Eğitim Bilim ve Araştırma Dergisi

Effects of Forests School Practices on Preschool Children[1]

Orman Okulu Uygulamalarının Okul Öncesi Dönem Çocukları Üzerindeki Etkilerinin Değerlendirilmesi

Tuğçe KANAT[2], Serdar ARCAGÖK[3]

[2]Ministry of Education, Pre-School Teacher, Çanakkale/Turkey
kanatugce20@gmail.com, ORCID: 0000-0002-2172-3828

[3]Çanakkale Onsekiz Mart University Faculty of Education, Çanakkale/Turkey
serdar_arcagok21@comu.edu.tr, ORCID: 0000-0002-4937-3268

ABSTRACT

The aim of this study is to evaluate the effects of forest school practices, one of the alternative learning approaches in preschool education, on preschool children. Today, alternative education approaches that are learner-centered and skill-based, stimulate children's natural curiosity, emphasize first-hand experiences, deal with how the child learns rather than what he/she learns, and considers creativity, prediction and analysis skills. Accordingly, it is of great importance to determine and evaluate the benefits of these educational approaches to education. In the study was used phenomenology design, one of the qualitative research methods. The sample of this study consists of five children, five families and five teachers working in the institution. As data collection tools for the study were used semi-structured interview forms for families and teachers and "Forest Impressions" observation form for children. The analysis of the interview questions in the research were transformed into codes and themes separately by two data coders.

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In addition, the codes and themes transformed by different data encoders were compared by two data encoders. The consistency value was calculated with the Cohen Kappa coefficient in the codes collected under the theme title of each theme. The codes and themes obtained from the research data were modeled using the N-Vivo qualitative data analysis program. According to the findings, it shows that the forest school approach has positive effects on preschool children.

Keywords*: Forest school, out of class education, phenomenology, preschool education*

ÖZ

Bu araştırmanın amacı okul öncesi eğitiminde alternatif öğrenme yaklaşımlarından orman okulu uygulamalarının okul öncesi dönem çocukları üzerindeki etkilerinin değerlendirilmesidir. Günümüzde öğrenen merkezli, beceriyi temel alan, çocukların doğal merakını güdüleyen, birincil elden deneyimleri ön plana çıkaran, çocuğun ne öğrendiğinden çok nasıl öğrendiği ile ilgilenen yaratıcılık, tahmin ve analiz becerilerini dikkate alan alternatif eğitim yaklaşımlarına yönelim artmaktadır. Bu doğrultuda söz konusu yaklaşımların eğitime faydalarının belirlenmesi ve değerlendirilmesi büyük önem taşımaktadır. Araştırmada nicel araştırma yöntemlerinden olgu bilim yöntemi kullanılmıştır. Araştırmanın örneklemine beş çocuk, beş aile ile kurumda çalışan beş öğretmen katılmıştır. Araştırmanın veri toplama aracını yarı yapılandırılmış görüşme formu ve çocuklar için "Orman İzlenimleri" gözlem formu oluşturmaktadır. Araştırmanın nitel verileri iki veri kodlayıcısı tarafından analiz ederek kod ve temalara ulaşmıştır. Her tema başlığı altındaki kodların uyum değerleri Cohen Kappa değeri ile hesaplanmıştır. İki veri kodlayıcısı ile elde edilen kod ve temaların modellenmesinde N-Vivo nitel veri analiz program kullanılmıştır. Elde edilen bulgulara göre orman okulu yaklaşımının okul öncesi dönem çocukları üzerinde olumlu etkileri olduğu saptanmıştır.

Anahtar Kelimeler*: Okul öncesi eğitim, olgu bilim, orman okulları, sınıf dışı eğitim*

INTRODUCTION

Foundations of Forest Schools

The first forest school initiatives were implemented in Hungary in the 1860s to solve the respiratory tract problems of children with respiratory diseases in order to get those children's problems solved (Koyuer, 2017). The time period in which forests were used for educational purposes is a matter of debate. It was said that the concept of forest school was born in Scandinavia in the 1950s and then in Danimark with the word "skogsbqnehaven" ("skog" means forest or woodland and "bqrnehaven" means nursery), which means being out with young children (Hargrave, 2013). It adopted the understanding of forest school in the 1950s in Switzerland, and started to use it as an education policy for children in 1980 in Denmark (Griffiths, 2010).

With industrialization and urbanization, children have been cut off from natural life. While in nature, children learn daily life skills by experiencing them without a specific education system. This deprivation was noticed by educators and healthcare proffesionals later. Getting aware of this deficiency, the Mac Millan sisters were the ones that established open air day care centers to correct it. By establishing outdoors nurseries, they stated that children need a healthy body and mind development. Educators such as Susan Isaacs and Rudoph Steiner used this trend for educational purposes in various fields (Knight, 2013).

Today, technological devices cause a decrease in children's cognitive practices and negatively affect their creative play skills (Wake, 2003). This situation causes children to interact with the tools they have less experience instead of activities where they can be active, such as spending time with media, reading books, spending time with peers and exercising (Strasburger & Donnerstein, 1999). From this point of view, the importance of outdoor education increases.

Out of class education is an educational approach that supports the child's learning based on his/her own progress without breaking away from the society and culture in which he/she lives (Dahlgren & Szczepanski, 2005; Higgins & Nicol, 2002). Considering the observations and discoveries made outside the classroom, children actively participate in play and leisure activities. In addition to this, while producing free and original ideas abut the environment, it respects the

ideas and beliefs of other individuals and ensures their spiritual development (Beames, Higgins & Nicol, 2012).

One of the outdoor education models is the forest school approach. Forest schools are areas where different age groups from preschool to youth develop their individual, social and cognitive skills in the forest (Forest School Association, 2002). In other words, forest school can be defined as "an alternative type of training carried out outdoors, in a natural forest area if possible" (Rea & Waite, 2009). In this framework, forest schools can be defined as an approach with multiple positive effects on children that can have an impact on the development of many skills such as increase in self-confidence and self-esteem, development on social skills, development of communication and language skills, motivation, focus and movement (O'Brien & Murray, 2007). Forest schools consists of wooded green areas and forests, not institutions or organizations covered with walls on four sides. In these schools, children continuously and regularly spend half of the day in wooded green areas. It is a program that appeals to children of all age groups (Blackwell, 2005). The philosophy of the program carried out in forest schools consists of free play, movement and clean air (Maynard, 2007). Due to this philosophy, children who play free games later in life are labelled as self-confident, independent, risk-taking children who are also successful in academic skills. Outdoor learning experiences have an effect on the acquisition of these skills (Blackwell, 2005). The contribution of outdoor physical activities for health and a better mood is much higher (O'Brien, 2009). Louv (2008) describes the inadequancy of the time both adults and children spend in nature, and all the negative effects that it reveals with "nature deprivation syndrome". In other words, as the deprivation of nature increases, other scientific evidence reveals that exposure to nature is necessary for physical and emotional health. The time spent in nature also contributes to the external environment in psychomotor, emotional and cognitive areas (Norodahl & Einarsdottir, 2015). Thanks to nature education, children develop their sensitivity to natural environment and its problems, conceptual knowledge about nature, understanding and behaviour skills, and show a positive attitude towards environmental values (Erdogan & Ozsoy, 2007). In this context, it is thought that the study will be effective in increasing the closeness to nature in early childhood, and raising awareness in terms of teachers, parents and children.

Research Questions

1. What are the effects of the Forest School approach on children's problem solving skills?
2. What effects does the Forest School approach have on children's individual development?
3. What effects does the Forest School approach have on children's social development?
4. What effects does the Forest School approach on children's risk management skills?

METHOD

Research Model

The phenomenology model, one of the qualitative research models, was used in the study. The phenomenology model deals with the meaning, structure and essence of a person or group's experiences in the world (Mulveen & Hepworth, 2006). In this study, a phenomenology model was chosen in order to reveal the feelings, thoughts and comments of the participants based on experience by using the forest experiences of a group of children, parents and teachers to evaluate the effects of forest schools on preschool children.

Participants

The study group of the study consists of three-year-old children (five children), parents of selected children (five parents) and teachers (five teachers) in a private kindergarten affiliated to the Ministry of National Education in Istanbul. Criterion sampling, one of the purposeful sampling types, was used in the study. In this framework, some criteria have been taken into account. These criteria consist of the training of teachers which was supported by the forest school training that school administrators received from experts in Sweden and Finland and Forest Pedagogy training received from experts in Germany. Teachers in the study group have been working at the same school for at least two and at most ten years.

Data Collecting Material

The data of this study were collected using semi-structured and non-directive interview and observation forms. The observation questions and interview forms used in the study were created by taking into account the two faculty members working in the pre-school education program and

theoretical studies related to the literature. The reliability of the prepared forms was developed by the researcher by testing the harmony values between them with the data encoders. The questions in the semi-structured interview form; Theoretical studies based on literature have been developed by the researcher, taking into account the questions in the forms used in the research on the field and the aims of the forest school approach. The observation form was developed by the researcher, taking into account the phenomenology pattern used in the method and the child behaviors that can be observed in the forest. A tape recorder was used for the data obtained from the interview questions.

Procedure

The data obtained from the interview questions were transcribed separately by two data encoders in computer environment. The interview questions transcribed were divided into codes and themes by two data encoders. The harmony of the codes and themes obtained by the two data coders was analyzed with Cohen Kappa fit values. As a result of the analysis, Cohen Kappa fit values of the themes were determined between .83 and .1. These results show that the themes' fit values are at a good level (Vierra & Garret, 2005). Finally, the qualitative data obtained from the interview questions of the research were modeled using the N-VIVO qualitative data analysis program. In addition, the opinions of teachers and parents about the themes and sub-themes were supported with direct quotations in order to provide a source for the data. The observation form, which is another data collection tool of the research; The objectives of the forest school were associated with the pre-school development areas and in line with the opinions of experts (two faculty members) in the field and by obtaining approval from a Turkish language expert in terms of language, spelling and spelling, the researcher developed a "Forest Impressions" observation form. In this context, the observation form containing the titles "Problem solving skills", "Social development", "Personal development" and "Risk management" was filled out by the researcher separately for each child after the observation made every week.

FINDINGS

In this section were found the data obtained from the research.

Findings Regarding Teachers' Views of Forest School Practices

a. Investigation of the Effect of the Forest School Approach on Problem Solving Skills

When Figure 1 is examined, the most coded sub-themes in teachers' views on children's problem skills are: "***Determining the problem", "Choosing a suitable solution to the problem", "Developing different solutions", "Learning by trial and error", "Cooperation".***

Other sub-themes are as below; ***'Peer interaction', 'Self-confidence development', 'Self-expression', 'Courage', 'Development of thinking skills',' Observation skill ',' Learning by doing ',' Attention skills', 'Critical thinking' and 'Different view improving the angles***".

The opinions of the teachers with the code Ö$_1$ and Ö$_4$ regarding the subject are as follows:

"Children are more attentive and calm when they are in the forest. This means they try to figure it out together, instead of yelling or asking the teacher for help when they don't want it. Everyone offers an idea and they try the most logical. Through cooperation, they are able to look for unaided solutions to all the problems they encounter". (Ö1)

"He thinks his exploration and learning skills are expanding. For example: The children who wanted to swing in the forest tried many ways to get the swing installed on the tree. They tried to pull the swing with branches but it didn't work out, so his other friend came and tried to jump it out" (Ö4)

b. Investigation of the Effect of the Forest School Approach on Individual Development
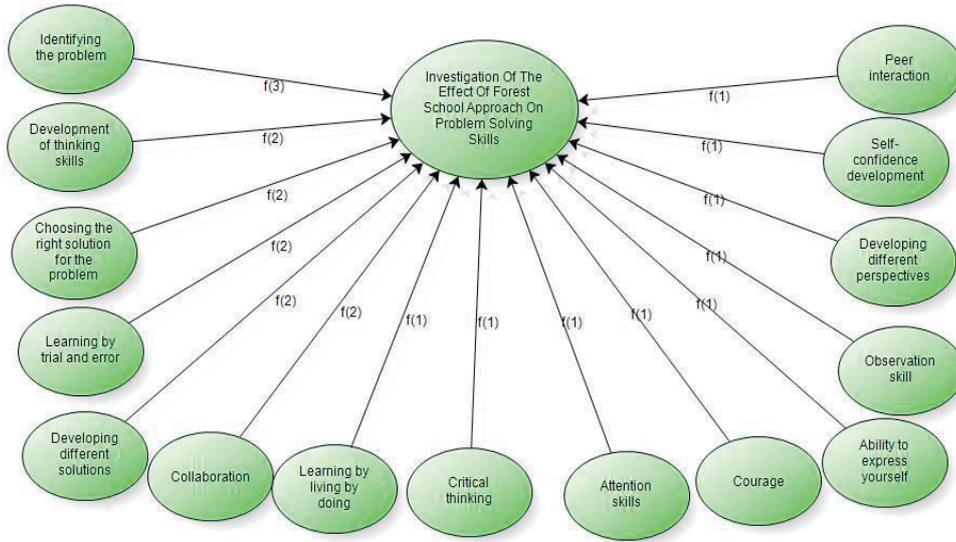
Figure 1. Modeling of Teacher Opinions of Forest School Practices on Problem Solving Skills of Preschool Children
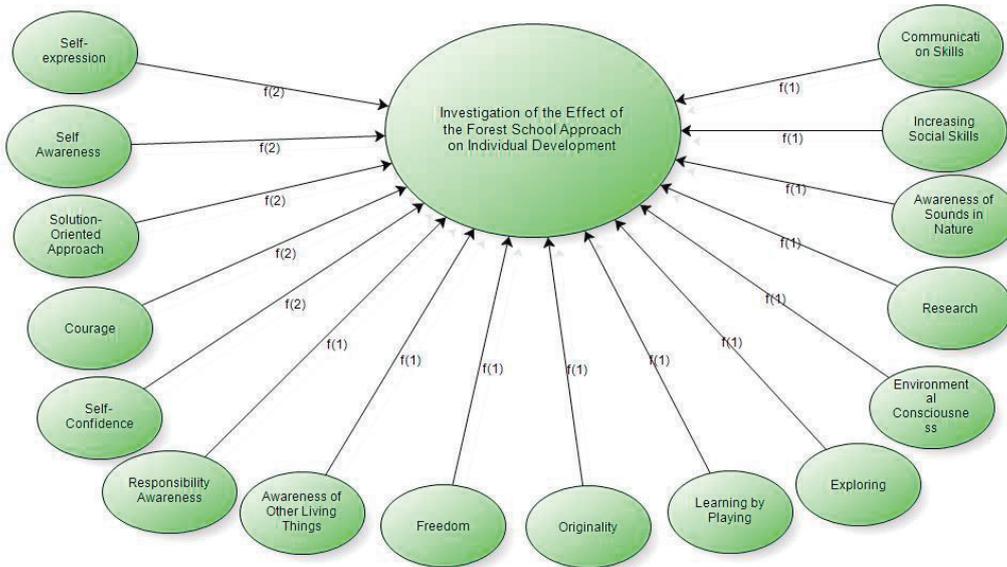
Figure 2. Modeling Teachers' Views Regarding the Effect of Forest School Practices on the Individual Development of Preschool Children

When Figure 2 is examined, it is determined that the most coded sub-themes in teachers' views on children's individual development are*: "Self-expression", "Self Awareness", "Courage", "Self-Confidence" and "Solution-Oriented Approach".* Other sub-themes are:

"Responsibility Awareness", "Awareness of Other Living Things", "Freedom", "Originality", "Learning by Playing", "Exploring", "Environmental Consciousness", "Research", "Awareness of Sounds in Nature" , "Increasing Social Skills", "Communication Skills".

The opinions of the teachers with T_1, T_2, T_3 codes on the subject are as follows:

"They can express themselves more comfortably, know and fulfill their responsibilities. They know that not only humans live in the world, they act accordingly. They are looking for solutions to problems. They feel more comfortable and free in the forest". (T₁)

"They have learned to know themselves. They saw what they could achieve in nature. They experienced living bravely". (T₂)

"The ability to act as a group, to produce something using imagination, to discover by playing, to research, to listen to different voices and find out what happened" has improved. (T₃)

c. Investigation of the Effect of the Forest School Approach on Children's Social Development
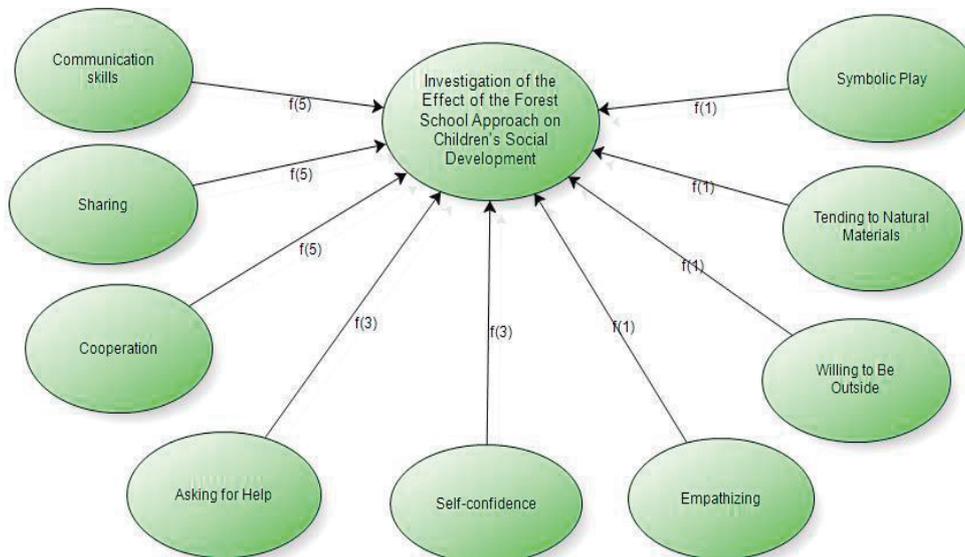
Figure 3. Modeling of Teachers' Views of Forest School Practices on Social Development of Preschool Children

When Figure 3 is examined, it has been determined that the sub-themes of ***"Communication skills", "Sharing", "Cooperation", "Asking for Help"*** and ***"Self-confidence"*** are the most coded themes in the opinions of teachers regarding the social development of children. Other sub-themes are: ***"Empathizing", "Willing to Be Outside", "Tending to Natural Materials", "Symbolic Play".***

The opinions of the teachers with the codes V1, V3, and V4 regarding the subject are as follows:

"When we go to the forest, they have to communicate with each other. It supports social skills such as asking for help, helping, sharing, cooperating in jobs they cannot do alone. They learn to empathize". (V1)

"Communication is very important. There is an increase in the skills of helping and being able to help each other before and after the forest." (V3)

"Children who previously wanted to play in closed areas are now turning to playing in the forest. They started to continue the relationships they established in the forest in the classroom and in the garden. For example: While they used to play in playgrounds in the garden, they now prefer to take the branches of trees that have fallen to the ground and cook food on their trunks. They make covers with stones so that the food they cook does not overflow". (V4)

d. Investigation of the Effect of the Forest School Approach on Children's Risk Management Skills
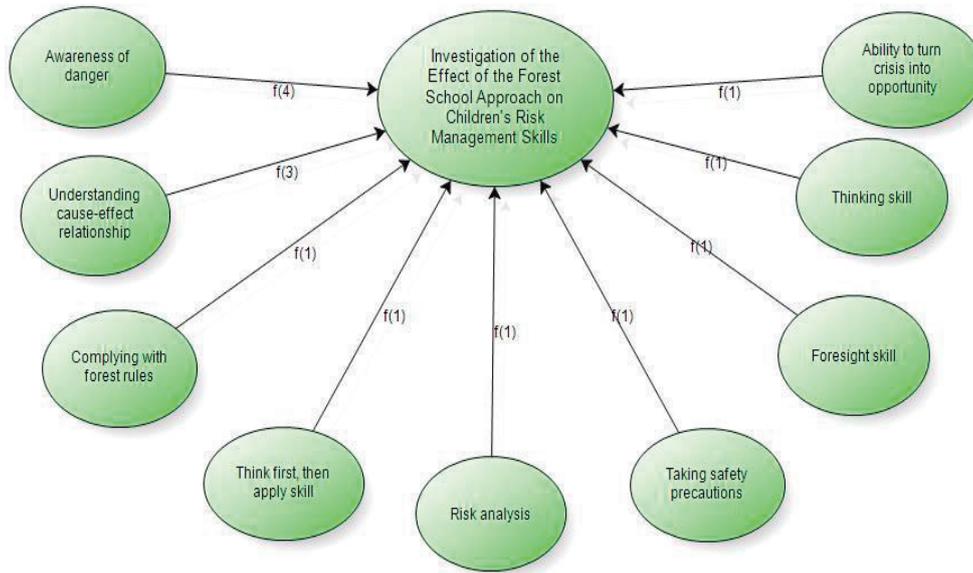
Figure 4. Modeling of Teachers' Views on Risk Management Skills of Preschool Children in Forest School Practices

When Figure 4 is examined, it was determined that the sub-themes of *"awareness of danger"* and *"understanding cause-effect relationship"* were the most coded sub-themes in teachers' views on children's risk management skills. Other sub-themes are: *"Complying with forest rules", "Think first, then apply skill", "Risk analysis", "Taking safety precautions", "Foresight skill", "Thinking skill", "Ability to turn crisis into opportunity".*

The opinions of the teachers with the codes $Ö_1$, $Ö_2$, and $Ö_3$ regarding the subject are as follows:

"There are some rules for the safety of children in the forest, like: don't cross the ribbons, don't take the long stick by your arm, don't go to dangerous heights, don't go somewhere alone, take buddy's hand or don't leave the group. When children learn these, they learn how to control the risky things for them" (T_1).

"They can fake the danger and warn each other. They learned that if the rules are broken, they could face risks". (T_2)

"They had a little difficulty in the early days. They could not walk or climb in the mud in winter. As they got used to the forest, they started to take risks. Now they can walk and climb in mud. When they can't get off where they came out, they try to slide on the butt. They can lift big branches". (T₃)

Findings Regarding Parent Views of Forest School Practices

a. Investigation of the Effect of the Forest School Approach on Problematic Behaviors
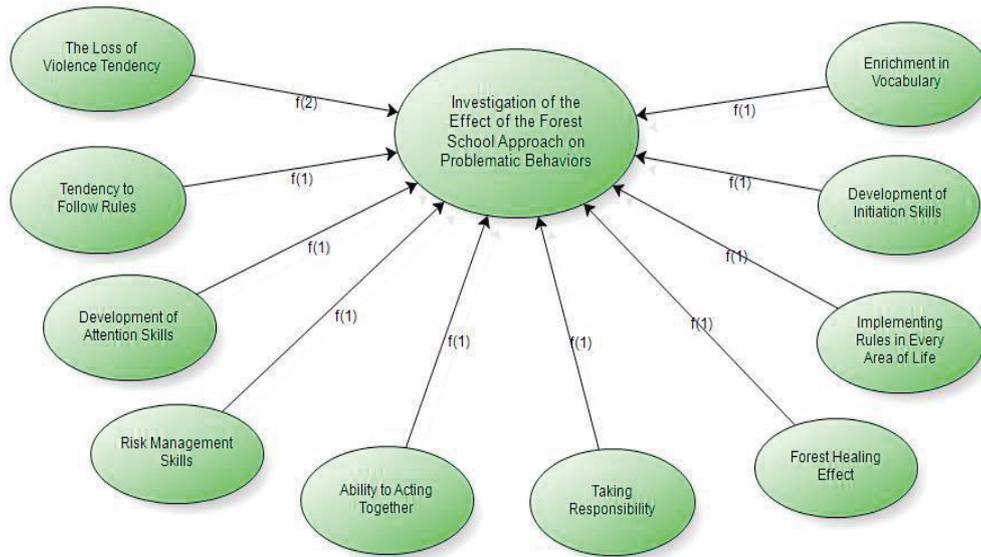
Figure 5. Modeling of Parents' Views Regarding the Effects of Forest School Practices on the Problem Behaviors of Preschool Children

When Figure 5 is examined, it has been determined that the sub-theme of ***"The Loss of Violence Tendency"*** is the most coded sub-themes in the parents' views on the problematic behaviors of children. Other sub-themes: ***"Tendency to Follow Rules", "Development of Attention Skills", "Risk Management Skills", "Ability to Acting Together", "Taking Responsibility", "Forest Healing Effect", "Implementing Rules in Every Area of Life"***, "Communication Themes such as ***"Development of Initiation Skills"*** and ***"Enrichment in Vocabulary"*** were also mentioned.

The opinions of the parents of the participants V1, V2, V3 on the subject are as follows

"It is true that every activity that serves mindfulness supports the call for help, which children describe as a problem." (V₁)

"Positive improvement can be achieved in issues of hitting, not obeying the rules, and attention deficit as more factors and larger environment are provided to attract attention in the open field." (V₂)

"Outdoor space, especially in children, paying attention to their own safety, acting together, taking responsibility, etc. is effective." (V₃)

b. Investigation of the Effect of the Forest School Approach on Individual Development
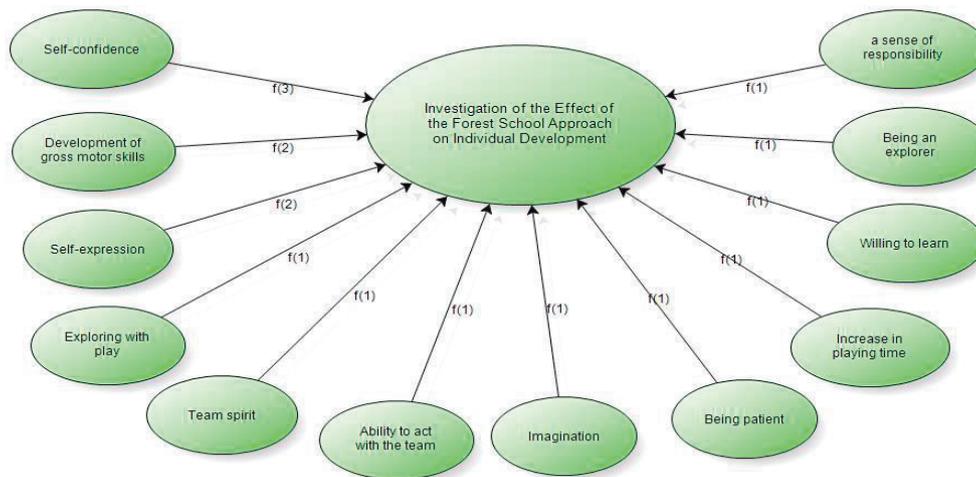
Figure 6. Modeling of Parents' Views Regarding the Individual Development of Preschool Children in Forest School Practices

When Figure 6 is examined, it was determined that the sub-themes of ***"Self-confidence", "Development of gross motor skills"*** and ***"Self-expression"*** were the most coded in the parents' views on the individual development of children. Other sub-themes expressed by parents regarding this theme are: ***"Exploring with play", "Team spirit", "Ability to act with the team", "Imagination", "Being patient", "Increase in playing time", "Willing to learn. "Being an explorer", "a sense of responsibility".***

The opinions of the parents with codes V₁, V₂, V₄, V₅ regarding the subject are as follows

"He mostly used his gross-motor skills. He wants to climb trees". (V₁)

"It has an effect on the skills of discovering by playing, keeping up with the group, acting with the group and using imagination". (V₂)

"He's more sociable, likes to explore foreign environments now". (V₄)

"He was happy, excited, playing games for longer periods, more patient, eager to learn, more active in discovery and a sense of responsibility" (V₅).

c. Investigation of the Effect of the Forest School Approach on Children's Social Development
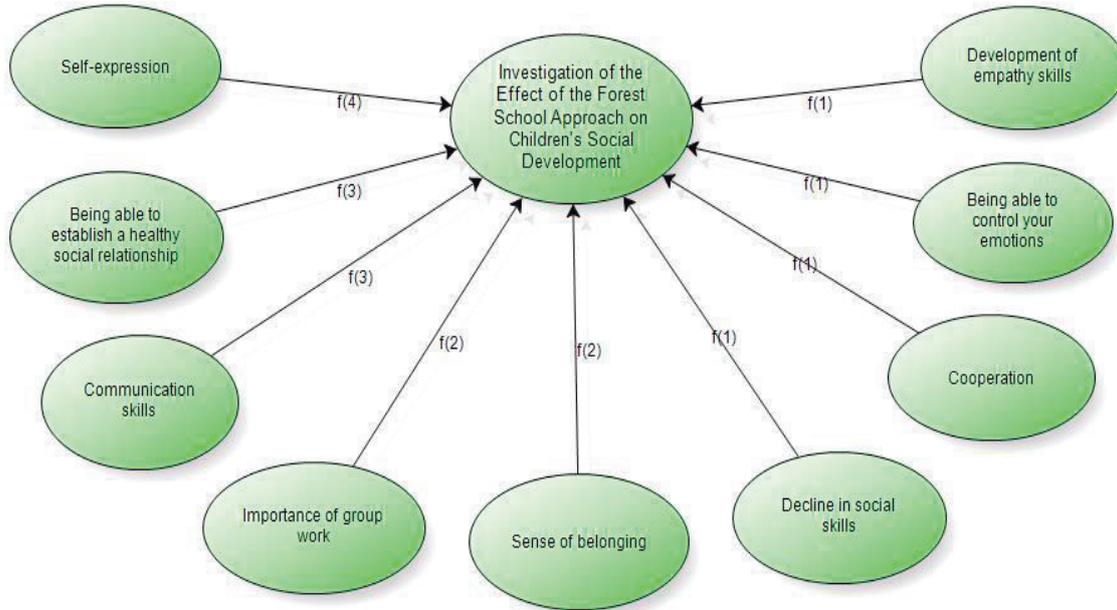
Figure 7. Modeling of Parents' Views on the Social Development of Preschool Children in Forest School Practices

When Figure 7 is examined, it has been determined that the opinions of teachers on the social development of children are the most coded sub-themes of ***"Self-expression", "Being able to establish a healthy social relationship", "Communication skills", "Importance of group work" and "sense of belonging"***. Other sub-themes are: ***"Decline in social skills", "Cooperation", "Being able to control your emotions", "Development of empathy skills"***.

Some parents V2, V3 expressed the effects of forest school practices on the social development of preschool children as follows:

"He contributed to group work and communication as he collaborated with his classmates. In other words, it has especially developed the aspect of establishing healthy social relationships". (V₂)

"The fact that especially the time spent outdoors appeals to all the senses increases the sense of belonging and positively affects children's self-expression." (V₃)

d. Investigation of the Effect of the Forest School Approach on Children's Risk Management Skills
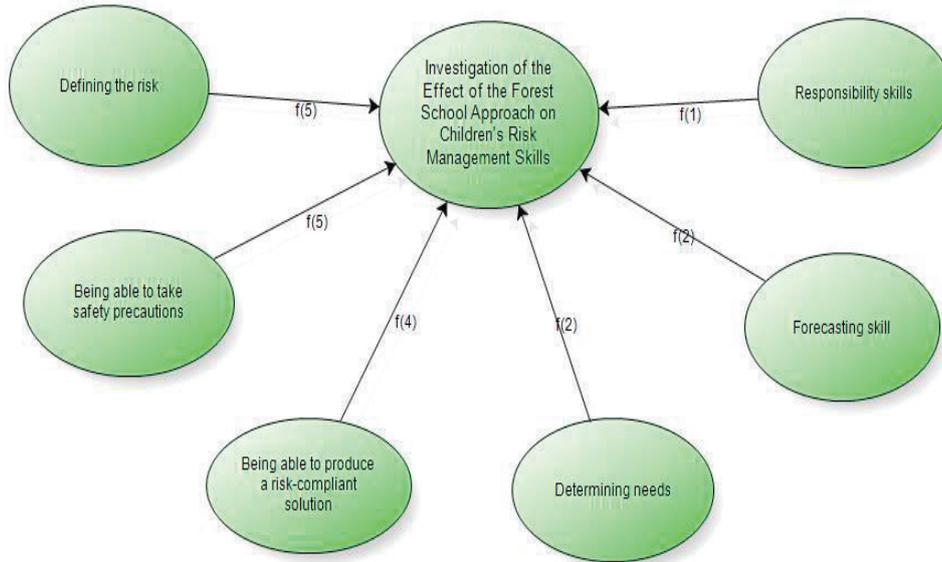
Figure 8. Modeling of Parents' Views Regarding the Risk Management Skills of Preschool Children in Forest School Practices

When Figure 8 is examined, it was determined that the parents' views on children's risk management skills were coded most of the sub-themes of ***"Defining the risk", "Being able to take safety precautions", "Being able to produce a risk-compliant solution", "Determining needs"*** and ***"Forecasting skill". "Responsibility skills"*** is another sub-theme emerging in this context.

The opinions of the parents coded V2, V3 regarding the subject are as follows:

"Especially in winter, it increased its control power by ensuring its own safety on muddy and rainy slippery surfaces and enabled it to understand the risk and take action accordingly". (V₂)

"He has learned to take care of his responsibilities and needs. He has learned to take care of his own safety. For example; He says that when passing by the stream, you should not walk right next to the stream". (V₃)

Findings Regarding Observation Data

In the observation form, problem solving, social development, individual development, risk management, environmental awareness and the ability to use materials in nature in the forest days at school were determined by observing the children and depending on the items in the observation form. Observing children's behavior has been defined in two different ways. These are; the behavior was observed in the forest environment (1), the behavior was not observed in the forest environment (2). The area where the observations were made is indicated as D1. The frequency (f) sum and percentage (%) of each observed behavior are depicted in tables.

Table 1. Findings Regarding the Observation Data of the Child with the code of S

Items	$1(D_1)$	$2(D_1)$	**f**	Total
Sets up his own game using the materials in the forest	10	-	10	10
Participates in group events in the forest	10	-	10	10
Willing to participate	10	-	10	10
Can produce different solutions for the problems encountered in the forest	10	-	10	10
Can determine the problem encountered in the forest	10	-	10	10
Can find a suitable solution to the problem encountered in the forest	10	-	10	10
Can cooperate with friends in the forest	10	-	10	10
Can communicate with friends in the forest	10	-	10	10
Can share with friends in the forest	10	-	10	10
Can jump in the forest	10	-	10	10
Can take the necessary materials before going to the forest	10	-	10	10
Can climb cliffs in the forest	-	10	0	10
Can wear appropriate clothes without help when going to the forest	10	-	10	10
Able to take the necessary safety precautions before using pocket knives in the forest	-	10	0	10
Can take necessary security measures before climbing a tree	-	10	0	10

(1): The described behavior was observed in the forest. (2): The described behavior was not observed in the forest. Location of Observation: D1

When the S1 coded child is observed, in the skills in the context of social development; It has been determined that he has "set up his own game using the materials in the forest, participated in group activities in the forest, willingly participate in forest activities, cooperate with

his friends in the forest, communicate with his friends in the forest, share with his friends in the forest". It is thought that the experiences that children directly establish and repeat with nature enable them to establish a relationship with nature. In order to ensure the continuity of this established relationship, children should be motivated to establish their own games with materials in nature (Beery & Wolf-Watz, 2014).

When problem solving skills are considered; It has been observed that he can apply the items "He can produce different solutions to the problems he encounters in the forest, he can determine the problem he encounters in the forest, as well as he can find a solution to the problem he encounters in the forest".

On the other hand, it has been observed that he can jump in the forest, put the necessary materials in his bag while going to the forest, climb the rocks in the forest, wear the appropriate clothes without help while going to the forest, and can apply these skills.

A striking finding in the observation results in risk management skills; There was no improvement in the items "He / she can take the necessary safety precautions before using a pocket knife in the forest, he / she can take the necessary safety measures before climbing a tree in the forest" and the behavior has not been observed in the natural environment. The reason for this may be the lack of use of pocket knives in the forest. Due to the Turkish family culture's attitudes and behaviors to develop this skill, there is no use of pocket knives for the younger age group in the forest.

Table 2. Findings Regarding the Observation Data of the Child with the code S2

Items	1(D₁)	2 (D₁)	f	Total
He sets up his own game using the materials in the forest	4	6	4	10
Participates in group events in the forest	2	8	2	10
Willing to participate in forest events	8	2	8	10
Can produce different solutions for the problems encountered in the forest	6	4	6	10
Can determine the problem encountered in the forest	10	-	-	10
Can find a suitable solution to the problem he encounters in the forest	6	4	6	10
Can cooperate with friends in the forest	2	8	2	10
Can communicate with friends in the forest	10	-	10	10
Can share with friends in the forest	2	8	2	10
Can jump in the forest	6	4	6	10
Can put the necessary materials in the bag before going to the forest	10	-	10	10
Can climb cliffs in the forest	2	8	2	10
Can wear appropriate clothes without help when going to the forest	6	4	6	10
Able to take the necessary safety precautions before using pocket knives in the forest	-	10	0	10
Can take necessary security measures before climbing a tree in the forest	2	8	2	10

(1): The described behavior was observed in the forest. (2): The described behavior was not observed in the forest. Location of Observation: D1

When the child with code S2 is observed, in the skills in the context of social development; It has been observed that he has the skills in the items "He is building his own game using the materials in the forest, participating in group activities in the forest, can cooperate with his friends in the forest, can share with his friends in the forest" but he does not want to apply it. On the other hand, it was observed that he was willing to participate in forest activities and could communicate with his friends in the forest. Dowdell, Gray, and Malone (2011) show that nature supports children's creative play in their study. It helps to develop positive interpersonal relationships and turn the environment into a quality learning space.

When considered in the context of problem solving skills; It has been observed that he can determine the problem he encountered in the forest. In addition to this, it is concluded that the

skills of finding a suitable solution to the problems faced in the forest and producing different solutions to the problems encountered in the forest are observed and these skills should be supported. Maller, Cecily, Townsend et al. (2006) shows that children perform better cognitively and sensually in green spaces and are more creative.

In his individual development skills observations, it was observed that he could jump in the forest and put the necessary materials in his bag while going to the forest. However, it was observed that he could not apply the skill "he can climb the rocks in the forest".

Among the risk management skills in the child coded S2; The skill of "taking necessary security measures before using pocket knives in the forest" has not been observed. On the other hand, the skill of "taking necessary security measures before climbing a tree in the forest" has been observed.

Table 3. Findings Regarding the Observation Data of the Child with the code S3

Items	(1)D_1	(2)D_1	f	Total
Sets up his own game using the materials in the forest	8	2	8	10
Participates in group events in the forest	10	-	10	10
Willing to participate in forest events	10	-	10	10
Can produce different solutions for the problems encountered in the forest	10	-	10	10
Can determine the problem encountered in the forest	10	-	10	10
Can find a suitable solution to the problem he encounters in the forest	10	-	10	10
Can cooperate with friends in the forest	10	-	10	10
Can communicate with friends in the forest	10	-	10	10
Can share with friends in the forest	10	-	10	10
Can jump in the forest	10	-	10	10
Can put the necessary materials in the bag before going to the forest	10	-	10	10
Can climb cliffs in the forest	8	2	8	10
Can wear appropriate clothes without help when going to the forest	10	-	10	10
Able to take the necessary safety precautions before using pocket knives in the forest	10	-	10	10
Can take necessary security measures before climbing a tree in the forest	2	8	2	10

(1): The described behavior was observed in the forest. (2): The described behavior was not observed in the forest. Location of Observation: D1 (2nd)

When the S3 coded child is observed, the skills in the context of social development; It has been observed that he/she has the skills of "using the materials in the forest, participating in group activities in the forest, participating in forest activities willingly, cooperating with friends in the forest, communicating with friends in the forest, sharing with friends in the forest" and he/she can apply them. According to Knight (2012), forest schools provide various opportunities to raise children who are compatible, strong, knowledgeable and aware of their skills.

Considering the problem solving skills; It has been observed that he/she has the skills and can "produce different solutions to the problems he encounters in the forest, determine the problem he encounters in the forest, find the appropriate solution to the problem he encounters in the forest".

In his personal development skills observations, it was observed that he could "jump in the forest, put the necessary materials in his bag while going to the forest, climb the rocks in the forest, wear the appropriate clothes without help when going to the forest" and he was able to apply these skills. In a study by Davis and Waite (2005), it was revealed that the forest school provides children with low self-esteem to have a higher self-esteem and high self-esteem.

In risk management skills in the child with the code S3; It turns out that the skills such as "he can take the necessary security measures before using the pocket knife in the forest, he can take the necessary security measures before climbing a tree in the forest" are not developed. The reason for this is that pocket knives are not used in the forest. Due to the Turkish family culture's attitudes and behaviors to develop this skill, it may be thought that the younger age group should not use pocket knives in the forest.

Table 4. Findings Regarding the Observation Data of the Child with the code S4

ITEMS	(1) D_1	(2) D_1	f	Total
Sets up his own game using the materials in the forest	10	-	10	10
Participates in group events in the forest	10	-	10	10
Willing to participate in forest events	10	-	10	10
Can produce different solutions for the problems encountered in the forest	10	-	10	10
Can determine the problem encountered in the forest	10	-	10	10
Can find a suitable solution to the problem he encounters in the forest	10	-	10	10
Can cooperate with friends in the forest	10	-	10	10
Can communicate with friends in the forest	10	-	10	10
Can share with friends in the forest	10	-	10	10
Can jump in the forest	10	-	10	10
Can put the necessary materials in the bag before going to the forest	10	-	10	10
Can climb cliffs in the forest	10	-	10	10
Can wear appropriate clothes without help when going to the forest	10	-	10	10
Able to take the necessary safety precautions before using pocket knives in the forest	-	10	-	10
Can take necessary security measures before climbing a tree in the forest	2	8	2	10

The described behavior was observed in the forest. (2): The described behavior was not observed in the forest. Location of Observation: D1

When the S4 coded child is observed, the skills in the context of social development; It has been observed that he has "set up his own game using the materials in the forest, participates in group activities in the forest, willingly attend forest activities, cooperate with friends in the forest, communicate with friends in the forest, share with friends in the forest" and can apply them. According to Blackwell (2015), as it is aimed to develop trust, teamwork, risk-taking skills, and ability to act independently, forest schools greatly support social development in children.

When we consider it as problem solving skills; It has been observed that he has the skills stated as "He can produce different solutions to the problems he encounters in the forest, he can determine the problem he encounters in the forest, he can find a suitable solution to the problem he encounters in the forest."

On the other hand, expressed as individual development skills, it has been observed that he has "jumping in the forest, putting the necessary materials in his bag while going to the forest, climbing the rocks in the forest, wearing the appropriate clothes without help when going to the forest" and he/she can apply these skills.

On the other hand, in risk management skills; "He/she can take the necessary safety precautions before using the pocket knife in the forest, he can take the necessary safety precautions before climbing the tree in the forest" and the behavior has not been observed in the natural environment. The reason for this is that pocket knives are not used in the forest. Due to the Turkish family culture's attitudes and behaviors to develop this skill, there is no use of pocket knives for the younger age group in the forest.

Table 5. Findings Regarding Observation Data of the Child Code S5

Items	(1) D1	(2) D2	f	Total
Sets up his own game using the materials in the forest	10	-	10	10
Participates in group events in the forest	10	-	10	10
Willing to participate in forest events	10	-	10	10
Can produce different solutions for the problems encountered in the forest	10	-	10	10
Can determine the problem encountered in the forest	10	-	10	10
Can find a suitable solution to the problem he encounters in the forest	10	-	10	10
Can cooperate with friends in the forest	10	-	10	10
Can communicate with friends in the forest	10	-	10	10
Can share with friends in the forest	10	-	10	10
Can jump in the forest	10	-	10	10
Can put the necessary materials in the bag before going to the forest	10	-	10	10
Can climb cliffs in the forest	8	2	8	10

Can wear appropriate clothes without help when going to the forest	10	-	10	10
Able to take the necessary safety precautions before using pocket knives in the forest	-	10	-	10
Can take necessary security measures before climbing a tree in the forest	-	10	-	10

(1): The described behavior was observed in the forest. (2): The described behavior was not observed in the forest. Location of Observation: D1

When the S5 coded child is observed, the skills in the context of social development; It has been observed that he has "sets up his own game using the materials in the forest, participates in group activities in the forest, eagerly participates in forest activities, can cooperate with his friends in the forest, communicate with his friends in the forest, share with his friends in the forest" and he/she can apply them. O'Brien and Murray (2007) stated that the forest school supports the development of children's self-confidence, cooperation with the group, willing participation in activities and taking responsibility for their behavior. Thus, it is revealed that the forest school positively affects the social development of children.

When problem solving skills are considered; It has been observed that "he can produce different solutions to the problems he encounters in the forest, he can determine the problem he encounters in the forest, he can find the appropriate solution to the problem he encounters in the forest" has problem solving skills and he/she can apply it.

In his personal development skills observations, it was observed that he has and can "jump in the forest, put the necessary materials in his bag while going to the forest, climb the rocks in the forest, wear the appropriate clothes without help before going to the forest".

On the other hand, in risk management skills; "He can take the necessary security measures before using a pocket knife in the forest, he can take the necessary safety precautions before climbing a tree in the forest" behavior was not observed in the natural environment. According to research, avoiding risk taking and adopting strict rules in risk assessments hinders the development of a child who has a good command of skills according to the British. Maynard and Waters (2007) found in their snapshot observations of four teachers during the Preparation Stage in Wales that

they only grasped the potential of outdoor learning in a limited way. Overprotective attitudes of educators towards children in the forest caused children to avoid taking risks.

CONCLUSION

In this study, in which the effects of forest school practices on preschool children were evaluated, it was concluded that the forest school approach had a positive effect on problem solving skills, individual development and social development skills. On the other hand, children's risk management skills could not be observed at a sufficient level in nature.

DISCUSSION

The observations made in this study, in which the positive effects of the forest school are examined, support the interview questions. The results obtained in this framework are supported by the relevant literature. Considering the positive effects of the forest school in the context of problem solving skills, it was determined that the forest school approach improved children's skills in identifying the problem, finding an appropriate solution to the problem, developing different solutions, learning through trial and error, and cooperation. This situation also supports the findings of the interviews with parents. Parents stated that children learn through trial and error and have exploration skills, their learning skills have improved, they can identify the problem and develop an appropriate solution to the problem. The results of the observations made in the research also support the findings of the interviews with parents and teachers. According to the results of the observations, it was revealed that the problem-solving skills of the children such as "The forest school can produce different solutions to the problems it encounters in the forest, can determine the problem in the forest, find the appropriate solution to the problem in the forest".

Mckinder (2015) supports this finding by the results of his research. In the research, he stated that creative problem solving developed spontaneously by giving children confidence in developing critical thinking skills, freedom in elections and freedom of self-control in their behavior.

When the teachers' views on the effects of the forest school were examined in the context of individual development skills, they stated that children have the skills of self-expression, self-awareness, courage, self-confidence, solution-oriented approach, sense of responsibility and

awareness of other living things. Parents similarly stated that they have self-confidence, development of gross motor skills, self-expression, exploring through play, team spirit and imagination. Parents 'views also support teachers' views. The results of observations made with children in the forest also support the findings of teacher and parent interviews. It has been observed that children can jump in the forest, put the necessary materials in their bags while going to the forest, climb the rocks in the forest, and wear suitable clothes without help when going to the forest. Knight (2011) stated that forest schools provide multi-faceted opportunities to raise individuals who are compatible with each other, knowledgeable, durable and aware of their skills.

When teachers' responses to social development skills were examined, they stated that children have communication skills, sharing, cooperation, asking for help, self-confidence, empathy, desire to be outside, and symbolic play skills. In this context, it was determined by interviews conducted by parents that children can express themselves, establish healthy social relationships, have communication skills, attach importance to group work, feel a sense of belonging, control their emotions and develop empathy skills.

According to the results of the observations made, it was determined that children could set up their own games using the materials in the forest, participate in group activities in the forest, participate willingly in forest activities, cooperate with friends, communicate with friends, and share with their friends. When looking at the related studies (O'Brien & Murray, 2007), it is seen that the forest school increases the self-confidence of the child, provides encouragement and willingness to work in cooperation and increases the awareness of the results of the behavior.

In terms of risk management skills, looking at the interviews with teachers, it was determined that children were aware of the danger, could establish cause-effect relationships, obey forest rules, and take safety precautions. When the answers given by the parents to the interview questions were examined, it was determined that the interviews with the teachers were similar to the parents' meetings. In this context, it was determined by the answers given by the parents to the interview questions that the children have the skills of defining the risk, taking security precautions, finding solutions appropriate to the risk, determining the needs, predicting and responsibility. The ability of children to take necessary safety precautions before using pocket knives in the forest was never observed in forest time. In the school where the research was conducted, this skill is not given to

children in the forest due to reasons such as the small age group to use pocket knives and the Turkish family culture being overprotective. For this reason, no observation could be made for this skill. On the other hand, the ability to take the necessary security measures before climbing a tree in the forest has been observed, although in a short period of time. Waller (2005) suggested that children's risk-taking tendencies in the natural environment are related to children's learning paths and tendencies. Based on this framework, it appears that the reason why risk-taking skills cannot be observed at a sufficient level is parallel with the age and risk-taking tendency of children.

IMPLICATIONS

In Turkey, the Ministry of Education (MEB), depending on specialty and applied outside the classroom educational practices in state kindergartens, scouting, forest school pedagogy and Turkey Environment Education Foundation (TÜRÇEV) implemented by the "Forestry Program in Schools" with positive related to sustainable environmental education to children lives and love towards nature is tried to be gained. However, these practices are teacher-centered and directly proportional to the teacher's approach to environmental education. In order to make the forest school approach widespread, encouraging regulations should be introduced for schools by the Ministry of National Education. When the environmental education policies of Scandinavian countries are examined, it is seen that there are funds that support and encourage the forest school approach. The government states that when a citizen donates the tax he will give to the state to these schools, he will deduct his tax debt. In this context, for the concept of forest schools to become widespread, the state should make arrangements in environmental education policies and implement encouraging practices. Only in this way can this approach become widespread and its positive effects continue.

The positive effects of forest schools on children's risk management skills are known. However, this skill could not be observed at a sufficient level in the study. In this direction, the overprotection of the society towards children and the protective reactions of the teachers when children encounter risk cause children to avoid risk and experience learned helplessness. In order to prevent these, the families of the forest school approach should be given trainings on the basis of media, seminars and workshops. It is thought that this way, families' perspective against risk can change and they will be able to get rid of their protective attitude to some extent.

Interacting with nature benefits children's social and emotional development, improves flexibility and reduces the risk of obesity and 2 types of diabetes in children. Governments around the world are now recognizing the importance of children spending more active time outdoors. However, children make outdoor activities, free games, and exploration of nature. In addition, these activities are frequently configured and supervised by adults due to safety concerns and risks. In this context, these skills can be gained safely in forest schools.

This study aimed to rethink forest schools as a teaching approach rather than an alternative education approach, especially in the national context.

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