

Full Length Research Paper

Examination of primary education department preservice teachers' attitudes towards environment according to various variables

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Received 20 January, 2016; Accepted 5 April, 2016

The study group was composed of 114 students from the Education Faculty of Uludag University in the spring semester of 2014 to 2015 academic year. 90 of them were female and 24 were male; 52 were enrolled in the classroom teaching and 62 in the social studies department. The 27-item "Environmental Attitude Scale" developed was used in the study. To analyze the data, the statistical package for the social sciences (SPSS) program was used. The Kolmogorov-Smirnov test was used to check if the data distributed normally. It was observed that while the results of the Environmental Behavior Scale distributed normally, those of the Environmental Thought Scale did not. The Environmental Behavior Scale was composed of 13 items; the Environmental Thought Scale consisted of 14 items. Items were scored from 1 to 5. In terms of environmental behaviors, no statistically significant differences were found according to gender and branch. Again, no statistically significant difference was found in terms of environmental thought according to gender, but a significant difference was observed according to branch. When the students' attitudes were compared, it was observed that they exhibited a high level of attitude towards environmental thought but a middle level attitude towards environmental behavior.

Key words: Environment, environmental education, environmental attitude, environmental thought, student teacher.

INTRODUCTION

The concept of environment denotes humans' mutual relationships with other humans, affecting one another in the process of relationships, their mutual relationships and interactions with all living things other than themselves, that's to say, with species of plants and animals. It also refers to humans' mutual relationships with all non-living things in the environment remaining outside the world of living things but in which living things

continue to live, that is to say, air, water, soil, underground treasures and their mutual relationships with the climate and their interactions within the framework of these relationships (Keleş et al., 2009).

Contrary to other living things, humans take their environments under control with technologies they develop (Çepel, 2008). Hence, in order to meet their gradually increasing requirements, they continue to affect

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natural life negatively and use up natural resources rapidly and unconsciously. Rapid population growth, too, gives acceleration to this destruction (Erentay and Erdoğan, 2009). Together with industrialization, many countries accepted nature as an endless resource but it was too late when they realized that it would be destroyed forever and never come back to its previous state (Nazlıoğlu, 1993).

However, having faced with some heavy environmental problems, our country became aware of the importance of this issue, though it was late. Then, it added the topic of environment to the new education programs accepted in 2004 with the aim of training environmentally-sensitive citizens. In the 4th Environment Council held by the Ministry of Environment in Izmir in 2000, it was emphasized that environmental education given in our country was insufficient. That is why, with the aim of having preschool children acquire a love of nature and develop positive attitudes and behaviors towards environment, environment-themed topics were included in the programs starting from this educational stage within the framework of the cooperation with the Ministry of National Education. In this way, by using technology and practicing such matters as love of nature, children were to acquire an ecological viewpoint and the logic of ecosystem starting from the primary education age in all the formal education levels (Environment and Human, 2001).

The awareness of nature to be made to acquire in the childhood period is closely related to the nature education to be given in the socialization process. In this direction, when the actual state is looked in, it is observed that the concepts of nature education and environmental education or those of "nature" and "environment" are used interchangeably. This was also seen in the examination of the dissertations written on the subject matter (Özgüner et al., 2007).

Environmental awareness develops with mutual interaction of various factors parallel to personality development. In the development of environmental sensitivity, the family, educational institutions, mass communication means and non-governmental organizations have important roles. Environmental sensitivity, in other words, environmental awareness, includes a dynamic structure which can develop throughout life. That is to say, it is not a structure which is formed in a period of our life and does not change at all later, but a structure which is shaped, developed and sometimes might be regressed by effects coming both from the person itself and from around the environment. In the formation of this structure, as it is with many other features, the foundation formed in the childhood years is extremely important (Türküm, 1998).

It is a known fact that educational activities are important in the approaches to permanent solutions of environmental problems. Raising individuals who are conscious of environmental problems and sensitive to the environment appears as the most effective way of solving

these problems. It is necessary to inform individuals about the subject of environment and achieve behavior modification by having them acquire positive attitudes. In this context, the importance of education to be given in the solution and prevention of environmental problems is to be considered. The success in this matter is possible through the formation of positive attitudes and behaviors in the society. Undoubtedly, individuals having a negative attitude towards the environment will be indifferent to environmental problems and even continue to create problems to the environment (Uzun and Sağlam, 2006).

Attitude is a mental, emotional and behavioral reaction predisposition which individuals organize based on their experiences, knowledge, emotions and motivations towards themselves or any object, social matter or event around them (İnceoğlu, 2010). Environmental education has an indisputable importance in the analysis of the environment, perception of the integrity of nature and the planet, and the acquisition of environmental sensitivity and awareness. The foundation of the environmental education is for protecting the nature and natural resources. Environmental education should not only give information but also affect human behavior. In order to achieve positive and permanent behavior modifications in individuals and have them actively participate in the solutions of problems is the basic goal of the environmental education (Şimşekli, 2004).

Since education is an important tool in changing attitudes, teachers' knowing their students' attitudes towards their lessons and how to measure them can be an important factor in increasing the quality of education. And this makes it inevitable to measure and evaluate these attitudes and make studies on them (Özgen et al., 2007).

In a study carried out with the aim of determining the effects the environmental education program carried out based on the nature experience on the primary school students' perceptions about and behaviors towards their environment, Özdemir (2010) determined that the participant students' awareness levels related to the environmental values and the fact that they were spoiled, their concrete worries about and reactions towards the environmental problems which they were faced with and also responsible behavior tendencies towards the environment increased. Environmental education is generally examined under three headings:

1. Education given in the natural environment: It is the education by which children learn by personally interacting with nature and acquire information by doing and experiencing. Children are made to develop more positive attitudes towards their environments by personally interacting with their natural environments (playing in the mud, feeding birds, etc.).

2. Education about the environment: It is the education by which children acquire information about how natural events occur. It is the educational process in which they

acquire information about such matters as how rain takes place, how plants grow.

3. Education for the environment: It is the education in which information is given in relation to the protection of the environment and the precautions against the upset natural balance (Kesicioğlu and Alisinanoğlu, 2009).

Low information and awareness level which individuals have in relation to environmental problems is an important cause of these negative attitudes and behaviors leading to these problems. Of course, identification and elimination of environmental problems is possible only through recognition of them. For it is unlikely to expect individuals not being aware of the problems to be sensitive to these problems, and asking them to modify their behaviors result to them having more problems. From this viewpoint, it is considered that determining and increasing awareness levels of individuals in relation to the environment and environmental problems is one of the preconditions of coping with environmental problems (Güven and Aydoğdu, 2012).

Education for the environment is an education aiming to modify individuals' environmental ethics, environmental awareness, environmental knowledge, environmental attitudes and behaviors in a positive way. For this reason, modification of environmental attitudes and knowledge is included among the primary objectives of this education (Atasoy and Ertürk, 2008). At this point, behaviors and thoughts of teachers and preservice teachers about the environment are important. Examination of preservice teachers' attitudes towards the environment in terms of various variables is the aim of this study.

In order to make individuals become knowledgeable and conscious of environment and acquire positive attitudes towards it, environment education has an important place. Student teachers' attitudes towards the environment are important in making their students acquire an environmental awareness in the future. For this purpose, answers were sought for the following questions:

1. How is the normality distribution of the participant students in relation to the environmental behavior sub-scale and the environmental thought sub-scale?
2. How is the distribution of the findings related to the environmental behaviors of the student teachers according to gender?
3. How is the distribution of the findings related to the environmental thoughts of the student teachers according to gender?
4. How is the distribution of the findings related to the environmental thoughts of the student teachers according to branches?

METHODOLOGY

Since the study was carried out with the aim of examining student

teachers' attitudes towards the environment in terms of various variables, the study made use of descriptive screening. According to Karasar (2006), studies aiming to describe, explain the "nature" of events, objects, entities, institutions, groups and various fields are descriptive ones. Since the aim of descriptive or survey studies is to determine current situation, these kinds of studies are usually carried out in natural environments. Techniques used in descriptive studies always change names of studies. These take such names as questionnaire survey, interview survey and observation survey (Karasar, 2006). In this study, data will be obtained through the technique of questionnaire survey.

Participant

The study group was composed of 114 students enrolled in the Education Faculty of Uludag University in the spring semester of the 2014 to 2015 academic year. Of these students, 90 were female and 24 were male. 52 students were from the classroom teaching department and 62 were from the social studies department.

Data collection tools

In the study, with the aim of administering to the students, the "Environmental Attitude Scale" was used. The attitude scale was developed by Uzun and Sağlam (2006) and consisted of a total of 27 items. Factor analysis was applied for the construct validity of the scale and the Cronbach's alpha and the Spearman-Brown split-half reliability coefficient were calculated for the reliability of the scale.

The attitude scale was prepared two-dimensionally, namely the "Environmental Thought (Opinion) Sub-Scale" and the "Environmental Behavior Sub-Scale". The Cronbach's alpha reliability coefficient calculated for the Environmental Thought Sub-Scale was $\alpha=0.80$ and the Spearman-Brown split-half reliability coefficient was calculated as 0.75.

The Cronbach's alpha internal consistency coefficient was $\alpha=0.88$ for the Environmental Behavior Sub-Scale and the Spearman-Brown split-half reliability coefficient was calculated as 0.81. In addition to this, the Cronbach's alpha reliability coefficient of the general of the Environmental Attitude Scale was $\alpha=0.80$ and the Spearman-Brown split-half reliability coefficient was determined as 0.76 (Uzun and Sağlam, 2006).

Data analysis

In the statistical analysis of the obtained data, the statistical package for the social science (SPSS) 20.0 program was used. To check if the data distributed normally or not, the Kolmogorov-Smirnov test was used. It was observed that while the Environmental Behavior Scale was different, the sub-scale of the Environmental Attitude Scale showed normal distribution, the Environmental Thought Scale did not distribute normally. For this reason, with the Independent Samples T test, one of the parametric tests, was used for the Environmental Behavior sub-scale, with the Mann Whitney U Test, one of the non-parametric tests, was used for the Environmental Thought sub-scale.

The pieces of the obtained data were scored according to the 5-point Likert type scale. The Environmental Behavior scale was composed of 13 items and the Environmental Thought scale was composed of 14 items. When making statistical scoring, the highest score was calculated as 5 and the lowest one was calculated as 1. According to this, the highest score to be taken from the Environmental Behavior scale was 65 and the lowest score was 13. Moreover, in the Environmental Thought scale, the highest score to be taken was 70 and the lowest score was 14.

Table 1. Normality distributions for the environmental behavior sub-scale.

N	Mean	Median	Mode	Skewness	Kurtosis	Kolmogorov-Smirnov
114	38.35	38.00	35	0.244	0.560	0.05

Table 2. Normality distribution for the environmental thought sub-scale.

N	Mean	Median	Mode	Skewness	Kurtosis	Kolmogorov-Smirnov
114	30.13	28.00	26	2.78	11.4	0.00

Table 3. Evaluation of the findings related to the environmental behavior in terms of gender.

Gender	N	Arithmetic mean	Standard deviation	Degree of freedom	t	p
Male	24	38.04	10.37	112	0.180	0.859
Female	90	38.44	6.97	-	-	-

Table 4. Evaluation of the findings belonging to the environmental behavior in terms of branch.

Branch	N	Arithmetic mean	Standard deviation	Degree of freedom	t	p
Classroom teaching students	52	38.80	7.87	112	0.563	0.575
Social studies teaching students	62	37.98	7.71	-	-	-

FINDINGS

Normality distributions related to the environmental behavior sub-scale and the environmental thought sub-scale

When Table 1 was examined, it was observed that the mean (38.35), median (38) and mode (35) values were close to one another and there were skewness (0.244) and kurtosis (0.560), which indicated that the data distributed normally. Moreover, it was also observed that the distribution graph of the scores was acceptably close to normal. When Table 2 was examined, it was observed that the mean (30.13), median (28) and mode (26) differed from one another and there was skewness (2.78) and kurtosis (11.4), which indicated that the data did not distribute normally. Moreover, when the distribution graph of the scores was examined, it was observed that there was no normal distribution.

Findings related to the environmental behavior scale

Evaluation of the findings related to the environmental behavior in terms of gender of the student teachers

When Table 3 was examined, it was determined that

there was not a statistically significant difference between the students' environmental behaviors in terms of gender ($p>0.05$). Moreover, that the female students (38.44) and the male students (38.04) score supported this result as well.

Evaluation of the Findings belonging to the Environmental Behavior in terms of Branch of the Student Teachers

When Table 4 was examined, it was observed that there was not a statistically significant difference between the students' environmental behaviors in terms of branch ($p>0.05$). Moreover, this means the classroom teaching students (38,80) and those of the social studies teaching students (37,98) were close to one another supported this result as well.

Evaluation of the findings belonging to the environmental thought in terms of gender of the student teachers

When Table 5 was examined, it was observed that although the score mean of the male preservice teachers (61.90) was higher than that of the female preservice teachers (56.33), there was not a statistically significant

Table 5. Evaluation of the findings belonging to the environmental thought in terms of gender.

Gender	N	Mean rank	Sum of ranks	U	p
Male	24	61.90	1485.50	974.50	0.457
Female	90	56.33	5069.50	-	-

Table 6. Evaluation of the findings belonging to the environmental thought in terms of branch.

Branch	N	Mean rank	Sum of ranks	U	p
Classroom teaching students	52	50.94	2649.00	1271.00	0.04
Social studies teaching students	62	63.00	3906.00	-	-

difference between their environmental thoughts in terms of gender ($p > 0.05$).

Evaluation of the findings belonging to the environmental thought in terms of branch of the student teachers

When Table 6 was examined, no statistically significant difference was determined between the preservice teachers' score means in terms of branch. It was found that the social studies teaching preservice teachers' means (63.00) were much higher than those of the classroom teaching preservice teachers (50.94). It was also observed that this difference created a statistically significant difference between the branches towards the environmental thought ($p < 0.05$).

DISCUSSION

When scoring the pieces of obtained data, the 5-point Likert type scale was used. The Environmental Behavior scale was composed of 13 items; the Environmental Thought scale consisted of 14 items. The items were scored from 1 to 5. According to this, the highest score to be taken from the Environmental Behavior scale was 65 and the lowest score was 13. Moreover, in the Environmental Thought scale, the highest score to be taken was 70 and the lowest score was 14.

In the category of environmental behaviors and the sub-scale of the environmental attitude scale, no statistically significant difference was found according to gender and branch. When the arithmetic means were examined in terms of gender, it was observed that the male preservice teachers had a mean of 38.04 and the female preservice teachers had a mean of 38.44. This result can be interpreted in a way that the preservice teachers exhibited a moderate level of attitude in terms of environmental behavior. When the arithmetic means were examined in terms of branch, it was observed that the classroom teaching preservice teachers had a mean of 38.80, and the social studies department preservice

teachers had a mean of 37.98. This result can be interpreted in a way that the preservice teachers exhibited a moderate level of attitude in terms of environmental behavior.

Similarly, in a study carried out by Uzun and Sağlam (2007) entitled "Effects of the Course of "Environment and Human" and Voluntary Environmental Agencies on Secondary School Students' Knowledge and Attitudes towards the Environment", no significant difference was found between the secondary school students' environmental attitudes. In their study entitled "Views of Elementary and Middle School Turkish Students toward Environmental Issues", Yılmaz et al. (2004) found that the elementary and middle school students' attitudes towards the environment differed in terms of gender and this difference was in favor of the female students. In their study aiming to develop a valid and reliable awareness scale in order to determine preservice teachers' awareness levels related to environmental problems and reveal science preservice teachers' awareness levels related to environmental problems, Güven and Aydoğdu (2012) determined that the preservice teachers' awareness levels differed according to the items included in the scale and were below the required level.

In the category of environmental thought and the sub-scale of the environmental attitude scale, it was observed that while no statistically significant difference was found on the basis of gender, there was significant difference on the basis of branch. When the arithmetic means were examined in terms of gender, it was observed that the male preservice teachers had a mean of 61.90 and the female preservice teachers had a mean of 56.33. This result can be interpreted in a way that the preservice teachers exhibited a high level of attitude in terms of environmental thought. In their study entitled "Environmental Attitudes of Young People in Turkey:

Effects of School Type and Gender", Tuncer et al. (2005) found that the secondary school students' environmental attitudes differed statistically in terms of gender and this difference was in favor of the female students. When the arithmetic means were examined in terms of branch, it was observed that the classroom teaching preservice

teachers had a mean of 50.94, and the social studies preservice teachers had a mean of 63.00. This result can be interpreted in a way that the preservice teachers exhibited a high level of attitude in terms of environmental thought. However, when it is interpreted statistically, it can be considered that the social studies preservice teachers were more sensitive on the basis of environmental thought.

When the preservice teachers' attitudes towards environmental behavior and environmental thought were compared, it was observed in the obtained findings that they exhibited a high level of attitude towards environmental thought but a moderate level of attitude towards environmental behavior. In their study aiming to determine the attitudes and sensitivities of the students enrolled in different academic fields of Adnan Menderes University towards environmental problems and factors affecting these, Ek et al. (2009) found that although 85.3% of the students reported that they were sensitive to environmental problems and 86.5% of them stated that they were not a member of any related associations. In the light of the data obtained in the study entitled "Examination of Preservice Teachers' Attitudes towards Environment according to Various Variables", the following suggestions can be made:

1. According to the research results, it can be stated that although the male preservice teachers exhibited more positive attitudes in terms of environmental thought, both genders exhibited behaviors at a moderate level in terms of environmental behavior. When these pieces of data are taken into consideration, it can be suggested that various activities to increase preservice teachers' positive attitudes towards the environment should be included in their education process.
2. According to the research results, although the social studies preservice teachers were observed to exhibit more positive attitudes in terms of environmental thought, the social studies and classroom teaching preservice teachers were observed to exhibit behaviors at a moderate level in terms of environmental behavior. When these pieces of data are taken into consideration, it can be suggested that, by assuming that they are more active in the education process of young children, regulations should be made at education faculties to affect classroom teaching preservice teachers' thoughts and behaviors towards the environment in a positive way.
3. When the fact that environmental pollution has reached serious dimensions in the globalized world of the 21st century is taken into consideration, thoughts and behaviors related to the environment are becoming more important. At this point, when the importance of education and the teacher in the process of education is taken into account in raising individuals who are sensitive to the environment, the number of courses aiming to increase preservice teachers' awareness levels at education faculties can be increased.

Conflict of Interests

The authors have not declared any conflict of interests.

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