



## Effect of Museum Education on Teaching Extinct Animals Lived in Anatolia to Pre-School Children

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### Abstract

Museums are institutions that house, protect, and exhibit the historical, cultural, natural, etc. values of a society; moreover, they are one of the most significant facilities to be used effectively in education. In museum education, an active learning environment should be created for students that would include not only didactic information but also activities such as visual arts, music, and drama through which they can learn through performing. In this respect, 13 students from the six-year-old age group attending the kindergarten of a public institution were selected as the study group that was provided with a complete 18-session museum education program involving six hours per week for three weeks. The sessions were prepared by two specialists—one in visual arts education and the other in child development. In the study where the mixed model was used, a test model with experimental group from quantitative research methods was formed to measure the effectiveness of the program applied. Qualitative data were also used in the study to support the quantitative data; content and descriptive analyses were used in the analysis of qualitative data. In the analysis, cognitive skills of the study group regarding extinct animals lived in Anatolia were found statistically significant ( $p < 0.0001$ ). The results were discussed and evaluated in light of the literature. Suggestions were made for the researchers studying in museum education based on these results.

### Keywords

Museum  
Museum education  
Environmental education  
Pre-School period  
Extinct animals in Anatolia

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### Introduction

A definition of museum by the International Council of Museums (ICOM) in 2007 (According to the ICOM Statutes, adopted during the 21st General Conference in Vienna, Austria, in 2007) was developed as follows: "A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment." According to the United States Art Museums Association, museums are defined as the "institutions that collect, evaluate, and exhibit artifacts in an organized fashion for educational or aesthetic purposes by a cadre formed of professional specialists" (Ören, 1998).

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According to a definition developed considering the education function of museums, they are leading non-formal education institutions that can contribute to the formation and development of skills such as observation, reasoning, use of creativity and imagination, and senses of esthetics and good taste in children (Atagök, 1999). Museum education is described as a multi-disciplinary approach that comprises the cohesion of its special techniques and methods and those used in formal education and training (Okvuran, 2012).

While the purpose of museum education was to provide information to the target audience in the 19th century and at the beginning of the 20th century, a more scientific approach concerning museum education became more effective with the influences of institutions such as UNESCO and its partner institution ICOM in the second half of the 20th century (Tezcan Akmehmet, 2006). Museum education, carried out through mass communication and interpersonal communication, is seen as a complex of several activities comprising exhibitions, workshops, and publications that targets families and adults. In this context, museum has an important function in overcoming the traditional education view with its facilities that embrace and activate children and help learning-by-doing (Onur, 2000; Mercin and Alakuş, 2005)).

Among the primary aims of museums with such crucial functions to become more active in our country should be to introduce children to the museums at early ages and to develop an understanding about the importance of museum education in society. Acquiring this consciousness at early ages could be considered as a valuable aspect for society. Therefore, the importance of museum education that would help developing the feeling of curiosity and cognitive skills in children at pre-school level is undeniably significant.

#### *Effectiveness of museum education in during pre-school*

The pre-school period, which covers the ages from three to six, is a period wherein children acquire most of the cognitive skills, enjoy hands-on learning experiences, actively learn through observation, exploration, and like orderly activities and co-operation (Senemoğlu, 1998). Museum education is one of the child-centered education methods wherein alternative learning methods are explored, cause and effect connection is built up, and children are provided with a learning environment in which they have fun (Karadeniz, 2010). One of the most criticized issues regarding museums is the intensity of information provided to children. In this respect, there is a need to transform museums into places that satisfy curiosity and encourage learning of children rather than simply being information providers. Museum education should not only provide information to children but also contribute to the development of cognitive, affective, and language skills, such as verbal communication, observation, correlation, and interpretation (Karadeniz, 2010; Ampartzaki, Kypriotaki, Voreadou, Dardioti and Stathii, 2013; Ünal, 2012; Synodi, 2014; Hackett, 2014). Thus, one of the most effective ways to develop skills related to the pre-school period is museum education.

Museums are the indispensable part of education because of their positive effects on children. One of those positive effects is that children try to connect historical events with artifacts left in those periods during their museum visits, which helps them acquire consciousness regarding history (Önder, Abacı and Kamaraj, 2009; Diğler, 2012). Museums contribute to the formation and development of observation and creativity skills and appreciation in children by providing them with active learning environments (Hein, 1998; Diğler, 2012; Pekgözlü Karakuş, 2012; Ünal, 2012). Concept maps, analogies, cooperative learning, problem solving, discussion, projects, and the most important of all, environmental activities that help children integrate with nature (Alisınanoğlu, Özbey and Kahveci, 2007, Gülay, 2011a) help children use what they learn in real-life situations and increase environmental awareness. Internalizing information and using it in real-life situations help children form their own cultural values. Currently, the importance of early childhood education is accepted in the education sector. Museum trips and real-life situations presented in museums incite curiosity in children. Museums have become important and necessary non-formal education institutions because they provide learning environments where children use all of their five-senses, as well as their observation and creativity skills in different areas (Boyer, 1996; Diğler, 2012).

In the fast changing society and “new education” perceptions, the need to use more contemporary presentation techniques by the museums has increased. In fact, in developed countries, there is a transformation in the museums from a static exhibition space to a space designed to be used as a cultural unit where active presentation techniques are used (Şar and Sağkol, 2013).

In the past, collecting and exhibiting was the main aim of the museums, whereas today, they are themed and specialized integrating education and culture functions with collecting, protecting, and exhibiting (Ören 1998). From this perspective, themed museums should be used in terms of active learning environments in teaching abstract concepts, such as “extinct,” particularly to children at pre-school level.

*Definition and significance of the concept “extinct” at early childhood within the context of environmental education*

Environmental education is very important in child development and education in terms of social learning. Einstein defined environment as “everything outside of the individual.” Humans have been destroying the environment for their own benefits, thus, causing considerable destruction and leading to diminishing of environmental consciousness (Karataş, 2011).

As many scientists emphasize, knowledge about the environment and attitudes and behaviors for the benefit of the environment are the aims intended by the environmental consciousness. Environmental consciousness consists of notions, including decisions, principles, and interpretations related to the environment, and behaviors and emotions that are the implementations of those notions. Environmental consciousness that should be developed during childhood becomes consistent particularly through environmental education.

The need for environmental education has been on the agenda of many countries since the 1970s. Environmental education is necessary to provide individuals with information about environment, help them become conscious about the environment, gain permanent positive behavioral changes, and provide active participation of the individuals in solving the environmental issues. There are several studies in literature regarding the environment. The main purpose of those studies is to provide environmental awareness so that people become more sensitive and responsive to their environment (Özey, 2009). In addition to this purpose, researchers propose that the knowledge about environment and attitudes toward environment take shape during the pre-school period and that the environmental consciousness acquired in the pre-school period plays a significant role in developing positive attitudes toward the environment in later years (Smith, 2001; Taşkın and Şahin, 2008; Gülay, 2011a).

While environmental education provided to children with the consideration of their developmental characteristics contribute to their cognitive development, it also helps them develop positive attitudes toward their environment (Taşkın and Şahin 2008). It has been observed that the non-formal environmental education program helps enhance the knowledge repertoire of the children, strengthen the emotional bonds with living and non-living organisms, and positively affects their behavior toward the environment (Brody and Hall, 2002, cited in Özdemir, 2010). Environmental education provided to pre-school children would help them get acquainted with and develop consciousness for the protection of their environment (Gülay, 2011a). In this regard, when the pre-school education programs and implementations were examined, it was seen that the environmental objectives within the social-emotional, cognitive, and self-care skills comprised 25.9% of the objectives of the whole program, and environmental education attainments comprised 15.5% of all attainments. Additionally, it was seen that 29.0% of the concepts and 26.3% of the specific days and weeks included in the program were related to environmental education (Gülay and Ekici, 2010). In a study by Akçay (2006), the pre-school education programs of Canada, the US A, Switzerland, Germany, and Japan were compared with the 2002 Pre-school Program of the Turkish Ministry of National Education, and the study concluded that the number of the activities for environmental education were below average.

In the education program revised in 2015, it is seen that the works related to environmental education, and the objectives, attainments, and concepts to facilitate the examination of this subject were insufficient. Various activities under the title of sample activities were included in the Science education curriculum. In general, there were superficial changes in the last program, when compared with the 2006 program, and there were not significant differences between the two programs in terms of content. Since the program is developmental, it was designed as attainments and indicators, materials were written in detail, and monthly plan preparations and activities were added. In this case, as it is a flexible program, teachers preparing the monthly activities would add activities related to environmental education according to their own environmental consciousness, readiness, and willingness.

In this context, with the consideration of the environmental education, the concept of “extinct” was chosen as a sample activity to be implemented to the pre-school children.

The animal species that lived in different eras since the beginning of life on Earth but do not live anymore are called “extinct animals.” The scientists give the reasons for the extinction of those animals as climate change, destruction of their habitats, hunting, meteorites, etc. (Nesli tükenen türler, n.d.).

While natural disasters, climate change, and the changes in the Earth’s crust are the elements of the Earth’s natural balance, human activities disturb this natural balance and play an active role in the extinction of animal and plant species. This process of extinction still continues, although more than five hundred species have already become extinct today. The 2006 report of the International Union for Conservation of Nature (IUCN) shows that 784 species became extinct and 16,119 animal species are under threat because of human-caused exploitations (hunting, destruction of habitats, pollution, etc.). Addition of 530 species to this list in 2006 is the indication of the size of this threat (Günel, 2014).

Today, children grow up away from the natural environment, which makes them less interested in environmental problems. Thus, museum education related to the environment and environmental issues would help children acquire skills such as observation and classification through entertaining learning activities (Buhan, 2006). Museum education activities were organized to provide easy and entertaining learning activities related to the environment and environmental issues. In these activities, fossils and dioramas of the extinct animals that lived in Anatolia, which are exhibited at the MTA Natural History Museum, were used. Additionally, the study tried to answer the following questions:

1. How do pre-school children perceive the term “extinct”?
2. What are the reasons for the perceptions of the pre-school children regarding the term “extinct”?
3. Do pre-school children have any general knowledge about the extinct animals of Anatolia?
4. What is the effect of the examination of the term “extinct” within the museum education activities on the cognitive, affective, and psychomotor skills of the pre-school children?

## Method

### *Study Group*

The study was conducted with 13 students of age six who were selected through random sampling. Museum education activities were conducted in 18 sessions consisting of six hours per week for 3 weeks with pre-school children. In the study wherein the effect of museum education in teaching extinct animals that lived in Anatolia was examined, mixed method involving qualitative and quantitative research methods was used as the research method. In these studies, the research item is described and evaluated in depth, and the present study aims to understand the perspectives of children. With this approach, the researchers were in positions to directly interview the children, share the same space with them, and use their impressions in data analysis. Information on the genders of the children in this study and control group is provided in Table 1.

**Table 1.** Distribution According to Gender

Sample Group	Girl	Boy	Total
Study Group	7	6	13
Control Group	8	5	13

Of the children, six were boys and seven were girls.

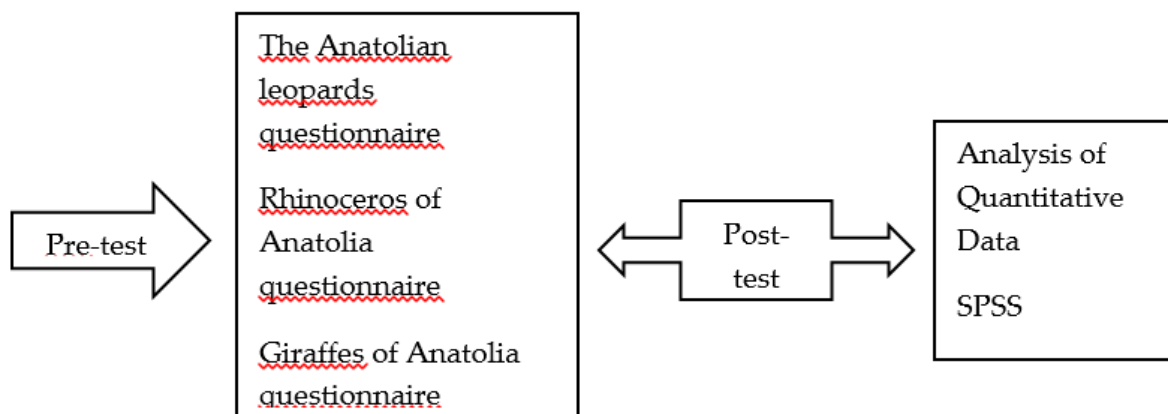
Information on the age of the children in study and control groups is provided in Table 2.

**Table 2.** Distribution According to Age

Sample Group	55–60 months	61–66 months	Total
Study Group	7	6	13
Control Group	8	5	13

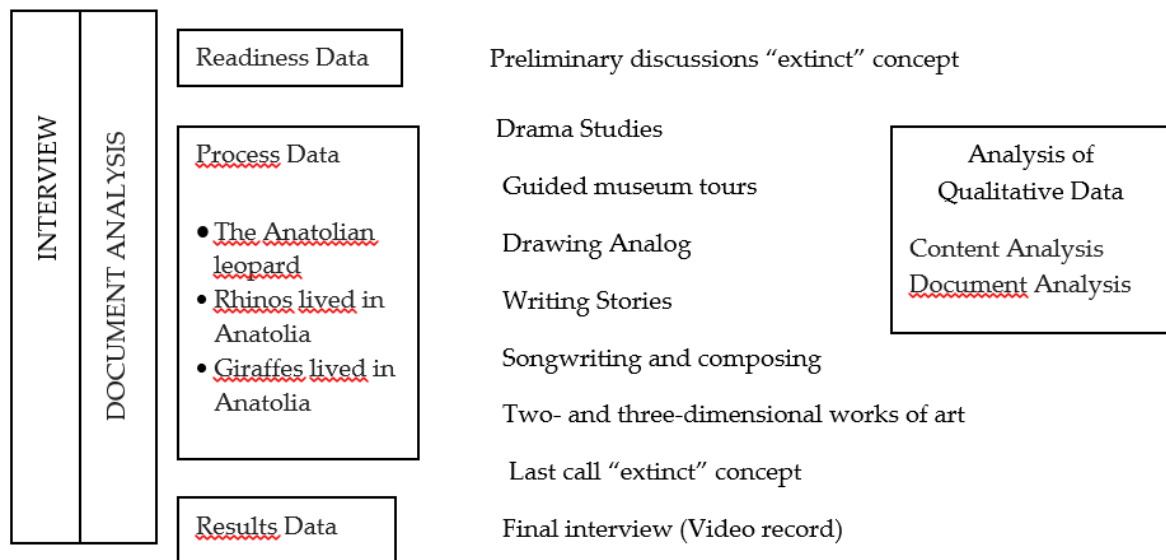
### *Data Collection Tools*

**Quantitative Data:** The study focused on the Anatolian leopards, rhinoceros, and giraffes, three extinct animals that lived in Anatolia, and three different questionnaires were used. In the questionnaires that consisted of seven questions each with three options, visuals suited to the ages of the children were used. Questionnaires were prepared under two headings: habitats and physical characteristics of the Anatolian leopards, rhinoceros, and giraffes. Questionnaires were reviewed and coded by an art educator, who has studies in the related field, and two specialists on pre-school children.



**Figure 1.** Collection and Analysis of Quantitative Data

**Qualitative Data:** In the study, multiple data collection method was used to enable the children to express their thinking in different ways. Interview, drama activities, museum visits, two and three-dimensional works, writing stories, writing poems, creating rhythm, analog images, and final interview were used as data collection tools. As an important information-gathering method, document analysis includes the written and visual materials containing information about the cases targeted in the study (Yıldırım and Şimşek, 2000). At the beginning, children were pre-interviewed to assess their knowledge levels about the term “extinct.” Direct quotations are provided in the Results and Comments section to enhance the internal reliability of the study. The students were named as “S1.....S12,” to maintain confidentiality of their identities.



**Figure 2.** Collection and Analysis of Qualitative Data

**Self-Description Form (SDF):** Information about the genders and ages of the children involved in the study was obtained through Self-Description Forms.

### Data Analysis

Literature on the research topic was reviewed. Qualitative data obtained through the group interviews and assessments of the pictures drawn by the children were interpreted using descriptive analysis technique. In the descriptive analysis, a frame for the data analysis was formed utilizing the questions and dimensions used in the interview process. Data was collated according to this frame, quotations were included to reflect the views of the children, and findings were explained and correlated (Yıldırım and Şimşek, 2000). The findings were then put through a detailed process in the content analysis step. Through the content analysis, data were defined and an attempt was made to reveal the realities that might have been hidden in the data. Data were grouped within the frame of certain concepts, organized, and interpreted. Interpretations of the group interviews and assessments of the pictures drawn by the children were recorded and documented in written form.

For the analysis of quantitative data, Wilcoxon test was used in the comparison of the knowledge level (pre-test and post-test) average scores of the study group and the control group, and Mann–Whitney test was used in the analysis of the knowledge levels (pre-test and post-test) of the study group and the control group in terms of average scores. Statistical Package for Social Sciences for Windows 15 (SPSS 15) was used in the analysis of data, and the significance level was taken as 0.05.

## Results and Comments

In the study, within the context of examining the effect of teaching the concept of “extinct” in museum education activities on the cognitive, affective, and psychomotor development of pre-school children, audio-visual materials were used extensively as they are effective in development areas, such as language development and psychomotor development, and in raising environmental awareness.

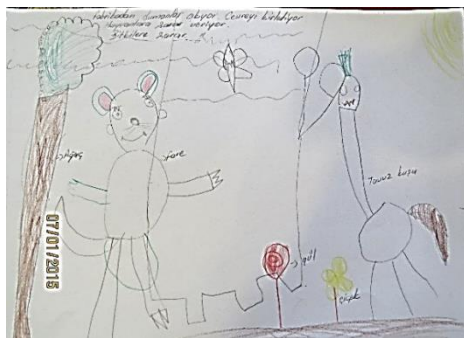
Children in the study group and control group were asked, “Can you explain the term extinct?” in the pre-interview. Children either did not want to answer the question or responded with statements such as “I don’t know, it means they do not exist on earth, dead, etc..” They responded similarly in the post-test, “it doesn’t exist any longer, there will never be these animals, it is finished, it’s life ended, it is dead, disappearing of an organism, etc..” Besides, they listed the reasons for the extinction of the species using the statements, “since hunters hunted them they don’t have homes, they used their furs, they burnt the forests, the weather was very warm, meteors fell, smoke from factories polluted the air, humans destroyed their homes, etc..” It could be said that the children could explain the term “extinct” at the end of the educational activities conducted at the museum.

Questionnaires about the physical characteristics and the habitats of the three extinct animal species (the Anatolian leopard, rhinoceros, and giraffes who lived in Anatolia) were conducted before the first session. In the implementation of the questionnaires where visual materials were used extensively, each question was read to the children and marked with the attendance of the specialists. The comparison of the knowledge level mean scores from those questionnaires are given in Table 3. In Table 3, it can be seen that there was no significant difference between the control and the study groups in terms of the pre-test and post-test mean scores whereas post-test mean scores were found to be significantly higher in the study group than those in the control group ( $p < 0.0001$ ).

**Table 3.** Comparison of the Pre-Test and Post-Test Mean Scores in Control and the Study Groups

Group	Control	Study	P
	± S.S.	± S.S.	
Pre-test	7.00 ± 3.240	9.29 ± 2.128	0.043
Post-test	7.00 ± 3.873	17.50 ± 3.546	<0.0001

In the first session, a discussion was held on “extinction”; thereafter, causes for the extinction of animals were examined with the aid of visuals, and at the end of the session, children evaluated the session in their drawing books. In these evaluations, S1 stated, “Smokes from factories cause the extinction of animals and plants,” S2 stated, “Forest fires cause the extinction of animals” and they drew pictures about their thoughts. Furthermore, it was observed that children were more focused on, asked questions about, and used in their drawings the reasons such as climate change (related to polar bears and the melting of icebergs), hunting, production of garment and accessories, meteorites hitting the earth.



S1



S2

In the second session, MTA Natural History Museum was visited. In the museum, children examined the diorama of the Anatolian leopard, discussed about its physical characteristics with the specialist, and made three-dimensional models of the animal using play dough (Figure 1).



**Figure 1.** Three-dimensional works



**Figure 2.** Drama activities

In the third and fourth sessions, reasons for the extinction of the Anatolian leopard and a story about the place it was last seen were told. In the fifth session, children were asked to write song lyrics mentioning the Anatolian leopard and form a melody using drumsticks.

*“My Leopard  
Triangular ears  
Rectangular body  
Has pointed teeth  
Anatolian leopard  
Runs fast with its pointed toes  
I am the Anatolian leopard with four legs.”*

The sessions, wherein the physical characteristics of the Anatolian leopard were studied, ended with the writing of the above song lyrics.

In the sixth session, children were asked to write a story with the title “I am the Anatolian Leopard,” using their empathy skills. The theme of the story was designed on the most outstanding characteristic of the Anatolian leopard that it runs fast. The story started with the decision made by the animals living in the forest to organize a running race and ended with the emphasis on helping each other and working hard to succeed. In the story, that the Anatolian leopard’s physical characteristics were constantly mentioned and that it could live in the forest. A finger puppet of the Anatolian leopard was made, a letter from the “Association of Wish the Anatolian Leopard Had Lived” was read, and a drama practice on finding solutions to the problem was performed (Figure 2). Following these activities, children were asked to draw pictures on “What should have been done to have the Anatolian leopard living now?”



S3



S4



S5



Children looking for solutions to prevent the extinction of the Anatolian leopard used statements such as the following: S3 "I would create forests to help the Anatolian leopard live," S4 "I would have a protection program for the Anatolian leopard," and S5 "I would protect the Anatolian leopard with incubation technique."

As the pre-school children do not know how to write, they were asked to draw the things they learned, the things they were affected by, or found interesting in order to evaluate the sessions of the day. Elucidated below are the drawings of some of the children related to the Anatolian leopard.



S6A



S6B



S6C

S6A: the child, after learning about the physical characteristics of the Anatolian leopard in the second session, drew the Anatolian leopard searching for food in the forest. He/she tried to draw according to the information he/she gained that involved its pointed teeth as it is carnivorous, toes, legs, fur color, and fur texture. S6B drew himself carrying meat to the Anatolian leopard to prevent its extinction. S6C, in his/her drawing saw himself/herself as the friend of the Anatolian leopard empathizing with it as a result of the story written.

Similar activities in the first six sessions were repeated for the rhinoceros that lived in Anatolia. Rhinoceros showcase in the museum were examined with the guidance of the specialist, and the rhinoceros' physical characteristics, habitats, and the reasons of its extinction were discussed. The activities of restricted painting (S7), writing stories about rhinoceros, picturing "Hunter hunting rhinoceros" (S8), finding the differences, matching, three-dimensional works with play dough, rhythmic work and writing lyrics, developing the play "What is under the cover?," identifying by touching the bones of the rhinoceros, completing pictures to enhance creativity (S9), and drawings in drawing books at the end of each session to evaluate the day (S10ABC) were carried out with the children.



S7



S8



S9



S10A



S10B



S10C

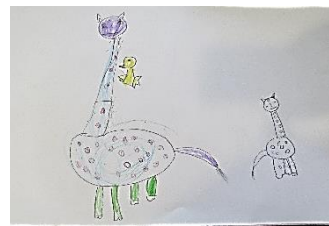
When the drawing books kept as diaries were examined, S10A stated, “hunters hunt rhinoceros,” regarding the reason for the extinction of rhinoceros in Anatolia. S10B tries to help the rhinoceros in her/his, S10C tries to provide a habitat for the rhinoceros to find food and to live. It was noticed in the drawings of the children that they paid more attention to the details about the habitats and physical characteristics of the rhinoceros. They also made more conscious comments than those made before the educational activities.



S11



S12



S13



S14

Similar museum education activities were conducted related to giraffes that lived in Anatolia. Students learn their habitats, eating habits, physical characteristics, and the reasons for their extinction, and they wrote stories and song lyrics and produced two and three-dimensional works. S11, in the creativity enhancement work, pictured the giraffe and the Anatolian leopard, and used the statement, “While the Anatolian panther and giraffe are taking a walk, giraffe eats leaves from the tree.” S12 used the statement, “Giraffes drink water with difficulty because their legs and neck are too long.” S13 stated, “A bird came to help while giraffes were drinking water.” S14 thought herself/himself as friends with a giraffe and pictured herself/himself playing with it. There was an increase in children’s vocabulary related to the term “extinct.” The selection of themes in environmental education that would provide awareness in children about their environment and the changes in this environment, giving information by researching and experiments, and supporting the themes with activities such as drawing, painting, solving puzzles, and playing attracted children’s interest in the environment. In this context, it was understood that it increased the cognitive skills of the children regarding the extinct animals of Anatolia.

## Discussion

Museum education helps children attain their learning aims and provides a hidden and entertaining bridge between educators and students (Ampartzaki et.al., 2013). The effects of museum education on children are undeniable. Museum education provides enhancement in language development (Synodi, 2014), physical development (Hackett, 2014), cognitive development (Atagök, 1982), and environmental consciousness (Mclean, 1996).

There is a need to develop programs where museum education and pre-school education could be conducted in cooperation (HøgHansen and Mousouri 2004 Cited in: Ampartzaki et.al. 2013). From this perspective, it is considered that one of the most effective methods of teaching pre-school children the abstract concepts, such as extinct, is the hands-on-learning, and thus, the essentialness of the museum education comes into prominence. In the analysis, cognitive skills of the study group regarding extinct animals lived in Anatolia were found statistically significant ( $p < 0.0001$ ). Drama, one of the educational activities used in museum education, would provide opportunities to increase the educational attainments that reveal the creativity and productivity of children through museum education as it is an education method that supports cognitive, affective, and psychomotor learning (Adıgüzel, 1993; Oruç and Altın, 2008). Museum visits, drawing pictures, writing stories, writing song lyrics, and creating two and three-dimensioned works contribute to the formal education and also help learning-by-doing (Fidan, 1985).

The aim of the TUBITAK Nature Project about ecology-based education carried out in 2011 at the Private Çine Apiculture Museum was to teach primary school students the function of the honey bees in our life and in the ecological balance through museum education. In the study, it was observed that the activities had a significant contribution to the understanding and verbal expression of the students (Kösoğlu et al., 2011). Akdağ and Erdiller (2006) carried out an education program with 11 pre-school children of age six. The purpose of the program was to provide information about the seas and the underwater life. They concluded that the knowledge and consciousness of the children regarding the seas and the underwater life and their protection increased. It was seen in our study that the educational activities conducted at the Natural History Museum of MTA had a positive effect on the understanding and the verbal expression of the children participated in the study. At the end of the study, children were more attentive to the living organisms in their environment, and they were producing ideas about what should be done to ease their life and protect them.

When the statements and drawings produced by the children at the beginning and at the end of the application are considered, it could be seen that there was a positive change in children's awareness concerning the environmental values and their destruction and the children's thoughts on the environmental issues. While it was seen from their statements that they thought there were no extinct animals in their surroundings at the beginning of the study, the drawings they produced at the end of the study showed that they acquired environmental awareness. This is consistent with the results of the study by Kals et al. (1999; cited in Özdemir, 2010) that showed environmental education with an emphasis on nature experience increases the affective skills of children toward nature.

Activities during environmental education support the cognitive, physical, social, and affective developments of children (Özbey, 2006; Gülay 2011a). During the drama activities in the environmental education, gross motor skills such as running, jumping, walking and fine motor skills such as using scissors, holding, throwing, conducting the activities with play dough and paints are supported. Additionally, "in terms of cognitive development, classification, establishing cause and effect relationship, analysis and synthesis skills, and creativity are supported during the environmental education activities. In terms of social development, skills such as getting familiarized with the surroundings, obeying the rules, sharing, cooperating, and taking responsibility are learned. In terms of affective development, developing empathy, independence, self-confidence, and self-respect develop. In terms of language development, vocabulary develops, and expressive language development occurs" (Gülay and Önder, 2011b). The results of our study showed that the examination of the concept "extinct" in a cause-effect relationship increased the cognitive skills of the children; the new concept learned resulted in learning new vocabulary in terms of language development; empathy was established with living organisms in terms of affective development; and their sense of responsibility was developed through learning different organisms around them.

### Conclusion and Suggestions

In the study, it was found that the pre-school children perceived the concept "extinct" as "dead, does not exist at all, will not exist on Earth again, etc." The study revealed that they did not have any information about the extinct animals in Anatolia. At the end of the study, there was an increase in the awareness levels of the children concerning extinct animals. Through thematic museum education activities, physical characteristics, habitat of animals, ways of nourishment and the reasons of extinction concerning animals that used to live in Anatolia and that are extinct today brought together different feelings, and children related the link between the past and today more easily. Learning-by-doing was rendered possible through museum education taught out of school, made children learn more effectively. As a result of researches and investigations performed by embarking from the concept of "extinct," it was understood that due to their experiences, children performed more creative and detailed work and activities.

The reasons for the pre-school children having limited understanding of the concept of "extinct" may be that the environmental education cannot be realized with different activities in different locations and that children who live in urban areas have little interaction with nature as they spend most of their time in schools, study centers studying, traveling in cars, watching television, and playing computer games at home. Furthermore, it is believed that studies concerning environment and the aims, gains, and concepts that would facilitate the examination of this subject are insufficient in the pre-school education programs. When pre-school education programs are examined, it is seen that the practices related to environmental education are left to the initiative or creativity of teachers. It is thought that this situation might have resulted in environmental studies in pre-school education being below the world average.

Within the context of a permanent environmental education about the animals that used to live in Anatolia and that became extinct, children ensured that they obtain general knowledge. Selecting the themes that will make children recognize their close environment and the changes in that environment will encourage them to make more comments on the environment. Two and three dimension works, musical works, verbal and lingual works, drama etc. that were done within the context of enriched museum visits about the concept of "extinct," enabled children to learn better and permanently. It was concluded that the activities carried out resulted in improvement of students' physical, cognitive, and sensory abilities.

In similar future researches, museum education activities in different themes for different age groups may be planned with the aim of understanding the nature or facilitating the development of nature ethics.

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