

Identifying the relationship between environmental education and outdoor sports classes and environmental awareness

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Abstract: The aim of the study is to determine the level of environmental awareness of elementary school students who have lessons in environmental education and outdoor sports. The research group consists of 259 students, 140 males and 119 females, attending an elementary school in Tokat province, with an average age of 12.51 ± 0.36 years. A questionnaire was used to determine the students' knowledge, sensitivity and attitude towards the environment. Descriptive statistical methods (arithmetic mean, standard deviation, percentage age frequency) and one-way test ANOVA and independent samples t-test were used to analyse the study data to compare the parameters between groups. Significance was assessed at the $p < 0.05$ level. According to the study, there was a statistically significant difference between the overall mean scores of students' views on environmental sensitivity, which were significantly higher than those of students who had not taken the course ($p < 0.05$). A statistically significant difference was found between the average values of students' general environmental awareness according to gender ($p = 0.049$).

Keywords: Camping, Environmental, Awareness Elementary Students

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INTRODUCTION

Considering that most environmental problems are caused by people's lifestyles, value judgments and attitudes, an educational approach that changes the way people today view nature and shapes their values and attitudes is of great importance for the prevention of environmental problems. Since there is a direct link between environmental problems and environmental education, it is important to identify students' views and awareness of environmental problems. Since the beginning of his existence, man has been trying to understand, explore and make sense of the events surrounding him, and the concept of the environment, which forms a unity with man, has gained importance. The environment is defined as a living environment in which living beings are connected by vital links and are influenced and affected by it. With the existence of mankind, the struggle between man and nature has turned into a power struggle between ecology and economy over time, and this struggle has put mankind in danger of being on the losing side in relation to nature. Increasing demand, industrial development, and pollution threatening the natural resources of countries have characterized the last century.

The root of environmental problems lies in people's views and attitudes toward the environment and the education they receive on the subject that shapes their views and attitudes. Positive environmental attitudes or changes in these attitudes are needed to reduce environmental problems. Environmental education helps to create positive attitudes, take responsibility, and protect and preserve the environment (Thiengkamol & Thiengkamol, 2012). Human behavior and thinking can be used together with a positive attitude towards the environment to solve environmental problems (Teksöz et al., 2010). It is stated that the most important element for the success of environmental education is the teacher, and if the teacher does not have the knowledge, skills, and responsibility to prepare lessons for the environment, it will not be possible to educate environmentally aware students (Deniş & Genç, 2010). Research on environmental

education shows that the environmental topics covered in preschool, elementary, and secondary school programs in our country are not sufficient to develop environmental awareness (Şimşekli, 2001). Considering the importance of values and the environment to human life, it is better to understand that protecting the environment should be taught to people as a value.

When it comes to education, the first term that comes to mind is the institution of 'school'. It has been stated that the mission of schools, which have been established for mass education since the early 19th century, is to raise individuals who can think critically, focus on social issues, be researchers, solve problems, and actively participate in the decision-making process in environmental and political events (Stevenson, 2007). From an environmental education perspective, it is emphasized that schools have some negative aspects. Vester (1997) Points out that with the advent of schools, mental skills began to separate more rapidly from physical skills. In other words, environmental education in schools that is isolated from the natural environment prevents people from perceiving the natural environment and perceiving nature holistically (Vester, 1997). According to the results of a study conducted in the Netherlands, there is no correlation between providing too much information about environmental issues and achieving a positive change in environmental attitudes and behaviors (Dreyfus et al., 1999).

Environmental education has cognitive, affective and behavioral goals. The cognitive goals aim to improve individuals' ecological culture and environmental literacy, while the affective goals aim to create values, behaviors, and attitudes toward the environment and environmental problems. The behavioral goals aim to educate individuals who actively take responsibility and work to solve environmental problems. The influence of an individual's sensitivity and the adequacy of his or her environmental education cannot be ignored in solving environmental problems. In order to determine the starting point for environmental education in all formal educational institutions and in families, how individuals relate to the environment and whether their environmental education is appropriate should be examined. It is important to determine the views of educators and teacher candidates, who have an important role in educating future generations, about their behavior toward the environment and the adequacy of their environmental education. Environmental Education is an elective course added to the primary education program in the 2022-2023 academic year in order to ensure that students grow up as individuals who are sensitive and responsible for the environment. However, it is seen that sample activities on how to gain the targeted acquisitions in the relevant course are not enough in the curriculum and textbooks.

In this study, case study design, one of the qualitative research methods, was used. Therefore, it is aimed to evaluate the student products, student opinions and researcher diaries obtained as a result of the implementation of the activities developed for the environmental education course.

The purpose of this study is to determine the level of environmental sensitivity of students studying in elementary school and taking environmental education and outdoor sports courses. For this purpose, it was investigated whether there is a relationship between students' attitudes, their genders, and students who do not take environmental education courses.

LITERATURE REVIEW

It is well known that preschool children have a great interest in the environment (Turabovna, 2023). For environmental education is to create a solid environmental awareness. Previous research shows that students' knowledge of the environment and their attitudes and behaviors towards it are insufficient. Researchers state that the preschool period should not be neglected, that knowledge, attitudes and behaviors towards the environment are only formed during this period, and that the environmental awareness created has a very important place in the development of positive attitudes and behaviors towards the environment in the following years (Çolakoğlu, 2010). Considering that the number of people who can attend university in our country is low and that primary education is compulsory, the importance of environmental education at the basic education level becomes even greater. A study has shown that the attitude of primary school students towards the environment is high and generally positive (Erten, 2006). On the other hand, a study of university students' attitudes towards environmental problems found that students' attitudes towards environmental problems are generally weak.

One study highlighted that increasing the objectives, outputs and specific days and weeks of environmental education in the program is very important for future generations to become more environmentally aware and that this issue should be highlighted in future program agreements. In another study, a scale was developed and used to assess the level of awareness of environmental issues among teacher candidates. When the results were examined, it was found that although the students had some awareness of environmental issues, it was not sufficient (Turabovna, 2023).

MATERIALS AND METHODS

Participants

The study population consists of a total of 259 students, 140 males and 119 females, attending elementary school in Tokat province, with a mean age of 12.51 ± 0.36 years, who voluntarily participated in the study.

Data collection instruments

A screening model was used in this study. The data collection instrument used in the study was an environmental awareness survey form developed by Çabuk and Karacaoğlu to determine students' knowledge, sensitivity and attitude towards the environment (Çabuk, 2003).

This questionnaire consists of 24 questions designed to determine students' views on environmental awareness. The internal consistency coefficient Cronbach alpha was reported as 0.81. The questionnaire contains questions that aim to find out students' views on whether they are environmentally aware or not and whether the environmental education they receive in formal educational institutions is sufficient to develop environmental awareness. The response options of the questionnaire vary between "Never, Sometimes, Always" for the first twenty questions and "Yes, Partially, No" for the next four questions. The response options were scored considering the score ranges listed below. The minimum score for the items is 1.66 and the maximum score is 2.75. The increase in the score for the items indicates a positive trend in the attitude towards environmental awareness.

Statistical Analysis

The scales collected for the study were reviewed, and missing or conflicting observations were excluded from the study. Those that were valid and acceptable were then analyzed using the SPSS 15 (Statistical Package for Social Science for Personal Computers) program. In analyzing the study data, in addition to descriptive statistical methods (arithmetic mean, standard deviation, percentage frequency), the one-way test ANOVA and the t-test for unconnected (independent) samples were used to compare parameters between groups. Significance was assessed at the $p < 0.05$ level.

RESULTS

Participants' demographic data, parents' education level and place of residence, distribution of students' recreational activities, comparison of students' views on environmental awareness by gender, and comparison of students' environmental awareness scores based on information about participation in outdoor physical education courses are presented in tables.

Table 1. Age Averages of Students

Gender	n	Age (year)	
		x	Sd
Male	140	12.47	0.30
Female	119	12.58	0.42
Total	259	12.51	0.36

Figure 1. Gender distribution of students.

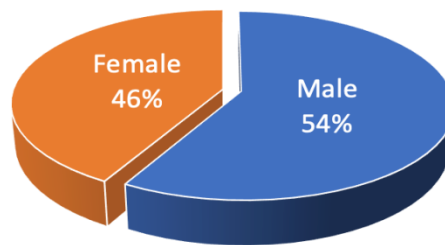


Table 2. Parents' Level of Education and Place of Residence

	Education Status	Occupational Status	
Mother	Primary school (%58)	Housewives (89.7%)	
Father	Higher education (%41.2)	Civil Servants (30%)	
Residential area	Province 58%	Village 13%	Town 7%.

It was found that the mothers of the students studied were mostly primary school graduates (58.6 %) and housewives (89.7 %), while the majority of fathers had a higher education (41.2 % with a high school diploma) and worked as civil servants (30 %). The settlement in which they had lived for a long time was 58% provincial, 22% district, 13% village and 7% town.

Table 3. Distribution of students' leisure activities

Leisure time activities	n	%
Cinema, theatre, concert, etc. Participation in activities	56	22
Reading books, newspapers, magazines	68	25
Participating in excursions in nature	26	10
Participating in sports activities	93	36
Participating in social responsibility projects	7	3
Other	9	4

22% (56 people) of students watch movies, theater, etc. in their free time. attended events, 25% (68 people) read books, newspapers and magazines, 10% (26 people) participated in outdoor trips, 36% (93 people) played sports, 3% (7 people) participated in social responsibility projects, and 4% (9 people) participated in other activities in their free time It was found.

Table 4. Comparison of Students' Views on Environmental Awareness by Gender

Gender	Total Score	t*	p
Female	57,66±6,49	1,922	0,049**
Male	53,23±5,34		

A statistically significant difference was found between the mean scores of students' overall environmental awareness according to gender ($p = 0.049$). It is noteworthy that the mean score of overall environmental awareness of female students is significantly higher than the mean score of male students ($p < 0.05$).

Table 5. Comparison of Environmental Sensitivity Scores of Students Based on Taking Outdoor Sports Course

Course Status	n	Total score	t	p
Those who take outdoor sports	150	56,80±5,13	1,800	0,032*
Those who do not take outdoor sports	109	55,49±6,40		

A statistically significant difference was found between the overall mean scores of students' views on environmental sensitivity depending on whether or not they attended the outdoor sports course ($p = 0.032$).

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Table 6. Average Score of Students in the Environmental Awareness Survey

	Mean		SS	
	Exp.	Cont.	Exp.	Cont.
1. Do you pay attention to the use of consumer products (deodorants and other sprays) that contain substances that damage the ozone layer?	2,18	2,12	0,49	0,51
2. Even if you have your own vehicle, can you use public transportation without being careful not to cause a weather ban?	2,10	2,02	0,53	0,58
3. Are you careful not to interfere with other people when you talk or use various tools?	2,73	2,68	0,51	0,53
4. Do you encourage your loved ones to be sensitive to protecting the air?	2,43	2,39	0,53	0,55
5. Do you purchase cleaning products, making sure they do not contain harmful chemicals?	2,14	2,08	0,49	0,64
6. Are you economical in your use of water under all circumstances?	2,56	2,49	0,49	0,52
7. Are you careful to keep harmful chemicals such as motor oil and paint out of the sewer system?	2,23	2,19	0,65	0,68
8. Are your relatives sensitive to water policies?	2,54	2,46	0,53	0,56
9. Are you careful to use the paper you write on every other day?	2,74	2,59	0,56	0,52
10. Are you frugal in your use of paper napkins under all circumstances?	2,40	2,39	0,65	0,62
11. Would you plant seedlings, making sure they have the right conditions for growth?	2,07	2,05	0,51	0,66
12. Are you paying attention to the waste collectors?	2,73	2,64	0,52,	0,64
13. Can the trash participate in an appropriate recycling program so it can be reused?	2,71	2,59	0,59	0,71
14. Do you separate the trash when you throw it away?	2,20	2,19	0,63	0,66
15. What do you do for the people around you to make them aware of soil conservation?	2,26	2,23	0,54	0,59
16. If you are married, would you pay attention to the use of the population, considering the ecological danger?	2,54	2,50	0,60	0,53
17. Can you see that all kinds of experiments on humans and animals are appropriate for humanity?	1,72	1,70	0,44	0,61
18. What products help the people around you to maintain the ecological balance?	2,44	2,39	0,52	0,57
19. Do you participate in environmental seminars, discussion groups, conferences, etc.?	1,80	1,81	0,51	0,62
20. Are you able to participate in events attended by volunteers who are committed to the environment?	1,74	1,65	0,53	0,68
21. Do you have sufficient educational materials to be informed about the no-fly policy?	2,15	2,09	0,58	0,53
22. Do you have the right to adequate education to raise awareness about water policy?	2,02	2,04	0,62	0,68
23. Do you have the right to adequate education to raise awareness of soil rules?	2,54	2,59	0,61	0,72
24. Do you receive adequate education to raise awareness of ecological balance?	2,42	2,41	0,52	0,52
Total	2,29	2,23	0,54	0,58

DISCUSSION AND CONCLUSION

The aim of the study is to determine the level of environmental awareness of primary school students who have lessons in environmental education and outdoor sports. There is no doubt that human activities are the main reason for the occurrence of environmental problems. The environment is definitely affected by the efforts of people who constantly strive for development and improvement. In order to minimize the impact on the environment, advanced technological methods have been developed, policies have been set and supranational structures and regulations have been introduced. The key to the success of all these measures is to look at the environment. Societies in which people live who are

environmentally aware, sensitive and have a high level of consciousness will be able to minimize environmental problems. The society in which these people live can only be created through education.

Within the framework of scientific studies on education, the behavior of individuals As it takes a long time to determine the change in environmental attitudes, attempts are made to observe indirect changes through various variables such as environmental awareness and environmental sensitivity. Educational research, conducted both inside and outside the classroom, comes to different conclusions about the relationship between these variables (Emel & Uygun, 2012).

In this study, which examined the relationship between environmental education and outdoor sports classes and environmental awareness, there is a significant difference between the environmental attitudes of primary school students and whether or not they have participated in environmental education. In the studies by Deniz, Uzun and Sağlam (Deniz & Genç, 2010), (Yavuz et al., 2014), a significant difference was also found in favor of students who had taken courses on the environment, but it was not possible to determine whether these were applied or theoretical courses. Furthermore, in the study by Unal and Dımışkı (Sevil, 1999), it was found that students who had taken environmental courses were more successful in knowledge questions than students who had not taken any courses.

The study of the research results shows that 22% of the students watch movies, theater, etc. in their free time (56 people), 25% (68 people) read books, newspapers and magazines, 10% (26 people) participate in outdoor excursions, 36% (93 people) play sports, % It was found that 3% (7 people) participate in social responsibility projects and 4% (9 people) engage in other activities in their free time. On the other hand, a statistically significant difference was found between the average values of students' general environmental awareness according to gender ($p = 0.049$). It should be noted that the overall average of environmental awareness of female students is significantly higher than the average of male students. Other studies have found that students generally have the same level of environmental knowledge, but that girls tend to have more positive environmental attitudes than boys (Engin, 2003; Karatekin, 2011). According to (Littlelyke, 2008), Girls are generally expected to be warm-hearted, empathetic, sensitive, tolerant, compassionate, considerate, orderly and responsible. These societal role expectations can contribute to girls developing positive attitudes and behaviours towards the environment. When examining the results of similar studies, it was found that the environmental attitudes of the female participants in many studies were more positive than those of the males (Güler, 2010; Keleş, 2010). The overall mean score of female students who attended the environmental education course is significantly higher than the mean score of female students who did not attend the course in terms of their attitudes towards environmental awareness ($p < 0.05$).

A statistically significant difference was found between the average environmental awareness of students depending on whether they had attended an environmental education course or not ($p=0.032$). When examining the literature, some studies found that students' attitudes towards the environment depended on whether or not they had taken theoretical environmental courses. It was also found that there is a significant difference between the attitudes towards the environment of students who have taken theoretical environmental courses in high school and those who have not (Karatekin, 2019). In the study conducted by Engin (Engin, 2003), a significant increase in the scientific and environmental knowledge of biology students was found before and after the ecology course. However, while it was expected that environmental behaviors and attitudes would change positively in the higher grades as environmental awareness increased, there was an unexpected result regarding environmental behaviors and attitudes in the first grade students. The reason for this could be that students' interest in school and education decreases, especially in the higher grades (3rd and 4th grade) (Littlelyke, 2008).

It is assumed that the general environmental awareness of people who do outdoor sports tends to be positive. Keleş (2010) found in his studies that the nature education program significantly influences the environmental awareness, attitudes and behavior of individuals and ensures permanence (Keleş, 2010). Güler (2009) reported in his study that environmental education practices based on nature education are effective in gaining knowledge about the environment (Güler, 2010). Therefore, encouraging participation in outdoor sports and supporting participation in these activities, especially at a young age, can play an important role in increasing environmental awareness and conservation.

Hofreiter et al. (2007) have conceptualised environmental education in a way that fosters students' critical thinking skills and enables them to fulfil their role as responsible citizens. For this reason, teaching critical thinking skills is integrated into every discussion environment to enhance students' critical thinking skills. The study has shown that critical thinking has a positive impact on environmental awareness. (Hofreiter et al., 2007).

Uzun and Sağlam (2007) investigated the effects of environmental and human courses in secondary schools and voluntary environmental organizations on students' environmental attitudes. It was found that the mean scores of environmental attitudes of students who took the "Environment and Humans" course differed from those who did not take this course, so that the students who took this course had higher levels of environmental attitudes. On the other hand, it was found that the mean scores

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of environmental attitudes and environmental knowledge of students who volunteered in environmental organizations differed significantly (Uzun & Sağlam, 2007). Ardoin et al (2020) conducted a systematic research review in which the outcomes of environmental education were measured and reported. The study, which used a mixed methods approach, analyzed 105 studies. The results generally show that environmental education leads to high levels of positive environmental behavior (Ardoin et al., 2020).

Although educational programs are rich in environmental knowledge (Delibaş & Babadoğan, 2009), the absence or inadequacy of application-oriented environmental regulations and the inadequacy of activities linking educational practices to nature may have led to this result. In order to attract environmentally conscious people, an education system should be developed that enables active participation in environmental issues and counteracts negative trends. The focus should be on educating people who respect each other and have humane values. In this way, it can be ensured that all elements of the environment are fully and accurately known and that the environment is protected. It should not be forgotten that the successful search for political, economic and technological solutions to global environmental problems and the restoration of the long-awaited harmony between man and nature requires educated people.

Considering that the future of our planet is in the hands of today's children, who are tomorrow's adults, the "investment in environmental education" of children should be considered as an investment in our world. In this investment, the interaction between child and nature should be discussed in a broad framework; educational activities and curricula that generate positive environmental attitudes and behaviors in children need to be reviewed.

As a result, a statistically significant difference was found between the overall mean scores of students' views on environmental awareness depending on whether or not they had participated in environmental education courses. The results of the study may indicate that it is more productive for environmental awareness and sensitivity to explain lessons to students in a practical way than to impart theoretical knowledge in environmental courses.

Suggestions

1. Based on the finding that there is a significant relationship between environmental education and environmental attitudes, it is recommended that training programs be implemented that make environmental education a skill in order to increase self-efficacy beliefs and enhance individual performance in this regard.
2. In future studies, comparisons can be made by identifying students' opinions according to the type of school attended (e.g., public or private school). The attitudes of primary school students in public and private schools towards the environment can be compared.
3. Future studies can show whether there is a significant relationship between students' school success or personality traits and their self-efficacy in environmental education or their environmental attitudes. With increasing success, the sensitivity of the participants will also increase, as it can be assumed that they will develop a positive attitudes towards the environment.
4. A quantitative research method was used in the study to determine participants' environmental attitudes and self-efficacy in environmental education. In future studies, a qualitative research method can be used to determine the opinions of the participants.

Author Contributions

Study concept and design: Yasin Arslan. Acquisition of data: Yasin Arslan, Ceren Suveren. Analysis and interpretation of data: Ceren Suveren, Tebessüm Ayyıldız Durhan. Drafting the manuscript: Yasin Arslan. Critical revision of the manuscript for important intellectual content: Yasin Arslan, Ceren Suveren. Statistical analysis: Yasin Arslan. Administrative, technical, and material support: Yasin Arslan, Ceren Suveren. Study supervision: Yasin Arslan, Ceren Suveren, Tebessüm Ayyıldız Durhan.

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