This means that the participants themselves must control part of their own development, workload and work effort during the course.*Results:*All the kindergartens initiated and built their own Nature Playground, and the children participatedfrom2-4 days a week.We found that children used the NaturePlaygroundin line with the agreement. The staff found that the various courses led to them taking the children outdoorsmore often. Parents found their child being more able to cope with motor skill affordances, and a large share of the children took their family to the Nature Playground at the weekend. Thepedagogy and method (experiential learning) were problematic for some participants. The project was evaluated by the project participants in writing, through five open-ended questions. The supervisors also evaluated the project in an unstructured interview.The staff and the children spent much more time in the nature. The overall evaluation of the project showed that both the children and the staffhave become more self-confident and gained knowledge and an understanding of and from nature. The ecosophical pedagogy was an important part of their understanding of ecology and nature and of their lives. *Conclusion:*The evaluation of the project showed that both the children and the employees have become more self-confident and have gained knowledge and an understanding of nature as an important part of their everyday life, leading to the staff spending more time outdoors. This projectis an important part of our university's education programme for kindergarten teachers. The relevant courses are also offered and held in various schools and in other kindergartens.
Keywords: Outdoor activity, pre-school children, motivation, play, motor skills, ecosophy, challenge

Introduction

Nature has something to offer us humans that is not easy to define, and this undefined factor must be discovered by dealing with nature according to the individual's own rhythm(Faarlund, 2015). Meanwhile, the ideabase on which this project is builtcan be found within ecosophical thinking(Naess, Drengson, & Devall, 2008). Children and adults should learn to interact with nature on nature's own premise(Groom, 2019), and by mastering and understanding nature, the project could create a sanctuary and prevent children from being estranged from nature(Eigenschenk et al., 2019).'In the Nature Playground' (*Naturleikeplassen*) was a collaborative project between the Environmental Protection Department inSognog Fjordane local authority and Sognog Fjordane University College, Department of Teacher Education and Sports.

The project was initiated so that more children could get to know nature, also as a playground. The outdoor playground that eachparticipating kindergarten initiated and built was their Nature Playground. The main idea of In the Nature Playground was that it should be a springboard to the free nature, the wild. By working on a permanent playground in nature, children and adults could become more experienced in interacting with nature and gain self-confidence(J M Loftesnes, 1998).

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A supervisor and two co-supervisors led the project and followed the kindergarten closely. Six one-day courses were developed, preparedand advertised for kindergartens. Each kindergarten created its own nature playground. All kindergartens had to spenda minimum of six hours a week out in the nature/nature playground.

Aim of the project

Devise, implement and evaluate a course design for kindergarten and school staff to initiate and find a suitable areafor a Nature Playground.

Devise, implement and evaluate a course design for kindergarten staff to initiate, create and use a nature playground as a tool for making children more self-confident in free nature.

Sub-goals

Create relevant day courses in outdoor life.

- Entire staff group participate in at least two of the sixone-courses
- Create increased joy and confidence through play and activity in nature

Provide opportunities for children's development, knowledge and psychosocial and motor skills in nature

- Find the best nearby location for a Nature Playground

Increase skills, knowledge and attitudes in relation to being in nature for children and staff in kindergartens

The various one-day courses led to the staff taking the children out to the nature playground more often. The sixone-daycourses cover topics such as planning and preparing a nature playground, building huts and swings, cooking on an open fire, climbing in woods and on boulders, and making travel gear and small toys, and one courseprovides knowledge on working with song, rhyme and rhythm. The courseswere set up according to the experiential learning method. The basic premise for choosing this method was that only through trial and error will the participants get the best possible experience from the learning situations (experiential learning). The project participants will evaluate the project in writing, inan openquestionnaire.

The project: In the Nature Playground – the six different one-day courses

Table 1: The six one-day courses. Courses 1 and 2 were compulsory, while the kindergartens could select two of the courses from 3-6.

1. In the Nature Playground **Content:** Planning and design of the Nature Playground, camp/gathering place -theory and motor development 6 hours	**2. Terrane activity** **Content:** Campfire, dry wood, food on open fire, terrane games and playing activities. 6 hours	**3. Building activity** **Content:** Building huts, lean-tos, camp building, latrine and nature play equipment. 6 hours

Theory - The nature at hand, why be in nature

Basic prerequisites

The project was based on the premise that the use of and activity innature will be beneficial for all(Bjørgen, 2016; I. Fjørtoft, 2000; Haga, 2009; Husk, Lovell, Cooper, Stahl-Timmins, & Garside, 2016; J M Loftesnes, 1998). In this section, an attempt will be made to give an answer as to why it is so important that young children engage in activity in nature. This section will therefore begin with an analysis of the environment and the principles that affect the individual(Bjørgen, 2016). Most children in Norway have access to localnature areas where they live which they can use for outdoor activity, and 88% have good or very good opportunities for playing in nature nearby (Gundersen, Skår, O'Brien, Wold, & Follo, 2016). Nevertheless, a marked decline has been seen in Norwegian children's interest in traditional Norwegianoutdoor activities and spending time in nature(Mjaavatn, 2016).

A theoretical framework

The situation in which an activity takes place is of major significance tothe kind of stimulation the various participants will receive as theydevelop in different areas(Bjørgen, 2015; Christiana, Battista, James, & Bergman, 2017; I Fjørtoft & Sageie, 2000; Sando, 2019), and this applies to children and staff of both genders(Nugent, MacQuarrie, & Beames, 2019). In this project, we look at physical, mental and social affordances that are stimulated through activity in the nature playground(Gibson, 1986). In this context, the 'situation' will be the physical framework in which an activity takes place. The qualities of the terrain, vegetation and climate will differ in the nature playground,and these factors will affect children's development(Newell, 1986).

Free nature does something to a child/human being that is difficult to measure butthat is neverthelessobservable and felt. The qualities that should be soughtin order to find a suitable area in the nature can be operationalised into different nature qualities (Vikene & Loftesnes, 2006).

Situation variables

To make a Nature Playground, several aspects of the environment must be suitable for both active play and learning. The different variables that make up the situation/premises, in this case the nature playground, will be seen in terms of qualitative values.The qualitative values are based on the experiences that they can represent(Newell, 1986).

The terrain

In a nature playground, there can/should be a multitude of challenges for a child in terms of the terrain(Sando, 2019).

Quantitative values of the terrain

The shape of the area and its affordances bring differing demands depending on whether it is flat, steep or hilly, and this will determine the degree of stimulation an area offers.Soil- is the area dry, moist, hard, wet, rocky and so forth. Are there large rocks, stumps or groves? Are there streams orbrooks in the area? Based on these potentially observable characteristics of an area, it is possible to consider what kind of activities children can engage in and the level ofmotor skillimpact the area will have(Mårtensson et al., 2009).

From a scientific perspective, it will be possible for children and adults in the kindergarten/school to find out more about the terrain. The children can help to find out why water flows in particular places and why it is dry in certain areas. The children can take part in studies of the types of stones that are found. It is possible to find out a little more about why the terrain has evolved in a certain way(J M Loftesnes, 1998).

The children will also be able to be active in this terrain. The children will immediately want to explore the terrain in the area in terms of what kind of activities they can engage in. A small rock wall will soon become a climbing wall, which is great training for coordination and movement on an almost vertical plane.

Qualitative values of the terrain

Experiencing a varied terrain will strengthen the child's feelings in relation to the area. An area that can offer various challenges will give the child good feelings of mastery. It can help increase embodied learning and give the childrena better self-image and self-confidence. A varied terrain will create a dynamic interaction between the area and the child(I Fjørtoft & Sageie, 2000).

Vegetation

The vegetation in the nature playground can be the subject of both analysis and surprise.

Qualitative values of the vegetation

The various kindergartens in the project looked at the different vegetationin the nature playground. By doing so, the children were able to learn about different types of trees, grass, wildflowers and such like(Sando, 2019).

Quantitative values of the vegetation

Throughout the year, the vegetation will change. This is something that needs to be explored. A beautiful flower, a tree that stands in the sun, a birch that has sprouted its first mouse-ear leaves, will all help to give the children good experiences and a framework around play and activity that is not found in other contexts(Mårtensson et al., 2009).

Individual variables

The individual variables are based on the child's characteristics and theconstraints in the situation where the play takes place. In this part, the starting point will be a beneficial factor to the child's physical, mental and social factors(Vikene & Loftesnes, 2006).

Physiology

Because the children are physically active, theirheart will beat faster and this will increase the amount of blood pumped to different parts of the body. A child's body is constantly evolving and needs a lot of energy. The circulatory system carries nutrients and oxygen to the muscles and skeleton, enabling them to be in motion and grow. When using the body in varied environments, the skeleton and muscles will be used in different ways from how it is used in other more typical environments. This leads to children gaining strength on their own and creates a broader platform for facingmore complex tasks later. The activity affects all systems in the body and is therefore in interaction with all the systems in a child's body(J.M. Loftesnes, Sanderud, & Vikene, 2016).

Psychological impact

It is important that we get the children involved in activities that they themselves find interesting. The challenges in the environment must be such that the child, regardless of their skill and developmental level, finds challenges that are suitable for them. In this outdoor pedagogy, one of the aimsis to find an environment or location that can provide the greatest possible degree of mastery, safety and basic psychological needsfor the individual(Deci & Ryan, 2002). Wide-ranging nature qualitiesin themselvesrepresent a potential for activity. Pre-produced playgrounds can never be more than anartificialcopy of the nature. In conjoining withnature, which is a distinct process, the child will experience relatedness as the nature can give individualand differentiated affordances and the child will neverbe required to undertake measurable performances. Nature will therefor give the pedagogical advantage that it is differentiated and individualised. This can best be illustrated through an example. Children have different skill levels, and whenat the nature playground can choose different degrees of difficulty in their activities. One child will be able to climb a large tree whose branches are far apart, while others will climb a small tree, or possibly only a rather small rock at first. An individual can find challenges at their own level. Children's self-image is closely linked to their body image, body knowledge and trust(Lysklett &

Berger, 2017). A child who is confident in their own body and the skills theycan achieve will be in a better position in terms of theirself-perception. With this in mind, the child's self-image and self-esteem will be linked to a positive body image(Abraham, Sommerhalder, & Abel, 2010).

Social impact

In the kindergarten, and more precisely in the nature playground, the children will be able to formrelationships in which they interact as part of play activity. The indoor kindergarten environment can be a barrier tovarious physical interaction, and the socialisation that takes place is in a more static environment.The nature playground will provide a new framework for collaboration for children with little or no outdoor experience .The child is now in an environment and pedagogical setting that is more process oriented. It is an underlying idea that the children will now develop other qualities and aspects of themselves and intervene in activities that give a rather different social hierarchical setting between the children. In many cases, it appears that children are ready to take on other roles when they come to other environments. Therefore, new relationships will be formed in regard to children's socialisation(Abraham et al., 2010).

Method

Subjects, Material

Information was gathered from 18 kindergarten staff members and 12 parentsin a structured survey. The survey was conducted so that the informants could give their opinions on five matters concerning; the children's participation, the staff's participation and reactions, parents' reactions and opinions, the staff's views on the project, the cooperation with local authorities and land owners.

Data collection

The staff and the parents were all given a hand-out with the fiveconcerns we wanted their opinion on. Participants had three days to provide a written response. All the staff and parentsprovided answers to all the questions they were given(Lysklett & Berger, 2017).

Results

Create relevant day courses in outdoor life

All of the staff attended two courses and all of the kindergartens attended two additional courses.

Entire staff group participated in at least two of the six courses

All ofthe staff participated in at least two of the six courses (Table 1). The kindergartens used special planning days when therewere no children at the kindergarten.

This is some of their reactions: The staff's collaboration has worked well, taken care of everyone else, Have found that cooperation between the departments is good and important, must be structured in order to go to the nature playground, Had to change my attitude towards outdoor life,Have worked consciously to avoid negative feedback, Work hard to turn the negative into something positive, Have had great experiences in nature.

Everyday life has become easier, Had some conflicts in the staff group, Did not notice any change in attitudes from some of the staff, Motivating for the staff to take on the same course and topic, More aware of living things in nature, Those with the most experience, the least benefit from the project, Little motivation for the last two courses, came too late in the project period for one of the kindergartens, We have learned a lot!

Provide opportunities for children's development, knowledge and psychosocial and motor skills in nature

- finding the best nearby location for a Nature Playground

The staff found the course helpful and by finding the best area and location for the Nature Playground.'Otherwise, we see that practical work on the nature playground is useful on the courses. The fact that we built a log cabin, seesawand started building a lean-to was useful. The goal of doing so much such work with the children was probably too great. The fact that we had started was useful and helped us get started.'

Another kindergarten stated that: 'Course no. 1 was good and motivated further participation and work with the children.'

In regard tomotor skill challenges, one participating kindergarten stated. 'Nothing has given the children such a varied and great challenge motorically as moving in rough terrain, being able to climb trees and on boulders, and they got a lot of fresh air.'

The next kindergartensummarised the experienceas follows: 'The first course was to find a suitable place for a nature playground. We were very lucky with the place we chose. The field was dry becauseitwas in a grove with good runoff for water. We were able to place the benches that were made before before using the nature playground. The course was well structured, with some theory before we went into the woods.It was very nice that all the staff, and thepedagogical leader, got to join this course. That made it easier for all the staff to get an insight into what we were doing. It also made it easier for the kindergarten leaders to get involved in the project.'

Increase skills, knowledge and attitudes in relation to being in nature for children and staff in kindergartens

Responses from staff about the children:

Masters the body better, Is better at getting around in the terrain, Has become tired in a good way, Feels freer and safer in the woods, The game has developed positively, They try out their body more and more often,

Has become safe, Better interaction with older children/children and staff, Has become more helpful, More at ease within the kindergarten, Got one day more outside than the year before.

Fewer conflicts between the children when we are out, between children and staff and between staff, The two year-olds had to return to the kindergarten to sleep in two of the kindergartens, others let them sleep outdoors, Finds it verynatural to play in the nature playground, Has developed group identity with shared experiences, Has received good training in walking and climbing, Has become safe in the nature playground during the year, Has become more active, creative and happy, Has learned to listen, see and experience, to use their senses, Children withless than a 50% kindergarten place had little time in kindergarten, Gave up taking two-year-olds on group trips.

Responses from the parents:

Better mood, Is easier to go out, More self-reliant and creative, The clothes have become more worn-out, this is ok!, Became positive to the idea, Wants to keep on with the activity in the nature playground, Has outdoor activities also in his spare time, Has become better physically, Ability to communicate about the project has varied, Well enough informed at the start of the project, To habitually go to the same nature playground all year round, More voluntary participation, not so mandatory, The parents have been positive but otherwise shown little interest, The children have used the area in their leisure time.

Discussion

Nature has significant experiences to offer that cannot be replaced by the indoor environment. Kindergartens have been regarded as offering little stimulation in motor skill development in nature, and by the age of 1-5 years, children are already considered to be living a rather well-structured life. At the end of this project, the kindergarten children were more likely to be able to apply the motor stimulation that the Nature Playground entails. The project shows that the activity in the nature playground can help to create an oasis in children's everyday life. Results from the project highlight how the activity in the nature playground should be problem-oriented and process-oriented. This is because pedagogy needs to stimulate 'real play' activity, play activity on the premise of the child (Lillemyr, 2011). 'Real play' in real nature. This means that the child should initiate the play activity, and particularly in nature, where play activity is not always preplanned.

Children live to sense, and are constantly searching for challenges. If a child sees a tree overturned, the child goes over it instead of around it. All the skills that a child accesses in nature will help develop their general motor skills, which will give them stability and balance. When constantly interacting with and reacting to nature, various parts of the child's development will be stimulated.

The child will benefit from such stimulation later in life, not only due to better motor skills but also in advocating for others to be in nature. In this project, we saw that the children took both family and friends to the Nature Playground at weekends and during holidays. After some time, the staff experienced a change in the nature of play activities and challenge levels, whichrequired the use ofmore advanced motor skills. A child's motor skills are individually developed, as maturation-specific development. This means that children must have challenges that are precisely suited to their needs. The Nature Playground will be both individual and differentiated. A child can choose challenges based on their own skills, climb high, jump, balance, swing, or throw. Regardless of the level of achievement by the children, they may face challenges that are individually suitable.

The staff have experienced fewer conflicts between the children, between the children and the staff and among the staff. Nature does something to us (Faarlund, 2015). In one way or another, there are fewer conflicts at the natural site. We cannot explain this from the data we have gathered. Nevertheless, nature is real, and this authenticity gives us a chain of cohesion. In kindergarten, all the children's surroundings are manufactured, and some items are in short supply. There may be an argument about toys, about places etc. At the Nature Playground, almost everything in the children's area is real and natural, there will not be as manymanufactured items in the Nature Playground. The staff experienced that if the children needed a 'car', they would have to imagine it obuild it. Often parents and staff saw that a stick could be everything from a shovel to a sword. If another child also wanted a shovel, it was time to find a new stick. Both parents and staff mentioned that they found the children more creative and self-reliant after the project.

In this project, the kindergarten staff have been working according to the situatedlearningand problem-solving method, which may not have worked equally well in all kindergartens and in all situations, as clearly reflected inthe following reactions from staff members:'The project was new and we were therefore a little unsure of the participants' needs.''We have learned how person-dependent kindergartens are in regard to staff capabilitiesfor mastery and their ability to understand the project and methods used.'These reactions might be due to too littleclarification from a project supervisor and a shortageof knowledge about the method. This was emphasised during the introduction stage and the motivation programme in the mandatory first one-day course. However, it seems that too little attention has been given to the participants in this field.When working with new ideas and ways of organising new routines in kindergartensit is important that supervisors and staff understand the importance of asking questions instead of 'handing out the answers'.When the child is given the right to research a problem, there will be a greater learning effect for the child. This may have been an unfamiliar way of working, requiring increased time and effort that may be perceived as a detour. Several of the staff would have

preferred to have a readymadeNature Playgroundinstead of having to build one. But such solutions would have conflicted with the core principles and ideasof the project.Despite some problems, all the kindergartens found the project useful and that the children's psychosocial and motor skill development exceededwhat they had experienced in previous years.

Conclusion

The most profound finding in this project was that both the children and the employees have become more self-confident about being in nature. The children showed pride in and took ownership of the nature playground. We alsofound that children gained knowledgeabout and a better understanding of nature.Our research found that the staffsubjectivelyfound there to be less aggravation and conflictsin the nature playground between staff-staff, staff-children and children-children.Nature became an important part of the participants everyday life and led to them spending more time outdoors. This research is consistent with much of the research referred to in this article. This project has become an important part of our university's education programme for kindergarten teachers. The one-day courses referred to are also offered and held in different schools and in kindergartens.

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