

# Implementation of a Performance Task for Developing the Value of Love of Nature

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## Abstract

The purpose of this study is to determine the effects of the love of nature performance task on the opinions and attitudes of 4th grade primary school students at the Science and Art center towards their value of love of nature. The mixed method was used by means of both quantitative and qualitative research models. The experimental group consisted of 10 students while the control group had 11 students. Data was collected through the love of nature attitude scale and the Emotions and Opinions forms. The Mann-Whitney U test was used in the analysis of quantitative data, while the descriptive analysis method was used for analyzing the qualitative data. According to the analysis of the quantitative data, there is a correlation (at the level of  $U = 47.000$ ,  $p < .05$ ) in favor of the experimental group. Meanwhile, based on the analysis of the qualitative data, one may claim that the experimental group students maintained their positive attitude and behavior for the duration of the love of nature performance task. Evaluation of the student opinions about the love of nature value upon completion of the performance task indicates that they value and protect nature and its components, and they make an effort to enhance nature and improve the creatures therein. Accordingly, one may assert that the implementation of a performance task on love of nature had an impact on the student development of love towards nature.

**Keywords:** Values education • Love of nature value • Performance task • Students • Application

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Developments in industry and technology have resulted in negative changes in nature, the environment, and the ecological structure. Reasons for these adverse effects are the contamination and destruction of nature and insensible misuse of natural resources. As a result of industrial and technological developments, the number of working people have increased, people's life styles have changed, and wild life has been harmed due to unconsciousness behaviors toward nature. Consequently, over-consumerist society emerged which then resulted in the misuse of resources and destruction of nature. Therefore, humanity should strive for the collective creation of a more sustainable natural life without harming nature and its resources for a viable future.

In today's world, environmental problems, population growth, housing, energy problems, agricultural problems, desertification, drought, deforestation, soil erosion, extinction of species, water pollution, and soil pollution are the main issues. Our environment, which is the habitat shared and effected by and affecting all living creatures, faces a huge threat due to various types of contamination in the aftermath of the Industrial Revolution, a growing world population since the post-World War II era, and over-exploitation of resources. Such a threat has gradually gained a global dimension and turned into an issue for all of humanity (Kaplan, 1999, p. 120; Kenan, 2007; Türkmen, 2008; Yel, Bahçeci, & Yılmaz, 2008, p. 366). Protection of nature is the only possible way to end the damage to nature and enable it to regain its cycle of nurturing all living creatures therein. The first condition of environmental protection is to promote a love of nature among everyone, beginning with children. One may claim that personal values of love of nature are behind the behaviors towards nature. People who are disturbed by the death of a living creature, the cutting of trees, or environmental pollution caused by industrial facilities would probably not engage in such activities themselves. An individual with such a conscience may acquire the sensitivity required for the protection of wild life and may avoid polluting the environment and nature. Thus a clean and viable environment may be left for future generations. In this regard, the primary measure to take is educating people. Training on nature and the environment should be included in all courses from preschool until higher education (Erentay & Erdoğan, 2009; Gökçe, 2009, p. 252; Kolukısa, Oruç, Akbaba, & Dündar, 2005, p. 128). The purpose of offering students an education in nature and the environment is to enable them to learn about the environment and its natural habitats, to increase their sensitivity on

this subject, and to develop positive values, attitudes and behaviors towards the environment and nature.

Education is a determining factor in shaping a child's perception of their habitat and nature, especially playing an effective role in the acquirement of love of nature and a desire to protect the environment as permanent behaviors as well as transforming them into a life style (Atasoy & Ertürk, 2008). An important issue in nature education is to motivate students by integrating in-class and out-of-class activities to encourage them to engage in experiences that explore nature. In addition, education should address the diversity of nature and the interconnections of the relationships therein. Therefore, children can discover the place of humans within nature, inclusive of both its living and non-living elements as a whole. Through their enriched learning experience, their perceptions, attitudes and behaviors toward nature can be positively affected. In this regard, nature should transform into an environment in which an individual lives and is conscious about rather than a subject they need to study about (Köşker, 2013). Therefore, mankind should bear in mind that they are a part of nature and live their life compatibly. As a result of the existing threats against nature, education can create significant opportunities to learn about nature, to preserve it, and to raise awareness. It would be best to begin this sort of education with children. As a matter of fact, a relationship established with nature at an early age enables individuals to develop a life-long meaningful attachment to it (Louv, 2010). Environmental problems not only threaten the existence of mankind but also threaten to render our world uninhabitable. One way to put an end to destruction is for people to give up their conventional opinions and behaviors both now and in future. This is why people should do their part without delay to find a solution to the aforementioned environmental problems. Today's environmental issues cannot simply be resolved by means of technology or law. A solution is only possible by altering individual behavior (Erten, 2005). An individual that has gained the sensibility of love of nature will value habitat as well as love, protect and beautify nature. At the same time, one may become a role model by raising awareness of how to protect and improve nature. All these issues may be resolved from the beginning if people, including not just students, teachers, and parents, but all of society have humanitarian values, particularly a love of nature.

Values are closely associated with the dimensions of people's emotions, thoughts and behaviors. According to social scientists, values are fundamentally significant in explaining human behavior (Dilmaç & Ekşi, 2007). Values serve as a basic principle in the assessment of behavior, people and events (Collins, Steg, & Koning, 2007). People's values are used in various respects to define certain meanings and reasons in life (Hansson, Carey, & Kjartansson, 2010). They need values to reason with and assess people's actions within a meaningful context (Ruyter, 2002).

The process of values education urges the learner to evaluate their thought process. The attributions people make individually to reality may constitute the foundation of their judgment value. The context they choose forms how learners base their perception of right and wrong, their thoughts on what the meaning of existence is, and what the commonly agreed necessities of life are. Values education should be taught at schools, because schools are subject to the least amount of objection as they are reliable and respected institutions (Kymlicka, 2004; UNESCO, 2005, p. 25).

Recently, the relationship between education and environmental problems has been re-examined, and the compatibility of teachers and curriculum with raising conscious and environment-friendly individuals has been reviewed. As a result, concepts such as virtues, morals, values, tolerance, balance, unity, ethics, development, and economy have been re-defined from an ecological point of view. On one hand, the necessity, significance, function and effects of education on the environment were questioned, while the peripheralization of classes and lack of environmental conscience offered at schools were being discussed in various countries on the other (Atasoy, 2005, p. 2). Schools should be able to mold the values, habits and social behaviors of new generations as well as offer options to make proper choices in the face of contemporary challenges. They should counsel the strategies and objectives required to make those choices. The fact that the future of any society depends on qualified and morally strong manpower is indubitable, yet people do not inherently acquire good moral traits. Therefore, equipping individuals during their age of learning with the values and skills needed to enable them to exhibit appropriate and morally acceptable decisions and behavior is inevitably among the basic objectives of schools. A school is a living habitat and learning environment founded on values (Ekşi, 2003, p. 81; Turan & Aktan, 2008).

Teachers especially are one of the most important role models children take as an example within their immediate environment, and they should present children with positive values to deliver values education in an affirmative manner (Haydon, 2004, p. 116). The efficiency of teachers may be directly proportional to the efficiency of the curriculum. Social studies curricula especially should include love of nature to a certain extent.

In equipping students with the love of nature trait within a social studies curriculum, importance is given to social-participation skills. In this regard, one of the most crucial objectives of education in modern democratic societies is to train individuals who value themselves, their surrounding people, and nature. They are confident in themselves and their society as a part of the world, and they are able to make contributions to society. In order to raise such awareness and have individuals contribute to society, students should perceive social dynamics beginning from the early stages of schooling. Students should develop an interest in social events and be aware of issues. They should take action both for themselves and the sake of others when required. The interests of students, their needs, and the socioeconomic status of the society they live in are factors which affect social participation. Students should be sensitive towards social and environmental problems and be motivated to participate in the resolution process (Ministry of National Education [Millî Eğitim Bakanlığı-MEB], 2005). Hence, it is necessary for students to acquire a conscience about preserving their natural habitat and historical heritage, as well as for developing their artistic tastes and aesthetic senses. Moreover, students should be able to explain the interaction of human beings within their natural environment and create awareness by learning about the properties of their environment. This is why families and teachers should act with common sense in developing the value of love of nature and being role models for children via their positive behavior.

Students, families and other concerned parties should provide values education in all aspects of schooling using appropriate resources and follow up on the efficiency of the offered education (Australian Government Department of Education, Science and Training, 2005, p. 7). In values education, it is crucial to retain student interest by making use of various methods depending on the subject; to give positive examples and activities if needed; to take their age, abilities, skills and

environment into consideration; and for the teacher to exhibit exemplary role-model behavior (Aktepe, 2010, p. 77). Another significant subject in values education is that practice and real life applications are required for the intuitive acquisition of values in a sustainable manner to be emblazoned in the hearts of students (Hossain & Marinova, 2004). In order to instill and perpetuate the value of love of nature among children, it should be introduced to them at early age, to which teachers and parents should also be especially attentive, filled with love of nature, aware that nature is of vital importance for human life, have internalized the concept, and received training in love of nature.

Research on the environment and nature mainly focus on the attitudes and level of awareness of teachers and students towards nature and the environment. According to research, teachers, teacher candidates, and primary school children are aware of the necessity to protect the environment and nature; they attribute importance to nature and environmental values. Additionally, the emotional tendencies of teacher candidates who are more exposed to natural habitats are more positive compared to those with little exposure to nature (Aksoy & Karatekin, 2011; Kahyaoglu, 2012; Karatekin, 2011; Köşker, 2013; Özdemir & Yapıcı, 2010; Yalçınkaya, 2012). Beyond the above-mentioned subjects, the findings of research on definitions of nature and responsibility towards the environment and nature indicate that a majority of primary school students define nature as vegetation, while most teacher candidates perceive nature through concepts such as habitats, aesthetics, sources of peace, and natural elements. Similarly, they describe nature via expressions such as unaffected by human intervention, beautiful and peaceful. Likewise, evaluation of the opinions of primary school students and teacher candidates show that they deem greening and protection of nature as responsible acts (Köşker, 2013; Vining, Merrick, & Price, 2008).

Educational goals in primary school curriculum are informative and based on acquiring attitudes, yet lacking in skill development, sensibility, and values. Furthermore, primary school curricula are drafted with a focus on protecting the surrounding habitat rather than providing a sustainable environmental education (Aydoğan, 2006; Tanrıverdi, 2009). Consequently, one may claim that the interaction of primary schools with the environment is not at the desired level; the curricula are not structured based on the environment and schools are not sensitive

enough towards environmental problems. Research shows that student participation at environmental events is at a considerably low level, and students are inefficient at recognizing environmental problems in their area and offering solutions for these (Sağır, Aslan, & Cansaran, 2008). A review of the literature indicates no previous research on the application of performance tasks on students for the development of the value of love of nature. This study has the feature of being the first-ever in this regard. There are other “nature education” studies, at least. Tahiroğlu (2011) concluded that his values education program had an impact on student attitude and the level attained towards the values of love of nature, cleanliness, and healthiness. Yardımcı (2009) found that activity-based nature education offered at summer science camps positively affected the perception of nature for 4<sup>th</sup> and 5<sup>th</sup> grade students, and it provided students with opportunities to evaluate nature together while broadening their perception of nature. Yılmaz (2006) implemented the methods of cognitive learning and multiple-intelligence theory in order to develop an environmental education method for primary schools in line with the principles of the International Environmental Education Program (IEEP). He compared the success rates of students learning through these methods and claimed that these methods rendered more successful results.

The current study is a first. Nature education is more beneficial when students are offered opportunities to learn through practice and experience. Thus, organizing nature excursions, nature education projects, and requesting students to carry out performance tasks may interest students and render rather useful results. In the scope of this research, students were given performance tasks to learn positive attitudes and behaviors towards the value of love of nature and to feel the significance of nature for living creatures followed by a performance assessment. According to Karagöz et al. (2006) and Göçer (2008), performance tasks are activities which require students to engage and develop their cognitive, emotional, and psycho-motor skills simultaneously and come up with a product. Students should be provided with the opportunity to present their performance task as a product of their individual efforts and in the framework of a particular plan. According to Palm (2008), and Aldakhlallah and Parante (2002), the notion of performance assessment deals with the interpretation of concepts and potential performance of students in real-life situations. The evaluation of student performance tasks will lead to the emergence of positive or negative

aspects of their knowledge and skills at the end of a certain process and will encourage them to think deeper in the face of real-life applications. Based on these explanations, it is believed that performance tasks will help students develop positive attitudes and behaviors towards the value of love of nature. This research aims at determining the effects of the implementation of performance tasks on student thoughts and attitudes regarding the value of love of nature.

### Aim of the Study

The purpose of this research is to determine the effects of the love of nature performance task on the opinions and attitudes of 4<sup>th</sup> grade primary school students at the Science and Art Center towards their value of love of nature. Accordingly, the following questions were set forth.

1. Is there a meaningful correlation with the love of nature value in favor of the experimental group students who were assigned the performance task compared to the control group students who were not assigned to deliver the performance task in the social studies class at the Science and Art Center?
2. What are the activities of experimental group students in the social studies class at the Science and Art Center for the duration of the performance task on the love of nature value?
3. What are the opinions of experimental group students in the social studies class at the Science and Art Center upon completion of the performance task on the love of nature value?

## Method

### Research Model

The research model was designed in compliance with the mixed-method technique. For both quantitative and qualitative data collection, the methods were used together. Only the experimental group students were assigned the performance task on love of nature, while the control group students were not assigned any performance task on love of nature. The qualitative data of the research was collected through the responses of the experimental group students. They were assigned the performance task on love of nature in their social studies class at the Science and Art Center then they answered questions from the Emotions and Opinions form distributed upon completion of the performance task. Meanwhile,

for the quantitative data of the research, the pretest/post-test model was used to compare the differences between the attitudes of the experimental group students who were assigned with the performance task on love of nature, and the control group who were not assigned any task on love of nature. The experimental and control groups were formed using the unbiased allocation method. The pretest was given before the task and the post-test was given after the task to both the experimental and control groups.

### Study Group

The study was conducted on 21 fourth grade students at the Science and Art Center under the Kırşehir (pr. Kırşehir) Provincial Department of Education during the first semester of the 2012-2013 academic year. Ten students were placed in the experimental group, while 11 were in the control group. Science and Art Centers are schools which train students with exceptional skills in the cognitive domain, or arts. The experimental and control group consisted of morning (M1, M2, M3, M4, M5) and evening (E1, E2, E3, E4, E5) sub-groups. Morning and evening groups were evenly distributed among experimental and control groups, for which the pretest results from the Love of Nature Attitude Scale were referred, and indicators such as economic status of the families of students, education level, profession, number of children were taken into consideration in an attempt to equalize the experimental and control groups. For the first phase of the experimental application process, the pretest on the love of nature attitude scale was simultaneously run on both the experimental and control groups. Later, the students were assigned with performance tasks to gain positive attitudes and behaviors towards the value of love of nature, as well as to feel the significance of nature for living creatures. This was followed by a performance assessment. The performance task continued for 4 weeks by the end of which students were asked to fill in the Emotions and Opinions form. The details of the performance task and Emotions and Opinions form can be found in Annex 1 and Annex 2. The research was carried out over 8 weeks. During the first 4 weeks, the students did their performance tasks, and the remaining 4 weeks were for reporting the activities during and after the implementation performance task. At this time the Emotions and Opinions form (Annex-2) was completed. The control group was not assigned any tasks on love of nature; the classroom teacher followed the regular curriculum. Finally, the post-

test for the love of nature attitude scale was given simultaneously to both the experimental and control groups.

### Data Collection Tools

Qualitative and quantitative data collection tools were utilized in this research. The quantitative data collection tool was the love of nature attitude scale developed by Tahiroğlu (2011), while the qualitative data collection tools were the performance task (Annex 1), the Emotions and Opinions form (Annex 2), and the reports outlining the activities of the experimental group upon completion of the performance tasks. In the preparation of Annex 1 and Annex 2, the format drafted by Tahiroğlu (2013) was used. The content, however, was developed by the researcher.

**Love of Nature Attitude Scale:** In this research, the love of nature attitude scale, developed for detecting the attitudes of primary school fourth grade students toward the value of love of nature, was used. The scale was developed by Tahiroğlu (2011). In the first stage, the researcher conducted a 27 item questionnaire on 187 students. The items were summarized under 9 factors and variance was explained at 58.6%. Following factor loading, the items were found to be concentrated fewer than four factors and nine other items were suggested to be omitted. Consequently, the love of nature scale was summed up fewer than four factors and each of the factors was named. The scale consists of 18 items and the Cronbach's alpha reliability coefficient is .81. The scale is a 5-point Likert scale and items were in the following order: Strongly agree (5), Agree (4), Moderately Agree (3), Disagree (2), Strongly disagree (1).

**Emotions and Opinions Form:** The emotions and opinions form was prepared so that students engaged in some activities to gain the value of love of nature. The form puts an emphasis on the importance of exhibiting such behaviors as appreciating nature, loving nature, protecting nature, and beautifying nature and its creatures. The students, upon completion of the performance tasks in the scope of this study, were kindly asked to fill in the Emotions and Opinions form anonymously. They were told that they could fill the form either at school or home at their convenience and submit it to their teacher within a few days. The purpose of this was to make students feel comfortable. Consequently, all students duly filled and returned the forms.

Additionally, measures were taken for the reliability of the qualitative data as per Yıldırım (2010). The researcher made efforts to know the administrators, teachers and students better. The participants were asked to conduct self-evaluations with regard to any positive or negative outcomes they faced as a result of or during the arduous performance tasks. Moreover, the boundaries of the research were set and the researcher was motivated to question his role, to form bonds with the participants on a daily basis and make confirmations via feedback and corrections. Likewise, four expert academicians in quantitative research were consulted. The research was assessed from various dimensions and a framework was set for data analysis. Data collected according to the framework was reviewed and organized. The data collection tools, method of analysis for the data, how the results were obtained, the role of the researcher, and the relationship between the researcher and the participants were explained in detail.

**Student Reports:** The student reports were presented by the experimental group students in the classroom upon completing the performance tasks as instructed. They carried out certain activities depending on their individual case and reported the proceedings. The reports were collected in order to make clear the kinds of activities carried out by the students from the experimental group for the duration of the performance task. Control group students were invited to the classroom during the presentations and they admiringly learned about the activities on love of nature as carried out by the experimental group who had been assigned the performance tasks. The researcher obtained the necessary permissions from school management prior to the study and made a detailed description of the student reports as presented at the end of the performance tasks.

First of all, the researcher prepared the love of nature performance task directive. In line with this directive, students were engaged in activities to develop the value of love of nature over four weeks. The researcher offered counseling and appropriate guidance. The performance task was thus concluded. During the second four-week phase, the students were asked to fill in the Emotions and Opinions form as prepared by the researcher. Relevant reports on their activities were drafted and subsequent presentations were delivered.



## Data Analysis

**Analysis of Qualitative Data:** The descriptive analysis method was used in analyzing the qualitative data. Resolutions were made according to the principles and rules of the descriptive-analysis method. Analysis of the qualitative data was carried out in light of the data collected through the activities from the experimental group during their performance tasks and from the Emotions and Opinions form. At this stage, the data collected from the experimental group during implementation was analyzed and a framework was set forth. At this point it was determined what themes the data would be sorted into. Later, each response to the questions on the Emotions and Opinions form was analyzed, listed, and combined under the corresponding themes. The data that was collected according to the set framework was coded according to the available options and sorted. Finally, the data was described, organized and digitized. The data was simplified and clarified for analysis. Student responses have been directly cited without modification when necessary. A coding method was used for student citations. Participant 1 is referred to as (P1) and participant 2 as (P2), and so forth.

**Analysis of Quantitative Data:** The Mann-Whitney U test was utilized in order to compare the scores of the pretest and post-test of the experimental and control groups in scope of the research. .05 was taken as the standard level of significance. During this phase, the opinions of students on love of nature were analyzed and the data was processed using SPSS software.

## Findings

### Findings on the Attitudes of Experimental and Control Group Students towards the Value of Love of Nature

The Love of Nature Attitude Scale was run as a pretest and post-test on the experimental and control groups in order to respond to the question “Is there a meaningful correlation between the value of love of nature for the control group students who were not assigned the performance task and the experimental group students who were assigned the performance task in the social studies class at the Science and Art Center in favor of the experimental group students?” The findings with regard to the scores of the experimental and control groups upon taking the love-of-nature attitude scale pretest are illustrated in Table 1.

Table 1  
*Findings on Pretest Results of the Love-of-Nature Attitude Scale rating Experimental and Control Group Students*

Group	N	Mean Rank	Rank Sum	U	p
Experimental	10	13.60	216.50	86.500	.630
Control	11	14.30	242.00		

Table 1 shows that upon conducting the Mann-Whitney U test on the scores from the love-of-nature attitude scale pretest rating the experimental and control group students, no meaningful correlation among the groups was found ( $U = 86.500, p > .05$ ) and that the attitudes of both groups towards love of nature before the experiment were similar.

Next, the experimental group was assigned the love of nature performance task. Meanwhile, the control group was not assigned any tasks on love of nature; the teacher for the control group followed the regular curriculum. Later, the attitudes of the experimental and control groups toward love of nature were tested to determine whether there was a correlation between the post-test results of the two groups. Accordingly, Table-2 shows the post-test results of the love of nature attitude scale rating the experimental and control group students.

Table 2  
*Findings on Post-test Results of the Love of Nature Attitude Scale rating the Experimental and Control Group Students*

Group	N	Mean Rank	Rank Sum	U	p
Experimental	10	20.50	346.00	47.000	.013
Control	11	14.00	182.00		

\* $p < .05$ .

Table-2 shows a meaningful correlation in favor of the experimental group students ( $U = 47.000, p < .05$ ) when compared to the scores of the control group upon taking the love-of-nature attitude scale post-test. The results indicate that the experimental group students, who had been assigned the performance task on love of nature, acquired a rather positive attitude compared to the control group students, who had not been assigned the performance task. At the same time, based on these findings, one may claim that the performance task had an impact on students developing a positive attitude towards love of nature.

### Findings on the Activities of Students During the Performance Task on Love of Nature

The question “What are the activities of experimental group students in social studies class at the Science

and Art Center During the performance task on the value of love of nature?" was set forth, and in order to find a response, descriptive analysis was carried out on the data collected through the reports of the experimental group students after their performance tasks. The frequency distribution of the activities are shown in Table 3.

Table 3  
*Distribution of the Expressions of Students with regard to their Activities during the Performance Task on Love of Nature*

Expressions of Students with regard to their Activities during the Performance Task on Love of Nature	<i>f</i>
Total Number of Students	10
I planted a tree and greened the environment	5
I cared for the trees and watered them	10
I cared for the animals and fed them	8
I did not harm plants or animals, I protected them	10
I warned against cutting down trees and prevented trees from being cut down	6
I made a shelter for animals	2
I cared for injured animals	1
I planted flowers to beautify nature	4
I did not litter	10
We collected garbage around our building with friends	9
I did not step on grass and I warned those that did	3
We gathered with friends and fixed broken branches with rope	2
I fed and gave water to birds	4
I visited the animal shelter	1
I took an injured animal to the vet	1
I dropped litter in the recycling bin	5

Table 3 shows that the students attributed significance to cleanliness, maintenance, and the protection of the natural environment during the performance task. They collected garbage around buildings; planted trees; warned those who damaged trees and grass; planted trees for the beautification of nature; fed, pet and protected animals; made an effort to care for injured animals; made shelters for them; and gave water and seed to birds.

For the duration of the performance task, direct quotes from a few students on the activities they carried out are as follows. P4 said, "Without nature, life is not viable. The food chain breaks down. Harmful waste and urbanization destroys nature. Therefore, I collected litter from the ground, because nature is our habitat and other living creatures'. I fed animals. I gave water and seed to birds." P4 expressed that they are aware of the fact that nature is an indispensable living habitat, and that environmental pollution would have adverse effects not only on human beings but also on all creatures. P5 stated, "I set up a home for my cat

at a corner of the apartment yard. I never stepped on grass and I watered grass and trees by fetching water from the fountain at school. I did not litter batteries, plastic bottles, or garbage. I did not hurt living creatures." P7 declared, "1) I treated animals well and I took care of plants. 2) I did not harm nature and protected it from those who did. 3) I took a bird that had been hit by a car. I cured its wound and released it back to nature. 4) I planted trees. 5) My brother grabbed a tree, bent it, twisted it, and then broke it. I was so upset; I warned him not to do that again. 6) I did not litter." P9 stated, "1) I visited an animal shelter with my father and gave the animals bread 2) I helped my father spray pesticides to protect trees in our garden. 3) I planted flowers with my mother in the garden. 4) I sorted plastic, paper, and batteries, and I dropped them in the recycling bin accordingly. 5) A bird's wing was injured. I tried to heal its wing. 6) Nature and wild life are very important for me. Without nature, we would not have trees, soil or water at all. 7) If the destruction of nature and animals continues at this rate, all animals may go extinct."

The findings indicate that the experimental group executed their performance tasks on love of nature. Students expressed that nature is an indispensable living habitat for people, and that environmental pollution would not only adversely affect human life but also all creatures. For the duration of the performance task, the students made shelters for some animals, helped animals in need, watered trees and grasses, did not litter their surroundings with garbage and waste, and so forth. As a matter of fact, their expressions indicate that they are aware that damaging nature will have life-threatening consequences for people, animals and vegetation. In this regard, leaving a viable environment and wild life for future generations is only possible by leaving an unpolluted and unharmed environment and nature.

#### **Findings on Student Opinion on the Value of Love of Nature upon completion of the Performance Task**

The question "What are the opinions of the experimental group students in social studies classes at the Science and Art Center upon completion of their performance tasks on the value of love of nature?" was set forth. In order to find a response, descriptive analysis was carried out on the data collected through the answers of experimental group students to the Emotions and Opinions form developed by the researcher for that end. The outcome of the analysis is as follows.



**Findings that Students Value Nature and the Creatures Therein:** The frequency and percentage distribution of the answers to the question “Please describe how you appreciate nature and the living creatures therein. Please type details of your actions,” as set forth via the Emotions and Opinions form are illustrated in Table 4.

Expressions of Students with regard to their appreciation of Nature and creatures therein	<i>f</i>
Total Number of Students	10
I fed and pet animals	10
I planted flowers and took good care of them	5
I warned a person breaking a tree branch	1
I warned my friend who was filling an anthill with water	1
I treated and took care of injured creatures	1
I took a bird hit by a car, cured its wound, and released it back to nature	1
I planted trees and greened the environment	7
I watered trees	10
I gave water and seed to birds	5
I fed my cat, and took care of it	1
I built a cat shelter in the yard of our apartment	1

Table 4 shows that all students watered trees as well as pet and fed animals. In addition, 70% of students planted trees and greened the environment, while 50% planted flowers, took good care of them, and gave water and seed to birds. Following are the expressions of some of the students indicating that they value nature and the creatures therein.

P2 stated, “I built a cat shelter in the yard of our apartment. I took a bird hit by a car, cured its wound and released it back to nature. I gave water and seed to birds.”

P3 said, “I warned a person breaking a tree branch. If I accidentally break the branch of a tree, I would be very upset. I fed and pet animals. I warned my friend who was filling an anthill with water.”

P10 declared, “I planted flowers and took good care of them.”

It is understood from the expressions of the majority of experimental group students, that they value nature and the creatures therein. One may assert after assessing these expressions that the students have positive opinions about love of nature.

**Findings on the Actions of Students to Protect Nature and the Creatures Therein:** The frequency and percentage distribution of the answers to the question “What did you do to protect nature and the

living creatures therein?” as set forth via the Emotions and Opinions form are illustrated in Table 5.

Table 5  
*Distribution of the Expressions of Students with regard to their Actions to Protect Nature and the Creatures therein*

Expressions of Students with regard to their Actions to Protect Nature and the Creatures therein	<i>f</i>
Total Number of Students	10
I did not harm animals and plants, I protected them	9
I watered flowers, took good care of them	6
I warned people against harming trees	7
I did not litter the environment	9
I warned people against littering	9
I watered plants and saplings, took care of them	6
I never stepped on grass or pressed flowers	7
I dumped nylon bags into the recycling bin	4
I reduced my plastic bag consumption	2

Table 5 shows that 90% of the students avoided harming plants and animals, protected them, did not litter the environment, and warned those who did. Additionally, 70% warned people against damaging trees, didn't step on grass or flowers, and 60% watered and took care of flowers, trees, and saplings. 40% of the students expressed that they put nylon bags into the recycling bin. The following are the expressions of students with regard to their actions to protect nature and the creatures therein.

P1 reported, “I did not harm plants and animals, but took good care of them, protected them, and warned those who damaged them. I fed my cat and took care of it.”

P6 said, “I did not litter the environment and warned those who did. I gave water and seed to birds. I never stepped on grass and warned those who did.”

P8 stated, “I reduced my plastic bag consumption and put nylon bags into the recycling bin. I watered saplings, trees, and flowers, and I took care of them.”

The findings indicate that the majority of experimental group students assigned with the performance task protected nature and the creatures therein.

**Findings on Students Beautifying and Improving Nature and the Creatures Therein:** The frequency and percentage distribution of the answers to the question “What did you do to beautify nature and improve the creatures therein?” as set forth via the Emotions and Opinions form are illustrated in Table 6.

Table 6  
*Distribution of the Expressions of Students with regard to the Beautification and Improvement of Nature and the Living Creatures therein*

Expressions of Students with regard to Beautification and Improvement of Nature and the Creatures therein	f
Total Number of Students	10
I planted flowers	2
We collected garbage around our school with our friends	9
I planted saplings	2
We gathered with friends and fixed broken branches with a rope	1
I watered trees in the yard by fetching water from the fountain at school	10
I tried to cure an injured bird	2
I took an injured dog to the vet with my father	1
I united a separated kitten with its mother	1
I gave water and seed to birds on our balcony	5

Table 6 shows that all students watered trees by fetching water from the fountain at their school, almost all collected garbage around the school with friends, and half of the students gave water and seed to birds on their balcony. The following are expressions of students with regard to the beautification of nature and improvement of the creatures therein.

P2 said, "I watered the trees in the garden by fetching water from the school fountain. I collected garbage around school with friends. I took an injured dog to the vet with my father."

P7 declared, "I gave water and seed to birds on our balcony. I tried to cure an injured bird. I planted flowers and saplings."

The findings indicate that the majority of experimental group students assigned with the performance task made an effort to beautify nature and improve the creatures therein.

**Findings on the Activities of Students with regard to Nature and its Significance and Reasons Thereof:**

The frequency and percentage distribution of the answers to the question "Are your activities in nature important for you? What are the reasons for it being important or unimportant?" as set forth via the Emotions and Opinions form are illustrated in Table 7.

Table 7 shows that 90% of students regard their activities as important. 80% believe that they should protect nature for the continuation of life. 70% believe that they should protect and beautify nature to live in a healthy and comfortable manner. Only 50% believe protection is necessary so that life continues. The following are expressions from a few students with regard to the significance and reasons for their activities in nature.

Table 7  
*Distribution of the Expressions of Students with regard to the Significance and Reasons for their Activities in Nature*

Expressions of Students with regard to the Significance and Reasons for their Activities in Nature	f
Total Number of Students	10
Important	9
Not Important	1
Nature is our living habitat and means a healthy life	1
Nature offers us rich opportunities	1
Nature protects us from natural disasters	1
We have to protect nature for continuation of life	8
Without nature we would not have trees, soil or any water	1
I do not like nature much, I am not keen on protecting greenery	1
If destruction of nature and animals continues at this rate, all animals may go extinct	1
We have to protect and beautify nature in order to lead a healthy and comfortable life	7
We should protect creatures in nature so that life continues	5
If we have large forests, we will have more rain thus abundant fruits and vegetables	2

P3 stated, "It is important because when we have large forests, we will have more rain, thus abundant fruits and vegetables. We have to protect and beautify nature in order to lead a healthy and comfortable life. Without nature, we would not have trees, soil or any water."

P4 said, "Nature and wild life are very important for me. Nature is our habitat as well as other living creatures'. Nature is our source of life and nature offers us rich opportunities."

The findings show that the majority of students assigned with the performance task regard their activities in nature as important. In this regard, they are aware of the fact that large forests would produce rain which would then enable cultivation of agricultural products such as fruits and vegetables. As a matter of fact, one may assert from the expressions of the students that a healthy life for living creatures and human beings is only possible when nature is protected and improved.

**Findings as to Any Former Activities of the Students in Nature prior to the Performance Task:**

The frequency and percentage distribution of the answers of experimental group students to the question "Were you formerly involved in any activity in nature prior to this task?" as set forth via the Emotions and Opinions form are illustrated in Table 8.

Table 8  
*Distribution of the Expressions of Students with regard to their Former Activities in Nature before the Performance Task*

Expressions of Students with regard to their Former Activities in Nature before the Performance Task	<i>f</i>
Total Number of Students	10
Yes, I was involved	7
No, I was not involved	3
I was rarely involved, yet I would like to be as much as I can	1
When I was in kindergarten, I did not pollute nature, I valued it	1
I planted saplings	2
No, but I would like to	1
I was once involved in a similar activity when I was in kindergarten	1

Table 8 shows that 70% of students were formerly involved in an activity in nature. The following are the expressions of some students with regard to their former activities in nature before the performance task.

P5. "No, but I would like to."

P8. "Yes, I was. I was once involved in a similar activity when I was in kindergarten."

The findings indicate that the majority of students assigned with the performance task were formerly involved in activities in nature.

#### **Findings on the Future Plans of Students for Activities in Nature after the Performance Task:**

The frequency and percentage distribution of the answers from the experimental group students to the question "Are you planning to do any activity in nature from now on?" as set forth via the Emotions and Opinions form are illustrated in Table 9.

Table 9  
*Distribution of the Expressions of Students with regard to their Future Plans for Activities in Nature after the Performance Task*

Student Expressions with regard to their Future Plans for Activities in Nature after the Performance Task	<i>f</i>
Total Number of Students	10
Yes	10
No	0

Table 9 shows that all students expressed that they plan to do activities in nature after the performance task. In this regard, one may claim that the students maintain a positive attitude towards nature by being involved in activities for appreciating, loving, protecting, and beautifying nature.

#### **Findings on the Consequences of the Choices of Students with regard to their Activities in Nature:**

The frequency and percentage distribution of the answers of students to the question "Is this convenient for you?" followed by the statement

"Think about the consequences of your choice," as set forth via the Emotions and Opinions form are illustrated in Table 10.

Table 10  
*Distribution of the Expressions of Students with regard to their Thoughts on the Consequences of their Choice*

Expressions of Students with regard to their Thoughts on the Consequences of their Choice	<i>f</i>
Total Number of Students	10
Yes, it is.	10
No, it is not.	0

Table 10 shows that all students expressed that they are comfortable doing activities in nature. In this regard, the following are expressions of some students with regard to valuing, loving, protecting, and beautifying nature.

P1. "Yes, it is very convenient for me. We may lead a more comfortable and healthy life when we protect nature."

P9. "Yes, this is a very important subject. I would always like to be involved in activities in nature because nature is our living habitat. If nature is destroyed, life will also perish."

One may deduce from the expressions of students that they have positive thoughts about their choice of being involved in activities in nature. The acquisition of the value of love of nature by students or their involvement in activities in nature is significant in resolving all environmental problems we face.

#### **Findings on the Benefits of Actions of Students for Them and Their Environment:**

The frequency and percentage distribution of the answers from the experimental group students to the question "What benefits will your actions regarding this choice bring to you and your environment?" as set forth via the Emotions and Opinions form are illustrated in Table 11.

Table 11 shows that 80% of the students expressed that they would learn about their environment, their self-esteem would increase, and they would become clean and healthy. 70% of the students said they would become better individuals as well as the world. Half of the students expressed they would be a good example for people and that their actions would enable them to protect the environment, thus be happy. Meanwhile, 40% said there would be more trees. The following are expressions from a few students with regard to the benefits of their actions regarding their preferred choices for themselves and their environment.

Table 11  
*Distribution of the Expressions of Students with regard to the Benefits of Their Choice for Them and Their Environment*

Expressions of Students with regard to the Benefits of Their Choice for Them and Their Environment	f
Total Number of Students	10
I will learn about my environment, my confidence will increase	8
I will be clean and healthy	8
There will be more trees	4
I will eat healthy and natural food from nature	1
I will become a useful individual	7
Less creatures will die	1
If everyone acts, the world would become a better place	7
I will set an example for people around me	5
It will enable me to protect the environment and make me happy	5
Disasters will diminish	1
I will learn about nature and the environment better	1

P6 shared, “If I act in this manner, I will become a more useful individual for society. We will set an example for the people around us thus making them more sensitive towards nature and making me a better person.”

P10 said, “I will eat more healthy food from nature. I will become healthy and clean. I will learn more about my environment and my confidence will increase. Therefore, this will give me an opportunity to better understand nature and the environment. I will become a useful individual. I wish everyone would and the world could become a better place.”

The students expressed that acting upon their choices would bring benefits to them and their environment.

**Findings on the Implications of Inaction of Students on Their Choices:** The frequency and percentage distribution of the answers of the experimental group students to the question “What would the complications be if you do not act upon your choice?” as set forth via the Emotions and Opinions form are illustrated in Table 12.

Table 12 shows that all of the students expressed that natural balance would be lost and nature would be destroyed, while 90% said living creatures would wither and pollution would increase. 70% of students mentioned deforestation and a reduction in oxygen, and 60% expressed that they would harm nature and bad, unfavorable events would occur. The following are a few of the students’ expressions.

P1 stated, “I will harm nature, nature will become unbalanced, and nature will deteriorate and be destroyed. If I damage nature, bad and unfavorable events will occur. The number of trees will diminish

thus increasing natural disasters, such as erosion. Oxygen will be reduced and living creatures will perish.”

Table 12  
*Distribution of the Expressions of Students with regard to the Implications of Inaction on their Choices*

Expressions of Students with regard to the Implications of Inaction on their Choices	f
Total Number of Students	10
I will harm nature	6
Number of trees will decrease	7
Natural disasters, such as erosion, will increase	3
Oxygen will decrease	7
Everywhere will become more polluted	9
Nature will deteriorate and be destroyed	10
Living creatures will perish	9
Living creatures will be affected badly	2
Wrong and unfavorable events will occur	6
I will be an environmental enemy	1
Living species will decrease	2
Nature will become unbalanced	10

P4 said, “Everywhere will become more polluted. Nature will become unbalanced, and nature will deteriorate and be destroyed. Living creatures will be affected badly, life will perish, natural disasters will increase, bad and unfavorable events will occur, living creatures will perish, and nature will become unbalanced.”

P5 shared, “Living creatures will be affected badly; species will decrease.”

It is understood from the expressions of the students that they are aware of the fact that they would cause negative consequences if they do not act upon their choices. They expressed that living creatures would face negative situations and creatures would be endangered if they harm nature. In this regard, the students who delivered the performance task expressed that they believe it is necessary to preserve natural balance and that their activities for protecting and improving nature are important.

**Findings on Projected Timeline of Student Future Activities in Loving, Protecting and Beautifying Nature:** The frequency and percentage distribution of the answers of the experimental group students to the question “How much longer do you believe you will continue your activities in loving, protecting and beautifying nature?” as set forth via the Emotions and Opinions form are illustrated in Table 13.

Table 13  
*Distribution of the Expressions of Students with regard to the Projected Timeline of Future Activities*

Expressions of Students with regard to the Projected Timeline of Future Activities	<i>f</i>
Total Number of Students	10
For a long time	2
Forever	1
Life-long	2
Till death	2
For a few more years	1
As long as necessary	1
Till the world is a better place	1

Table 13 shows that the students made expressions such as for a long time, forever, life-long, till death, for a few more years, as long as necessary, and until the world becomes a better place. The following are the quotes from a few students.

P2 declared, "Till the world is a better place."

P7 shared, "I am planning to continue all my life."

P9 said, "For a long time."

The statements from the students indicate that they will continue their activities of love, protection and beautification of nature. In this regard, it is understood that they will continue their activities since they comprehend the significance of being a role model as an individual who has gained the value of love of nature and is aware of the importance of protecting and improving.

**Findings on the Discontinuation of Students when Challenged Due to Lack of Time or Any Other Reason that Inhibits their Activities in Loving, Protecting and Beautifying Nature:** The frequency and percentage distribution of the answers of experimental group students to the question "Would you give up on your activities in loving, protecting and beautifying nature if you are hindered, cannot find enough time, or for any other reason?" as set forth via the Emotions and Opinions form are illustrated in Table 14.

Table 14 shows that 90% of the students said they will not give up; 50% expressed they love, value and protect nature. The following are the expressions from a few students.

P3 shared, "I will not give up because nature is the most important [thing]."

P8 said, "No, I will not give up because I love nature. I value and protect it."

P10 shared, "I will carry it out during my leisure time. I won't if I have no time."

The expressions of 90% of the students indicate that they would not give up on their activities in loving, protecting and beautifying nature no matter what, and that they will continue their activities. In this regard, the students believe that their activities in the development of love of nature are crucial in order to prevent natural and environmental issues and endangering the lives and health of all creatures.

Table 14  
*Distribution of the Expressions of Students with regard to the Discontinuation of their Activities in Loving, Protecting and Beautifying Nature when Challenged, Have no Time or for Any Other Reason*

Expressions of Students with regard to the Discontinuation of their Activities in Loving, Protecting and Beautifying Nature when Challenged, Have no Time or For Any Other Reason	<i>f</i>
Total Number of Students	10
I will not give up	9
I will give up	1
I do not give up on anything	2
This is a good thing, I will earn God's grace	1
Nature is very important for me	3
I love nature. I value and protect it	5
I would lose self-esteem if I give up	1
I would carry it out during my leisure time. I won't if I have no time	1

### Discussions, Conclusions and Suggestions

There is meaningful correlation in favor of the experimental group students ( $U = 47.000$ ,  $p < 0.05$ ) as opposed to the scores of the control group students upon taking the love-of-nature attitude scale post-test. According to the post-test results, the level of attitudes of the control group students towards the value of love of nature was low compared to that of the experimental group students. The above-mentioned result confirms that the attitude of students assigned with the performance task on love of nature was positively affected, contrary to the control group students who were not assigned with the performance task. At the same time, one may deduce from this piece of finding that performance task activities had an impact on student acquisition of positive attitudes towards love of nature. A literature review demonstrates that other research (Aktepe, 2010; Dilmaç, 2007; İşcan Demirhan, 2007; Lamberta, 2004; Perry & Wilkenfeld, 2006; Tahiroğlu, 2013; Taylor, 2007) substantiates the finding that activities for values education are effective in altering student attitude and behavior, while there are a few that do not confirm such a result (Robinson-Lee, 2008; Yardımcı & Kılıç, 2010). Conclusions from other

research in the field indicate that students develop positive attitudes and behaviors in the majority of activities or programs regarding values education. The conclusions of the research on love of nature, the theme of this research, as conducted by Keleş, Uzun, and Uzun (2010), similarly show that nature education makes a reasonable contribution to the environmental awareness and attitude towards nature of the participants. Tahiroğlu (2011) concluded that values education programs on the acquisition of the values of love of nature, cleanliness, and healthiness had an impact on student attitude and the level of attainment towards the values of love of nature, cleanliness, and healthiness. Likewise, Yardımcı (2009) and Burgess and Meyer-Smith (2011) claimed that student educational activities inside nature positively affected their attitudes towards nature and created awareness for love of nature.

The expressions of the experimental group students assigned with the performance task indicate that they gave importance to cleanliness, maintenance, and protection of the natural environment. They collected garbage around buildings; planted trees; warned people who harmed trees and grass; planted flowers to beautify nature; fed, pet and protected animals; attempted healing injured animals; built shelters for animals; and gave water and seed to birds. The students demonstrated positive behavior towards valuing nature, towards loving, protecting, and beautifying it. In this regard, one may claim that students have positive opinions on nature and the protection of the creatures therein.

After assessing the opinions of students on the value of love of nature upon completion of the performance task, it is understood that they value and protect nature and the creatures therein, and they make an effort to beautify nature and improve life therein. In this regard, human beings are aware of the fact that living creatures will be sustained by virtue of their sensitivity towards nature and their activities. Students expressed that they had been formerly involved in activities in nature. They value their actions and plan on carrying out future activities after the performance task, as well. One may deduce from these findings that the performance task on love of nature had an impact on the attainment of positive attitudes and behaviors of students with regard to love of nature.

Many other researches regarding the assignment of performance tasks for the development of similar values such as responsibility, freedom, honesty, respect, and so forth, demonstrate the

efficiency of various programs developed for values education. In this regard, a research conducted by Perry and Wilkenfeld (2006) showed that an education program implemented on a group who were included in a moral development education program, had an impact on the level of responsibility undertaken by the group. Taylor (2007) set forth the effects of character traits training on student behavior and claimed that values such as self-control, honesty, reliability, respect, responsibility and sportsmanship were rather positive in the case of students who underwent the education. Lamberta (2004) observed the value of freedom in favor of the experimental group upon introducing values education. Meanwhile, Robinson-Lee (2008) indicated that character traits training was not singlehandedly effective in attaining objectives; program trainers, families, and society need to collaborate on character traits training together in order for the education to be successful. The values of parents, teachers and students should be assessed and evaluated because for the success of values education, the harmony of values among teachers, students, and parents is significant.

In this study, a performance task on the development of the value of love of nature was assigned to students. Students learned by experience and practice in real life situations. Students observed the place, importance and effects of the value of love of nature within life. Consequently, loving nature is a necessity in today's world and one may claim that students are aware of this fact. In this regard, it is understood that students who participated in the implementation of the performance task internalized the value of love of nature and transformed it into actual behaviors in their lives.

Aktepe (2010), who claimed that the value of helpfulness resulted in the development of positive attitudes in students through an education program, stated that the value of helpfulness increased the attitude scores of the experimental group students who underwent activity-based training. Moreover, Tahiroğlu (2013) concluded that performance tasks for the development of the value of helpfulness were effective in student development of positive attitudes. The results of research by Erentay and Erdoğan (2009) and Yardımcı (2009) on the same subject of the value of love of nature indicated that children gain various experiences at an early age by means of educational activities in nature; they can establish meaningful communication with nature and this would facilitate their future life. UNESCO (2005) stated that knowing or understanding



a subject does not mean that it is absorbed or digested, and emphasized that emotional adoption would only occur when a person combines their experiences on a subject with their opinions about it. Tahiroğlu (2013) stated that, considering the effect of values in human life, having our children acquire values grows in importance as time passes. Considering the fact that what children acquire at an early age (during preschool and primary school) are permanent, it is evident that parents, preschool teachers, and primary school teachers play an important role in values education.

The following suggestions may be made according to the findings of the research. Research on performance tasks for other values that are

applicable in life (respect, love, tolerance, freedom, open-mindedness, peace, cleanliness, healthiness, aesthetics, empathy, reasonableness, responsibility, honesty, solidarity, sharing, helpfulness, devotion, mercy, justice, purity, patience, loyalty, diligence, modesty, family ties, hospitality, and patriotism) may be conducted on various grades in school. Values education performance tasks, activities, programs, and projects may be improved and expanded to include students from all grades, their teachers, families, and relevant institutions. This may then contribute to the perpetuation of acquired attainments as well as student development of various values like the value of love of nature and the adoption of positive attitudes and behaviors.

## References

- Aksoy, B., & Karatekin, K. (2011). Farklı programlardaki lisans öğrencilerinin çevreye yönelik duyuşsal eğilimleri. *Türkiye Sosyal Araştırmalar*, 15(3), 23-36.
- Aktepe, V. (2010). *İlköğretim 4. sınıf sosyal bilgiler dersinde "yardımseverlik" değerinin etkinlik temelli öğretimi ve öğrencilerin tutumlarına etkisi* (Doctoral dissertation, Gazi University, Ankara, Turkey). Retrieved from <http://tez2.yok.gov.tr>
- Aldakhilallah, A. K., & Parante, D. H. (2002). Redesigning a square peg: Total quality management performance appraisals. *Total Quality Management*, 13(1), 39-51.
- Atasoy, E. (2005). *Çevre için eğitim: İlköğretim öğrencilerinin çevresel tutum ve çevre bilgisi üzerine bir çalışma* (Doctoral dissertation, Uludağ University, Bursa, Turkey). Retrieved from <http://tez2.yok.gov.tr>
- Atasoy, E., & Ertürk, H. (2008). İlköğretim öğrencilerinin çevresel tutum ve çevre bilgisi üzerine bir alan araştırması. *Erzincan Eğitim Fakültesi Dergisi*, 10(1), 105-122.
- Australian Government Department of Education, Science and Training. (2005). *National frame work for values education in Australian schools* [Online version]. Retrieved from <http://www.curriculum.edu.au>
- Aydoğan, İ. (2006). İlköğretim okullarında okul-çevre ilişkilerinin düzeyi. *Sosyal Bilimler Araştırmaları Dergisi*, 1(2), 121-136.
- Burgess, D. J., & Mayer-Smith, J. (2011). Listening to children: Perceptions of nature. *Journal of Natural History Education and Experience* 5, 27-43.
- Collins, C. M., Steg, L., & Koning, M. A. S. (2007). Customers' values, beliefs on sustainable corporate performance, and buying behavior. *Psychology & Marketing*, 24(6), 555-577.
- Dılmaç, B. (2007). *Bir grup fen lisesi öğrencisine verilen insani değerler eğitiminin İnsani Değerler Ölçeği ile sınaması* (Doctoral dissertation, Selçuk University, Konya, Turkey). Retrieved from <http://tez2.yok.gov.tr>
- Dılmaç, B., & Ekşi, H. (2007). Değerler eğitiminde temel tartışmalar ve temel yaklaşımlar. *İlk Öğretmen Eğitimci Dergisi*, 14, 21-29.
- Ekşi, H. (2003). Temel insani değerlerin kazandırılmasında bir yaklaşım: Karakter eğitimi programları. *Değerler Eğitimi Dergisi*, 1(1), 79-96.
- Erentay, N., & Erdoğan, M. (2009). *22 adımda doğa eğitimi*. Ankara: ODTÜ Yayıncılık.
- Erten, S. (2005). Okul öncesi öğretmen adaylarında çevre dostu davranışların araştırılması. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 28(1), 91-100.
- Göçer, A. (2008). Performans göreviyle ilgili sunum çalışmalarının konuşma ve dinleme becerilerinin geliştirilmesine katkısı. *Dil Dergisi*, 142, 7-17.
- Gökçe, N. (2009). Çevre eğitiminde gazetelerden yararlanma. *Uluslararası Sosyal Araştırmalar Dergisi*, 2(6), 251-265.
- Hansson, T., Carey, G., & Kjartansson, R. (2010). A multiple software approach to understanding values. *Journal of Beliefs & Values*, 31(3), 283-298.
- Haydon, G. (2004). Values education: Sustaining the ethical environment. *Journal of Moral Education*, 33(2), 115-129.
- Hossain, A., & Marinova, D. (2004, February). Values education: A foundation for sustainability. *Seeking Educational Excellence. Proceedings of the 13th Annual Teaching Learning Forum*. Perth: Murdoch University. Retrieved from <http://lsn.curtin.edu.au/tlf/tlf2004/hossain.html>
- İşcan Demirhan, C. (2007). *İlköğretim düzeyinde değerler eğitimi programının etkililiği* (Doctoral dissertation, Hacettepe University, Ankara, Turkey). Retrieved from <http://tez2.yok.gov.tr>
- Kahyaoglu, M. (2012). The relationship between teacher candidates' environmental risk perceptions and problem solving skills. *Journal of Education and Future*, 2, 93-104.

- Kaplan, A. (1999). *Küresel çevre sorunları ve politikaları*. Ankara: Mülkiyeliler Birliği Vakfı Yayınları.
- Karagöz, D., Tekerek, M., Kaya, N., Azer, H., Alıç, M. D., Yilbat, B. ... Ulusoy, K. (2006). *İlköğretim sosyal bilgiler 4 öğretmen kılavuz kitabı* (2nd ed.). Ankara: MEB Yayınları.
- Karatekin, K. (2011). *Sosyal bilgiler öğretmen adaylarının çevre okuryazarlık düzeylerinin belirlenmesi*, (Doctoral dissertation, Gazi University, Ankara, Turkey). Retrieved from <http://tez2.yok.gov.tr>
- Keleş, Ö., Uzun, N., & Uzun, V. F. (2010). Öğretmen adaylarının çevre bilinci; çevresel tutum, düşünce ve davranışlarının doğa eğitimi projesine bağlı değişimi ve kalıcılığının değerlendirilmesi. *Elektronik Sosyal Bilimler Dergisi*, 9(32), 384-401.
- Kenan, S. (2007). Modern eğitimde değer arayışları. *Değerler Eğitimi Merkezi Dergisi*, 1(1), 28-33.
- Kolukisa, E. A., Oruç, Ş., Akbaba, B., & Dündar, H. (2005). People, places and environments. In K. Kuş (Ed.), *Sosyal bilgiler 4 öğretmen kılavuz kitabı* (pp. 126-183). Ankara: A Yayınları.
- Köşker, N. (2013). İlkokul öğrencileri ve sınıf öğretmeni adaylarının doğaya ilişkin algıları ve sorumluluklarına yönelik düşünceleri. *Turkish Studies*, 8(3), 341-355.
- Kymlicka, W. (2004). *Çağdaş siyaset felsefesine giriş* (trans. E. Kılıç). İstanbul: İstanbul Bilgi Üniversitesi Yayınları.
- Lamberta, G. C. (2004). *A values education intervention through therapeutic recreation for adolescents in a psychiatric setting* (Doctoral dissertation, Walden University, Minneapolis, USA). Retrieved from <http://search.proquest.com/pqdtglobal/docview/305076893/fulltextPDF/FE86C2CCD2944F4DPQ/1?accountid=16645>
- Louv, R. (2010). *Doğadaki son çocuk: Çocuklarımızdaki doğa yoksunluğu ve doğanın sağaltıcı gücü*. Ankara: TÜBİTAK Yayınları.
- Millî Eğitim Bakanlığı. (2005). *İlköğretim sosyal bilgiler dersi öğretim programı ve kılavuzu (4-5. Sınıflar)*. Ankara: Devlet Kitapları Müdürlüğü.
- Özdemir, A., & Yapıcı, E. (2010). Öğretmen adaylarının çevre sorunlarına yönelik farkındalık ve ilgi düzeylerinin karşılaştırılması. *Anadolu Doğa Bilimleri Dergisi* 1(1), 48-56.
- Palm, T. (2008). Performance assessment and authentic assessment: A conceptual analysis of the literature. *Practical Assessment Research & Evaluation*, 13(4), 1-11.
- Perry, A. D., & Wilkenfeld, B. S. (2006). Using an agenda setting model to help students develop and exercise participatory skills and values. *Journal of Political Science Education*, 2(3), 303-312.
- Robinson-Lee, W. (2008). *A frame work for understanding character education in middle schools* (Doctoral dissertation, Walden University, USA). Retrieved from <http://search.proquest.com/pqdtglobal/docview/304379922/41CDF-82F551247A1PQ/1?accountid=16645>
- Ruyter, D. J. (2002). The right to meaningful education: The role of values and beliefs. *Journal of Beliefs & Values*, 23(1), 33-42.
- Sağır, Ş., Aslan, O., & Cansaran, A. (2008). İlköğretim öğrencilerinin çevre bilgisi ve tutumlarının farklı değişkenler açısından incelenmesi. *İlköğretim Online*, 7(2), 496-511.
- Tahiroğlu, M. (2011). *İlköğretim 4. sınıf sosyal bilgiler dersinde doğa sevgisi, temizlik ve sağlıklı olma değerlerinin öğretimi ve değerlere ilişkin öğrenci tutumlarının belirlenmesi* (Doctoral dissertation, Gazi University, Ankara, Turkey). Retrieved from <http://tez2.yok.gov.tr>
- Tahiroğlu, M. (2013). İlkokul sosyal bilgiler dersinde yardımseverlik değerinin geliştirilmesine yönelik performans görevi uygulaması. *Kuram ve Uygulamada Eğitim Bilimleri*, 13, 1843-1862.
- Tanrıverdi, B. (2009). Sürdürülebilir çevre eğitimi açısından ilköğretim programlarının değerlendirilmesi. *Eğitim ve Bilim*, 34(151), 89-103.
- Taylor, H. J. (2007). *A comparison of character trait scores for afro students versus non- afro students* (Doctoral dissertation, Wilmington College, Ohio, USA). Retrieved from <http://search.proquest.com/pqdtglobal/docview/304717736/fulltextPDF/A2FFD6E725D24D15PQ/1?accountid=16645>
- Turan, S., & Aktan, D. (2008). Okul hayatında var olan ve olması düşünülen sosyal değerler. *Türk Eğitim Bilimleri Dergisi*, 6(2), 227-259.
- Türkmen, L. (2008). Ekolojik konu ve sorunlar. In O. Bozkurt (Ed.), *Çevre eğitimi* (pp. 153-178). Ankara: Pegem A Akademi.
- UNESCO. (2005). *Learning to do: Values for Learning and working together in a globalized world* L. R. Quisumbing & J. Leo (Eds.), *An approach to teaching and learning values* (pp. 23-32). Bonn, Germany: Author. Retrieved from [http://www.unevoc.unesco.org/fileadmin/user\\_upload/pubs/LearningToDo.pdf](http://www.unevoc.unesco.org/fileadmin/user_upload/pubs/LearningToDo.pdf)
- Vining, J., Merrick, M. S., & Price, E. A. (2008). The distinction between humans and nature: Human perceptions of connectedness to nature and elements of the natural and unnatural. *Human Ecology Review*, 15(1), 1-11.
- Yalçınkaya, E. (2012). İlköğretim 6. sınıf öğrencilerinin çevre sorunları farkındalık düzeyleri. *Marmara Coğrafya Dergisi*, 25, 137-151.
- Yardımcı, E. (2009). *Yaz bilim kampında yapılan etkinlik temelli doğa eğitiminin ilköğretim 4 ve 5. sınıftaki çocukların doğa algılarına etkisi* (Master's thesis, Abant İzzet Baysal University, Bolu, Turkey). Retrieved from <http://tez2.yok.gov.tr>
- Yardımcı, E., & Kılıç, G. B. (2010). Çocukların gözünden çevre ve çevre sorunları. *İlköğretim Online*, 9(3), 1122-1136.
- Yel, M., Bahçeci, Z., & Yılmaz, M. (2008). *Genel biyoloji*. Ankara: Gündüz Eğitim ve Yayıncılık.
- Yıldırım, K. (2010). Raising the quality in qualitative research. *İlköğretim Online*, 9(1), 79-92.
- Yılmaz, D. (2006). *İlköğretimde çevre eğitimi için yöntem geliştirme* (Master's thesis, Marmara University, İstanbul, Turkey). Retrieved from <http://tez2.yok.gov.tr>