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PERCEPTIONS OF PRIMARY SCHOOL 4TH GRADE STUDENTS ABOUT ENVIRONMENTAL
PROBLEMS AND ENVIRONMENTAL EDUCATION

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Abstract

Environmental problems, which are on the agenda of the whole world recently, have made environmental education compulsory. The gradual decrease of resources, global warming, climate change, environmental problems such as the melting of glaciers, the development of technology, factors such as the more frequent use of ready-made packaged food have allowed environmental pollution and related problems to come to light more frequently. Societies that have adopted that having healthy environmental conditions are a human right have higher levels of development compared to other countries. The most important task in raising individuals who are sensitive to environmental problems falls on primary schools. The aim of this study is to reveal the perceptions of primary school 4th grade students about environmental problems and environmental education. In accordance with this purpose thirty-six primary school 4th grade students were reached and interviewed with a semi-structured interview form. Interview results were analyzed through descriptive analysis. As a result, it has been revealed that the students see the environment as a nature, tree, life, greenery and the world. It has been concluded that there is water scarcity, nature pollution, water pollution and cutting trees is an environmental problem. It has been concluded that as an institution TEMA (Turkish Foundation for Combating Soil Erosion), the Ministry of Environment, Urban Planning and Climate Change, the General Directorate of Forestry, Çevko (Environmental Protection and Packaging Waste Recovery and Recycling Foundation), the Ministry of National Education have a duty to be sensitive to the environment and the whole humanity as a person. In order to solve environmental problems, it has been concluded that people have duties such as saving water, keeping the environment clean, protecting nature, planting trees, collecting garbage after picnic, separating those that will go for recycling, using electricity economically, using electric vehicles instead of gasoline vehicles. Related to the environment, it has been concluded that water related painting competitions were held in schools, trees were planted there were recycling bins and environmental boards were prepared. Regarding environmental education, it has been concluded that trees can be planted in schools, painting, poetry competitions can be organized, water saving can be made, recycling bins can be increased and playgrounds can be made of grass and these are desired to be done.

Key Words: Primary school, environmental problems, environmental education

İLKOKUL 4. SINIF ÖĞRENCİLERİNİN ÇEVRE SORUNLARI VE ÇEVRE EĞİTİMİNE YÖNELİK
ALGILARI

Özet

Son zamanlarda tüm dünya gündeminde olan çevresel sorunlar, çevre eğitimini zorunlu hale getirmiştir. Kaynakların giderek azalması, küresel ısınma, iklim değişikliği, buzulların erimesi gibi çevre sorunları teknolojinin gelişmesi, hazır paket gıdaların daha sık kullanılması gibi faktörler çevre kirliliğinin ve buna bağlı sorunların daha sık gün yüzüne çıkmasına olanak sağlamıştır. Sağlıklı çevresel koşullara sahip olmanın bir insanlık hakkı olduğunu benimsemiş toplumların gelişmişlik düzeyleri diğer ülkelere göre daha fazladır. Çevre sorunlarına duyarlı bireylerin yetiştirilmesinde en önemli görev ilkokullara düşmektedir. Bu çalışmada da amaç; ilkokul 4. sınıf öğrencilerinin çevre sorunlarına ve çevre eğitimi yönelik algılarını ortaya koymaktır. Bu amaç doğrultusunda ilkokul 4. Sınıfta öğrenim gören 36 öğrenciye ulaşılarak yarı yapılandırılmış görüşme formu ile görüşme yapılmıştır. Görüşme sonuçları betimsel analiz yoluyla analiz edilmiştir. Sonuç olarak; öğrencilerin çevreyi doğa, ağaç, yaşam, yeşillik, dünya olarak gördükleri ortaya çıkmıştır. Su kıtlığının olduğu, doğa

kirliliğinin su kirliliğinin olduğu, ağaçların kesilmesinin de bir çevre sorunu olduğu sonucuna varılmıştır. İnsanların çevre konusunda duyarlı olmaları için kurum olarak; Tema, Çevre Şehircilik ve İklim Değişikliği Bakanlığı, Orman Genel Müdürlüğü, Çevko, Milli Eğitim Bakanlığı'na; kişi olarak da bütün insanlığa görev düştüğü sonucuna varılmıştır. Çevre sorunlarını çözmek için insanlara; su tasarrufu yapmak, çevreyi temiz tutmak, doğaya sahip çıkmak, ağaç dikmek, piknikten sonra çöpleri toplamak, geri dönüşüme gidecekleri ayırmak, elektriği tasarruflu kullanmak, benzinli araçlar değil de elektrikli araçları kullanmak gibi görevlerin düştüğü sonucuna varılmıştır. Çevre ile ilgili olarak okullarında su ile ilgili resim yarışmalarının yapıldığı, ağaç dikildiği, geri dönüşüm kutularının olduğu ve çevre ile ilgili panoların hazırlandığı sonucuna varılmıştır. Çevre eğitimi ile ilgili olarak okullarında ağaç dikilebileceği, resim şiir yarışmalarının düzenlenebileceği, su tasarrufu yapılabileceği, geri dönüşüm kutularının artırılabilceği ve oyun alanlarının çim yapılabileceği ve bunların yapılmasının istendiği sonucuna varılmıştır.

Anahtar kelimeler: ilkokul, çevre sorunları, çevre eğitimi

Introduction

Everyone needs an environment to live and exist. The environment for living beings, in the strict sense, is a place where they live. In the most general sense, it is a biosphere, living sphere, where there are suitable conditions for the life (Kaypak, 2011). Environmental education represents “an approach, a philosophy, a tool, and a profession” with the aim of creating an environmentally literate citizenry well-suited to address environment and resource sustainability issues (Ardoin & Bowers, 2020). All living and nonliving factors which the living beings interact with are regarded as components of the environment. Accordingly, living components of environment are human beings, vegetation, animals, and micro-organisms while non-living components are climate, air, water, and structure of the earth. Besides examining the environment as a living and non-living environment, it is also possible to examine it as a physical and social environment in terms of its quality. The environment is not only a wide place where a life is maintained, but also a huge ecosystem in which millions of living creatures live. Environment, therefore, in the most general sense, can be defined as a total of physical, chemical, biological and social factors in a definite time, which can have a direct or indirect impact on human beings or living creatures instantly or in a long term (Keleş, Hamamcı & Çoban, 2005; Kayan, 2018).

In the 21st century, environmental problems have become an important issue with gradual decrease of natural resources around the world. Rapid population growth, wars, nuclear weapon tests, unplanned urbanization and industrialization, unconscious consumption of natural sources and forests destruction have caused to increase environment problems (Aygün, 2019). Environmental problems are not only problems of countries anymore, but also the common problems of all humanity exceeding 6.7 billion living on this old planet. We have to protect our old planet and find permanent solutions for environmental problems which can be defined as an implacable enemy of history of humanity (Baykal and Baykal, 2008).

Since the future of our planet is in the hands of today's children, who are the adults of tomorrow, the "investment in environmental education" for children should be perceived as an investment in our world. While making this investment, child-nature interaction should be discussed in a broad framework; educational activities and schedules which will create positive environmental attitudes and behaviors in children should be redetermined, national and international education policies should be revised to raise world citizens who have high ecological culture and environmental awareness. The realization of all these depends on the environmentalization of the theoretical and applied courses in schools and the prevalence and effectiveness of education for the environment (Atasoy & Ertürk, 2008). Environmental education has a great importance in raising individuals who are environmentally conscious, sensitive to the environment and apply them to their lives (Aygün, 2019). As for environmental awareness and positive attitudes towards environment should be given for children at primary school. It is clear that leaving a clean environment to future generations and the existence of a world in which people with environmental ethics are in the majority will be possible with the development of education, behavior and environmental ethics that protect natural resources as well as keeping the population in check (Karaca, 2007:14). Environment education should be given to all individuals of society of starting from pre-school, primary school, secondary, high school, university students, parents, teachers, public, and administrators (Erten, 2004).

As for environment education, it is the process of developing attitudes, value judgments, knowledge and skills to protect the environment, and forming environmentally friendly behaviors and seeing the results of them (Erten, 2004).

The purpose of the education is to build skills for individuals and develop their abilities in a way that enables them to cope with real-life challenges (McClelland, 1973; *Organization for Economic Cooperation and Development—OECD*, 2003).

For this education, primary school term is a basic term in which the students will have especially several attitudes, behaviors and awareness. In this term, it should be given to the students that they are in communication with every living creature around, resources are exhaustible, not infinite, and all living creatures have the right to life (Koto, 2020).

When we look at the primary school programs that are applied in Turkey, the subjects related to environment are given as a part of Life Studies, Science, and Social Studies instead of as a separate course (MEB, 2018a). The environmental education and climate change course was given to the secondary school program as a two-hour-a-week elective course (MEB, 2022). The subject of environmental education was included in the "Life in Nature" unit in the 1st, 2nd and 3rd grades in the Life Studies course curriculum updated in 2018. Looking at the 1st grade Life in Nature unit, it is aimed that the students will observe the animals and plants in the immediate environment and protect them. In addition, keeping environment and nature clean, identifying materials to be recycled, understanding the changes in the seasons by researching the seasons and their features are other targeted learning outcomes. (MEB, 2018a). When examining the 2nd grade Life in Nature unit, it is seen that the subject is handled more broadly compared to 1st grade learning outcomes. In the unit, the necessary conditions for growing plants and animals are explained and its importance is emphasized. Besides that, while giving information about the effect of the natural factors around the individual on human life, the students learn how the consumed materials will contribute to recycling (MEB, 2018a). In the 3rd grade "Life in Nature" unit, the importance of plants and animals for human life is mentioned, starting from the close environment of the individual, the impact of people on the nature, how to take responsibility to protect the nature and environment, and the benefits of recycling are included (MEB, 2018a). The "Journey to the World of Living Beings" unit in the 3rd grade Science curriculum has been associated with environmental education. When we look at the subjects of the unit, some of target outcomes are getting the students to know their close environment, protect and keep it clean. In addition, the other target outcomes are getting students to classify the living and non-living creatures around by giving examples, to be aware of how important the natural environment for human life, to design an artificial environment by explaining the differences between natural and artificial environment (MEB, 2018b). In Science course of the 4rd grade, there are learning outcomes related to environment education in two units: "Lightning and Sound Technology" and "Human and Environment". In the "Lightning and Sound Technology" unit, it is aimed to get students to question the causes of the light and sound pollution, to explain the negative effects of this pollution on the environment and people, and to find solutions to light and sound pollution. In the unit "Human and Environment", it is aimed that students should be attentive to use resources economically and realize the importance of recycling (MEB, 2018b).

As a part of Social Studies of 4rd grade, environmental education outcomes are associated in the learning domains called "Culture and Heritage", "People, Places, and Environment", "Science, Technology and Society" and "Production, Distribution, and Consumption". With these target outcomes, students will be able to research the elements reflecting the national culture around their family and environment and give examples for them, make inferences about the location of any place around them, draw a sketch of the place they used in their daily life, distinguish the natural and human elements in the environment that they live in, observe the weather events around them and transfer the finding to pictographs and use the resources economically (MEB, 2018c).

Additionally, in order to involve the students in the process, and to create environmental awareness, there are several in-class and out-of-class activities in the Life Studies, Science and Social Studies textbooks.

Method

This research was carried out with interview method, one of the qualitative research methods. Qualitative research seeks answers to questions by examining various social events and the individuals living in these events. What qualitative researchers are interested in; It is to find out how people make their own settings and how these settings are affected by their environment through symbols, through rituals, social structures, social roles and similar ways (Berg, 2001: 7). Qualitative studies focus on whether or not there are some elements, rather than frequencies (Bilgin, 2006: 4). The aim of this study is to reveal the perceptions of 4th grade primary school students about environmental problems and environmental education. For this purpose, 36 4th grade students from primary schools in Yeşilyurt district of Malatya were interviewed. In the selection of the sample, easily accessible case sampling was used to be suitable for the research method. In this method, researchers choose a situation that is close and easy to access (Yıldırım & Şimşek, 2005). Interviews are standardized open-ended. (Yıldırım & Şimşek, 2008). Because the interviews are made with pre-planned and carefully prepared questions. The data collected through interviews were analyzed through descriptive analysis. The main purpose of descriptive analysis is to present the findings to the reader in a summarized and interpreted form (Yıldırım & Şimşek, 2005). Each of the questions directed to the students in the interview form was taken as a theme and sub-themes were determined according to the answers given by the students (Yıldırım & Şimşek, 2005). The questions used in the interview form are below (Yıldırım & Şimşek, 2005):

1.What does environment mean to you?

2-What kind of environmental problems do you think we have in the world and in our country?

3- In your opinion, who or which institutions have a duty to make people sensitive about the environment?

4- In your opinion, what kind of duties do people have to prevent and solve environmental problems?

5-What are the activities related to the environment in your school?

6-What do you think schools should do about environmental education? What activities would you like to have in your school for environmental education?

Finding

In this part, there are the answers given to the questions asked to the students. The answers given by the 4th grade students to the question "What does environment mean to you?" are shown in table 1.

Table 1

Primary school 4th grade students 'perceptions of the concept of environment

Responses	f
Greenery	5
Life	7
Gift	1
Place	5
Nature	21
Earth	3
Tree	8
Forest	1

Animal	3
Fun	1

According to Table 1, the students have expressed their perceptions of the concept of environment mostly with the words nature (21), tree (8), life (7), greenery (5), place (5), earth (3), animal (3), gift (1), forest. (1), fun (1). Some of the expressions used by the students while expressing the concept of environment are shown below:

S35 "It is a gift given to us by the world"; S33 "The environment is the place where people, that is, a society, live. People should protect and take care."; S30 "The environment is nature, it is the environment where plants and living beings live."; S18 "Place where humans, animals and all other living beings live"; S12 expressed their views as "For me, the environment means nature, the place we live in".

"What kind of environmental problems do you think we have in the world and in our country?" The answers of the students to the question are given in Table 2.

Table 2

Primary school 4th grade students' perceptions of environmental problems in our country and in the world

Responses	f
Water Scarcity (Drought)	21
Nature Pollution (Environmental Pollution)	15
Light Pollution	1
Sound Pollution	1
Water Pollution	4
Cutting Down Trees	3

It can be seen in Table 2, the students' perceptions of environmental problems in our country and in the world are mostly related to water scarcity (21), nature pollution (environmental pollution, 15), water pollution (4), cutting down trees (3), light pollution (1), sound pollution (1). Some of the expressions used by the students while expressing the environmental problems in our country and in the world are shown below:

S7 "There are many environmental problems in the world and in our country, such as environmental pollution, water scarcity"; S1 stated that "Litter is thrown on the ground, environmental pollution occurs, trees are cut down, nature becomes polluted".

"In your opinion, who and which institutions are responsible for people to be sensitive about the environment?" The answers of the students to the question are given in Table 3.

Table 3

The views of 4th grade primary school students on who or which institutions are responsible for being sensitive to the environment

Responses	f
Tema	25
General Directorate of Forestry	8
Ministry of National Education	3
Environment, Urbanization, and Climate Change (Ministry of Environment)	12
All people	1
Çevko	4

In Table 3, it is seen that the students are mostly focused on Tema (25), Ministry of Environment, Urbanization and Climate Change (Ministry of Environment, 12), General Directorate of Forestry (8), Çevko (4), Ministry of National Education (3), all people (1). The

expressions used by primary school 4th grade students to be sensitive about the environment are shown below:

S8 “Çevko, Tema”; S18 “Ministry of Environment, Tema, Çevko”; S12 “Tema, General Directorate of Forestry, Ministry of Environment”; S35 “such as Tema, General Directorate of Forestry are suitable for this duty”; S24 “All people have a duty. As an institution, it can be the General Directorate of Forestry”.

“What kind of duties do you think people have to solve environmental problems?”The answers given by the students to the question are given in Table 4.

Table 4

Views of 4th grade primary school students about what duties people have to solve environmental problems

Responses	f
Collecting garbage after picnic	5
Protect the nature	7
Separating recyclable materials	5
Keeping the environment clean	14
Planting trees	7
Saving water	14
Using electric vehicles	2
Saving the electricity	3
Saving paper	2

In Table 4, it is seen that the most important tasks for people to solve environmental problems are saving water (14), keeping the environment clean (14), protecting nature (7), planting trees (7), collecting garbage after a picnic (5), separating recycling materials (5), saving electricity (3), using electric vehicles (2), saving paper (2). Some views of primary school students on what duties people have to solve environmental problems are given below:

S7 said “We shouldn’t throw garbage on the floor, we should save electricity by turning off the light when leaving the room, turn off the water while brushing our teeth, use an electric car, wash the dishes in the dishwasher for less water”; S10 “We must use our water sparingly, we must use papers sparingly without wasting them”; S30 “We should not throw garbage on the ground, we should separate recyclable wastes, we should use it sparingly without wasting paper, we should also use electricity and water sparingly”; S25 said “We should use electric vehicles instead of gasoline vehicles”.

“What are the environmental activities in your school?” The answers given by the students to the question are given in Table 5.

Table 5

Views of 4th grade primary school students about the activities done in their schools about the environment

Responses	f
Organizing a painting competition about water	32
Planting trees	3
Recycling bins	5
School boards	1

As it is presented in the Table 5, most students stated that they organized painting competitions about water related to the environmental activities held in their schools (32); having recycling bins (5); planting trees (3), preparing boards (1) are the other responses. Some

views of primary school students about the environmental activities in their schools are given below:

S12 "Water painting competition was organized", S35 "Water painting competition was organized on World Water Day in our school", S34 "We held 22 March World Water Day painting competition", S32 "recycling, 22 March World Water Day painting competition", S19 expressed their views as "planting trees, preparing school boards", and S7 "there was a World Water Day painting competition".

"What do you think schools should do about environmental education? What activities would you like to have in your school for environmental education?" The answers given by the students to the question are given in Table 6.

Table 6

Views of 4th grade primary school students about what can be done in their school about environmental education and the activities they want to do in their school

Responses	f
Planting trees	13
Playgrounds with grass	2
Painting, poetry activities (competitions)	8
Giving a prize to the clean classroom	1
Exhibitions, museums, school boards for environment	2
Increasing recycling bins	3
Paper saving	2
Water saving	4

As it is shown in Table 6, primary school 4th grade students' opinions about what can be done in their schools regarding environmental education and the activities they want to be done in their schools are planting trees (13); painting and poetry activities (competitions, 8); water saving (4); increasing recycling bins (3); paper saving (2); exhibitions, museums, school boards for environment (2); they stated that playgrounds can be made of grass (2). Some of views of primary school students about what can be done in their schools regarding environmental education and the activities they want to be done in their schools are given below:

S11 "Trees can be planted, painting and poetry competitions about the environment can be organized"; S13 "I would like to increase the recycling bins and organize a painting competition to save water"; S35 "There should be various competitions about protecting the environment in our school, on the other hand, the students will have knowledge about it" S14 "A board about the environment can be prepared and exhibited at school to raise awareness of people" S10 "Trees can be planted, all playgrounds can be made of grass".

Discussion and Conclusion

According to the research, it has been revealed that the students see the environment as nature, tree, life, greenery and the world. According to the research carried out by Ertürk (2017), students support the result of this study by expressing the environment as friend, home, oxygen, life, living area, tree, world and nature.

When we consider the environmental problems, it has been concluded that water scarcity, nature pollution, water pollution, and cutting trees are also environmental problems. In their research Aydın & Kaya (2011), it was seen that a significant part of the students stated that they did not have adequate education in formal education institutions on air pollution, water pollution, soil pollution and environmental balance. Aydoğdu (2014), on the other hand, supports the result of this study by classifying environmental pollution as air pollution, water pollution,

wastes, soil pollution and noise pollution in order of pollution in the study he carried out considering the studies and reports made in the province of Elazığ.

It has been concluded that as an institution for people to be sensitive about the environment; Tema, Ministry of Environment, Urbanization and Climate Change, General Directorate of Forestry, Çevko, Ministry of National Education, and as a person, all humanity has a duty. In the study carried out by Karabıçak & Armağan (2004), the existing conservation areas should be expanded as much as possible, both in the world and in our country, and the increase of forest areas and the preservation of the quality of agricultural lands support the result of the study, which they consider important and necessary for an effective environmental management. According to Çiftçioğlu & Aydın (2019), when both the 127th article of our constitution and the current legislation in Turkey are examined, it is seen that the local government units consist of the special provincial administration, municipalities and villages. Each of the local government units has their environmental authority, duties and responsibilities. However, it should be stated that among these local units, especially municipalities, stand out as a much more effective local government unit. Municipalities and especially with the law number 6360 enacted in 2012, metropolitan municipalities are the most effective units within the framework of the principle of locality, with their opportunities and resources. Therefore, it means that municipalities develop more effective policies and be more effective in terms of environmental protection compared to other local government units.

It has been concluded that some tasks fall on people such as saving water, keeping the environment clean, protecting nature, planting trees, collecting garbage after picnic, separating the recyclable materials, saving electricity, using electric vehicles instead of gasoline vehicles to solve environmental problems. Ertürk (2017) It is seen that students support the result of this study by expressing garbage waste, cutting down trees, soil pollution, throwing garbage to water, throwing waste batteries into the environment, air and sound pollution, forest fires as environmental problems.

In his research, Erdoğan (2021) concluded that there is no relationship between planting and environmental insensitivity and environmental emotion. It was found that the environmental behavior of the students who planted was higher. Kayan (2018), on the other hand, states that people who go to picnic, forest or seaside on weekends return home by leaving their garbage as a heap at the end of the day. Also, they expect the nature to absorb it, while they are leaving their garbage. However, in his research he has supported the result of this study by stating that it does not destroy in itself, it starts to emit methane gas and carbon dioxide and will cause the world to warm up day by day, not only from garbage but also from automobiles, which are a part of daily life, mix with the atmosphere, and the fumes from factory chimneys cause carbon dioxide emissions.

It was concluded that painting competitions about water were held in schools related to the environment, trees were planted, there were recycling bins and environmental boards were prepared. Sönmez & Yerlikaya (2017) stated that a feasible and successful environmental education should be carried out in primary education, which is the basic and compulsory education in our country, and in order to raise environmentally responsible individuals with the education to be applied at this level, first of all, it requires to determine the environmental knowledge, awareness and attitude levels of the students in a healthy way and carry out formative activities for them. They argued that the more positive the environmental attitudes of the people, the less their environmental problems will be.

Regarding environmental education, it has been concluded that trees can be planted in schools, painting poetry competitions can be organized, water savings can be made, recycling bins can be increased and playgrounds can be made of grass, and these are desired to be done. As a result of Sadık's (2014) research, teachers should make the subjects related to current

examples concrete to raise individuals who are aware of the environment and can bring solutions to environmental problems, for this purpose, they should benefit more from movies, documentaries, photographs, pictures, newspaper news, cartoons, case studies, etc. He supported the result of this study by stating that as the right role –model, some practices such as planting trees, recycling of wastes like paper, plastic and environmental cleaning should be done.

The subject of environmental education should have importance at all education levels starting from primary school, the learning outcomes in environmental education should be increased and even the environmental education course should be taught as a compulsory course. While providing environmental education, the actions of environmental organizations should be explained in a more comprehensive way and active participation in the actions of these organizations should be ensured. In order to raise environmental awareness in students, activities such as planting trees, having recycling bins, and painting-poetry competitions should be organized in schools. Playgrounds in schools should be made of grass. In order to raise awareness that our resources are limited, cartoon animations which are suitable for children's level should be increased and watched in lessons. Environmental trainings including teachers-students-parents should be organized by environmental institutions.

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