Environmental Awareness and Knowledge Level of Higher Education Students

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ABSTRACT
Objective: This study was carried out as a descriptive study, aiming to reveal the environmental awareness and knowledge levels of the students studying at Karadeniz Technical University Health Services Vocational School.
Method: The study was conducted with KTU HSVS students (n=184) in the 2016-2017 academic year. The data of the study were collected with "environmental awareness" and "environmental behavior" scales. Each of the scales was prepared with 13 items and 5 likert types. The significance level $\alpha = .05$ was taken as the basis for the intergroup significance tests. SPSS-17 program was used for the analysis of the data. Data, descriptive statistics and unrelated samples were analyzed by t-test technique.
Findings: According to the results of the research, it was found that the students opinions were "totally agree" on the environmental awareness scale and "mostly" on the environmental behavior scale. In comparison by genders, the mean score of the environmental awareness scale was found to be significantly different in favor of female students. There was no statistically significant difference between the mean scores of the two scales by classification of class. When the results of all variables were examined in the study, it was found that the students had higher arithmetic average scores of environmental consciousness scale.
Results: It has been determined from the data that students have difficulties in turning their thoughts into behavior. In this context, a sense of education should be developed that relies on educating students, saving them from memorization and developing brainpower, self-evaluating, balanced and productive people.

Keywords: Students, Environmental Education, Environmental Awareness

INTRODUCTION

Environment is defined as "all of the biotic and abiotic (social, cultural, physical, climatic, physical) factors that affect a living organism or a living community during its lifetime". The environment is a setting that has existed since the first living creature on earth. For many living creature, especially for humans, living in harmony with the environment has not been a problem. However, when the two main functions of life (nutrition and reproduction) were threatened by environmental conditions; environmental problems have arisen and therefore ecological science has gained importance. The main reason for the rapidly growing environmental pollution that leads to the deterioration of the human-nature balance is undoubtedly the industry which started in the 17th century and developed rapidly in the 19th century. This phenomenon led to rapid change of the natural environment in the 20th century and the emergence of a new social environment. The reason for this huge change has been production and technological development for the masses, two important features of the industry. When we look at today's conditions, the population is increasing rapidly. With the rapid increase of the population ratio, technological development has been increasing in parallel with industrialization and urbanization; and therefore the amount of solid wastes perched in the environment is rapidly increasing in terms of kinds and quantity. Many problems have arisen resulting from the unconscious and horny use of the

environment. The pollution of the nature has been accelerated and could not be avoided as a result of the rapidly increasing world population, distorted mantle, sludge scattering of wastes, waste of natural resources such as air, soil and water, nuclear tests, natural disasters, wars, greenhouse effect, ozone layer penetration and lack of education. (Morgil,Oskay and Göktaş (2005).

Humans living in the environment, where the disaster is prepared by humans' own hands, are affected negatively by this pollution, just like other living species. Today, air, water and soil are polluted, most of the plant and animal species are depleted and their energy resources are decreasing and disappearing. Thirst, drought and desertification is in an inevitable dimension. People are unhealthy, unhappy and hopeless of the future. Moreover, these problems affect not only one country and the people living there, but all the people living in any part of the world; regardless of language, religion, race discrimination. In this sense, the pollution of nature, the environmental problems become a rather international problem rather than a national one. All countries in the world are trying to do all they can to overcome or reduce these problems, to create common solutions, to bring out researches; "their biggest share in budget is to provide solutions to environmental problems and to leave the environment they live in to be able to live in the next generation". (Yiğit, E., Kıyıcı, F., Çetinkaya, G. 2014).

Acquiring environmental awareness means learning to stand against the environmental problems and the threats posed by these problems. Environmental pollution is at the beginning of environmental problems. Environmental pollution is the involvement of all kinds of matter or energetics in a quantity that is above the natural accumulation (Kıyıcı et all, 2005). With this substance or energies it is "the natural structure of the environment and its composition deteriorating, changing and thus affecting people negatively".

Environmental pollution emerges as pollution of air, water, soil, noise and radioactive manners (Çevre ve insan, 2001). Developed countries that have become aware of their responsibilities to be sensitive to the environment and to gain environmental awareness to all individuals have started to make their first attempts in this field in the 70s. It was for the first time in the United Nations Conference held in Stockholm in 1972, when environmental problems were brought to the agenda (Yasar, Ş., Gultekin, M., Kose, N., Girmen, P. & Anagun, S, 2005). Even the holistic view of environmental education, called "Agenda 21", was adopted by 175 countries at the first United Nations World Summit in Rio de Janeiro (Talero, 2004). For the first time in the world, countries that couldn't come together in most of the issues have reached a common decision on the environment; this puts the importance of the problem and the necessity of urgent solution proposals (Morgül et all, 2005). The aim of environmental education programs is to inform all sectors of the society about the environment, to raise awareness, to bring positive and lasting behavior changes and to provide active participation of individuals in solving problems. In line with this aim, a society that is sensitive to the environment will be established, it will be able to cope easily with existing environmental problems and prevent new problems from occurring, thus providing important benefits in terms of economy and time in solving problems. Environmental awareness has intellectual, emotional and behavioral dimensions. In other words, environmental awareness is made up of various thoughts, principles, opinions about the environment, thoughts that include comments, behaviors of these thoughts that are passed on to life. The development of such a comprehensive concept is undoubtedly not a simple process. This process of accelerating with the introduction of interaction with the environment of human beings continues throughout life. In line the development of the environment conscious personality, it develops through mutual interaction of various factors. These three dimensions have not always developed in the same proportion. For example, there may be individuals who are concerned about the environment and can not turn it into behavior, as well as those who are worried about the pollution of the environment but do not behave in a way that protects it.

For this purpose, this study was planned in order to determine the availability of high education students to certain terms in the environment. The results will reveal whether an environmental phenomenon had occured among students.

This study was conducted with the aim of determining environmental awareness and behavior of Higher Education students. To achieve this goal, following problems were examined.

1) What are the environmental awareness and behaviors of higher education students?

2) Is there a statistically significant difference between the environmental consciousness and behavior according to the genders of higher education students?

3) Is there a statistically significant difference between environmental awareness and behavior according to the programs the higher education students' school type?

Method

Model of Study

This research was carried out to investigate the consciousness and behaviors of higher education students towards environmental awareness and consciousness level in terms of some variables. It is a descriptive study with screening model. The screening model is a research approach aimed at describing the past or present as it exists. By this model, the main subject of research is tried to be defined as an event, an individual or an object within its own conditions. No effort is made to alter or influence them (Karasar, 2005: 77).

Universe and Sampling

The universe of the research consists of students studying at Karadeniz Technical University Health Services Vocational School in 2016-2017 academic year. The research sample consisted of 184 persons who completed the measurement instrument among Medical Imaging and Techniques (MIT), Medical Documentation and Secretariat (MDS), Medical Laboratory (ML) and First Aid and Emergency (FAE) Program students. The demographic characteristics of the students participating in the survey are given in the table below.

Table 1. Distribution of Students by Demographic Characteristics

Variables	f	%
Gender		
Female	104	56.52
Male	80	43.48
Program		
MIT	52	28.26
MDS	48	26.09
ML	42	22.83
FAE	42	22.83

Data Collection Tools

The data used in the research were collected by environmental awareness and environmental behavior scales. Each of the scales consists of 13 items and is prepared as a 5-point likert type. While the environmental consciousness scale was rated as; - Totally Agree, -Agree, -Indecisive, -Disagree and -Totally Disagree; the environmental behavior scale was graded as -Always, -Mostly, -Sometimes, -Barely and -Never.

The cronbach alpha internal consistency coefficient of the environmental awareness scale was 0.82; whereas the cronbach alpha internal consistency coefficient of the environmental behavior scale was 0.78.

Table 2. Limitatios Considered in Assessing Measurement Tool Data

Degrees	**Value Range**
Totally agree Always	4.20-5.00
Agree Mostly	3.40-4.19
Indecisive Sometimes	2.60-3.39
Disagree Barely	1.80-2.59
Totally disagree Never	1.00-1.79

Analysis of Data

Data were analyzed using SPSS-17 program. Besides the descriptive statistics, independent samples t-test technique was used in analysis of data.

FINDINGS

The scores obtained from the environmental awareness and behavior scales of the students were analyzed by descriptive statistics technique for question 1 and by t-test technique for questions 2 and 3, and arithmetic mean and standard deviation distributions were tabulated.

Table3. Environmental Awareness and Behavior Scales - Descriptive Statistical Data

Scale Type	N	Minimal	Maximal	X	SS
Environmental Consciousnes					
184		1,00	5,00	4,81	0,53
Environmental					
Behaviour	184	1,00	5,00	3,97	0,54

The scores of the 184 students participating in the survey are given in Table 3. The arithmetic mean of the scores obtained from the environmental consciousness scale was X = 4.81, while the arithmetic mean of the scores obtained from the environmental behavior scale was X = 3.97.

Tabe 4. T-Test Results of Environmental Consciousness Scale By Gender of Students

Gender	N	X	SS	t	SD	p
Female	104	4,68	0,71			
2,03					48	0,04*
Male	80	4,42	0,94			

*p<0,05

When Table 4 is examined, it could be concluded that chemistry teacher candidates according to their gender have a statistically significant difference in favor of female students between the average points of environmental consciousness scale [t (48) = -2,03; p <0.05]. The mean score of the environmental consciousness scale of female students was X = 4.68, while the average of male students was X = 4.42.

Table 5. T-Test Results of Students' Behavioral Scale by Gender

Gender	N	X	SS	t	SD	p
Female	104	3,64	0,54			
-1,51					48	0,18
Male	80	3,81	0,52			

When Table 5 is examined, it could be concluded that there is no statistically significant difference between the average scores of the behavior scale scores of the students according to their gender [t (48) = - 1,51; p> 0.05]. The average score of female students 'environmental behavior scale is X = 3.64 while the average of male students' score is X = 3.81.

Table 6. T-Test Results of Environmental Consciousness Scale By Students' School Type

School Type	N	X	SS	t	SD	p
MIT	52	5,06	0,54			
MDS	48	4,35	0.53			
				0,08	48	0,82
ML	42	4,34	0,51			
FAE	42	4,31	0,52			

When Table 6 is examined, it could be concluded that there is no statistically significant difference between the average scores of environmental consciousness scale of students according to the programs [t (48) = -0,08; p> 0.05]. MIT Program students' average environmental awareness scale score was X = 5.06, MDS Program students' environmental awareness scale score was X = 4.35, ML Program students' environmental awareness scale score was X = 4.34 and FAE Program students' environmental awareness scale was X = 4.31.

Table 7. T-Test Results of Environmental Behaviour Scale By Students' School Type

Program	N	X	SS	t	SD	p
MIT	52	4,17	0.36			
MDS	48	3,65	0,33			
				0,46	48	0,66
ML	42	3,69	0.31			
FAE	42	3,72	0,28			

When Table 7 is examined, it could be concluded that there is no statistically significant difference between the average scores of environmental behavior scale of students according to the programs [t (48) = -0,46; p> 0.05]. MIT Program students' average environmental behavior scale score was X = 4,17, MDS Program students' environmental behavior scale score average was X = 3,65, ML Program students' environmental behavior scale score average was X = 3,69 and FAE Program students' environmental behavior scale was X = 3.72.

DISCUSSION AND RESULTS

Investigating the consciousness and behaviors of higher education students, this study found out that the average level of environmental consciousness and behavior scores of the students was generally high. The lowest score in the scales is 1.00; while the highest average score is 5.00. These findings indicate that the average scores of the students participating in the survey are -totally agree for the environmental awareness scale and -mostly for the environmental behavior scale.

When the environmental awareness scale was examined as content, the students expressed the opinion that they should be educated and educated through media. It has been found that they are supporting the units working on environmental protection, increasing the production of recycled materials, replicating energy-saving products, producing and using environmentally friendly products, having chute units for all kinds of chemical wastes and using natural gas. However, it has been argued that car exhaust inspection is not so important and communication technology such as mobile phone does not heavily harm the environment. This situation is thought to be caused by the lack of information and misconceptions of the students. It is very well known that the lack of information on environmental issues causes many environmental problems (Karpudewan et al., 2007).

When the environmental behavior scale is analyzed as a content, the students stated that they did not follow the publications related to the environment, they did not spend time on the topic, they saved energy and they shared some of their old products with others instead of throwing them away. However, they pointed out that most of the recycled products they use are not delivered to the relevant units and that they use products that are known to be harmful to the environment. However, besides the use of chemical substances, it is seen that they are in favor of the use of natural substances when the use of natural substances is possible.This situation reveals the necessity of environmental practices for students as both consciousness and behavior.

It was found that there was no statistically significant difference between the average scores of environmental behavior scale scores of students according to their gender, and statistically significant difference was found between mean scores of environmental awareness scale in favor of female students.

It is thought that the reason for the favor of the girl students may be the result of the ideal image uploaded to the role of women in almost all societies (Sadık & Çakan, 2010). According to Kagitcıbası (1990), women are generally expected to behave warmly, empathically, sensitively, tolerant, compassionate, thoughtful, orderly and responsible. It is thought that society expects these roles to lead women to be more sensitive in communication (akt, Sadık and Sari, 2010; Çimen, Yılmaz & Çimen, 2001). Gama (2003) stated that this result could be evaluated positively in terms of the female students' being a candidate for mother.

There was no statistically significant difference between the environmental consciousness scale and the environmental behavior scale average of the students according to the school type. In addition, it was observed that the average scores of MIT students were higher in both scales. As a result, the education they received was parallel to the students' perceptions of the environment, even at a low level, and this consciousness turned into behavior. However, this data also shows that students are not at a desirable level to show their environmental awareness in their behaviors. It could be argued that this is caused by the lack of adequate training in practice.

As the first step to creating a sustainable environment, to obtain safe, green products and to design green operations; our current and future students will be educated more in the environmental field. Because education serves as a bridge between knowledge and actions.

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