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Investigation of the Attitudes towards Environmental Issues and Knowledge Levels of Prospective Teachers

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The aim of this study is to investigate the knowledge levels and attitudes towards environmental issues of prospective teachers. The study was conducted at survey model. The sampling consists of 405 teacher candidates who were studying in the spring term of the 2015-2016 academic years at Faculty of Education in Kastamonu University. The 405 participants of study were studying at five different undergraduate programs. These programs were Classroom Teaching, Turkish Teaching, Science Teaching, Pre-school Teaching and Elementary Mathematics Teaching. Environmental Issues Knowledge Test, which was developed by Güven and Attitude Scale towards Environmental Problems, which was developed by Şama were used as data gathering tools. The single way variance analysis (ANOVA) was used for data analysis. According to the findings, there was a significant difference between, who already took the environmental education course (classroom teaching and science teaching prospective teachers), compared to the other prospective teachers not having this course, and in favor of took the environmental education course. It was found that the knowledge level of classroom teaching and science teaching prospective teachers about the environmental issues were higher than the other prospective teachers. Moreover, the prospective teachers, who took Environmental Education course at the university, have more positive attitudes to environment. Upon these conclusions, it is recommended that including the faculties of education at first, all of the undergraduate program of the universities should have Environmental Education course or similar courses in their programs.

Anahtar Kelimeler: *Attitude, Environmental education, Environmental issues, Prospective teachers*

INTRODUCTION

The ongoing increase on the life standards and the rapid increase in the world's population lead to the overuse of the natural resources. The food and shelter needs of the rising population have brought almond the several environmental problems by increasing the usage of the natural resources. Nowadays, these issues have become a threat for the entire world (Oweini & Houri, 2006). The throwing of the wastes in an unconscious way is affecting to the environmental factors such as air, ground and water; the wasting the natural sources and the lack of education is deteriorating the process of upset of the natural balance (Seçgin, Yalvaç, & Çetin, 2010). The developments of the industry, science and technology are disturbing the nature-human balance, giving a chance human to interrupt the nature and consequently the ecological balance has been disturbed. With the lack of the ecological balance

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some kind of environmental issues such as fast soil loss (erosion), the extinction of some animals, desertification, acid rains, famine, poverty, and radioactive pollution have increased. These issues have come to disturb the human life, so the people have started to look for solutions (Erol & Gezer, 2006).

Although a variety of solutions have been suggested for environmental issues, it is very crucial to prevent of these problems before they arise. The most important factor for this purpose is education as accepted by many people (Şimşekli, 2004). The pollutions of air, soil and water, the climate change and greenhouse effect by the rise of carbon dioxide emission, the depleting of the ozone layer by CFC (Clora Flora Carbon) gases, acid rains, the rise of chemical and nuclear waste, toxic waste, the poisoning by the mercurialities and lead and some similar problems are today's vital environmental problems rising in parallel manner by the industrial revolution and population fast rise (Koç & Karatekin, 2013).

In this stage of the environment, the environmental education is very important in order to prevent the negative effects of the environmental problems. Environmental education enables acquiring the required behaviors in order to solve the environmental problems and develop the environmental awareness (Milton, Cleveland & Bennett-Gates, 1995). In this context, the way of teaching the environmental education stands out. After Stockholm Conference in 1972, the international struggle against the environmental problems and the environmental awareness has become international and these have got the legal and quality situation up to the present (Nazlıoğlu, 1991). Within this time process, there have been a lot of conferences and meeting focused on this issue. One of the most discusses and a hot debate of the meeting is to give what kind of an environmental education is to be taught. Particularly after the collaboration of UNESCO and UNEP in 1977's meeting of Intergovernmental Environmental Education Conference in Tbilisi, the purpose, aims, articles and guidelines of the Environmental Education were set. According to the Tbilisi Declaration the purpose of the environmental education is that to teach the individuals knowledge, attitudes, awareness and skills in relation to the environmental problems and make these individuals to participate in the solution process of the environmental issues (Ünal & Dımışkı, 1999). Finally, the behavioral changes of the individuals in their awareness, attitudes and values about the nature will contribute to a more livable environment (Joseph, 2009).

Although the environmental education is a thing for all members of the society, Erol & Gezer (2006) argues that the next generations must be the target audience of the environmental issues since they will be getting affected much more form the environmental problems. Consequently, it is essential that the young generation's awareness, knowledge and motivation in the participation of these issues' solution process in order to overcome or fight for the global environmental problems (Baş, 2011; UNESCO, 1977). Especially the expected responsibilities of the graduate people by starting their new life after their graduate education is very important with the help of their experiences, knowledge, attitudes and values in relation the environment (Teksöz, Şahin & Ertepınar, 2010). Thus, by the help of the graduate level environmental courses and by understanding underlying reasons of the environmental problems, the university students could be able to identify the environmental problems with the legal, political and economic mechanism with the environmental issues.

Within the literature review in this subject, there are studies focused on the knowledge levels and the attitudes of the prospective teachers towards to the environment. Aksoy & Karatekin (2011) have determined that the prospective teachers having taken the environmental education courses have scored higher than the other students in their study, in which they were examining the environmental awareness and attitudes of the undergraduate students studying in three different programs. Çimen & Yılmaz (2014) and Uyanık (2016a) were determined their studies that sensitivity towards environmental issues and knowledge levels of prospective teachers in the course of environmental education based on transformational learning theory was effected. Accordingly, it is said that the use of effective teaching

methods in environmental education will enhance environmental awareness and environmental knowledge.

Uyanık (2016b) was investigate that the prospective teachers' perceptions and sensitivities towards air pollution in his research. In that research, he studied in the first and fourth grade levels in different degree programs. According to his findings, there was a significant differences between the views of first and fourth grade prospective teachers and taken an environmental education at the undergraduate program. Fourth grade teacher candidates' and who have taken an environmental education course, their perceptions and sensitivities of air pollution were determined at a higher level. When air pollution is considered as an environmental problem, it can be said that this result is important. This situation shows that the importance of 'environmental education' once again. Uyanık (2016c) was examined in his study that the knowledge levels and attitudes towards environmental problems of prospective teachers from different degree programs. According to findings, it was determined that the knowledge levels of environmental problems and the attitudes towards environmental problems of prospective teachers who were taken an environmental education course, were higher than the others.

Çabuk and Karacaoğlu (2003) have found that the prospective teachers having taken the environmental education course have much more levels of environmental awareness. In addition, Altınöz (2010); Kayalı (2010); Owens (2000); Sam, Gürsakal, and Sam (2010) have confirmed that prospective teachers have much environmental knowledge and environmental awareness compared to other prospective teachers, who have not taken the environmental education.

The effect of the individual awareness and the quality of the environmental education is considered to be great in the solution of the environmental problems (Erten, 2005). In order to set a start point for the environmental education within the family and at the education institutions, it is must to check if the individual has awareness of the environmental issues in his behaviors to the nature and environment. In this context, the prospective teachers, who are expected to have major roles on the upbringing of the next generation, should have great levels of knowledge upon the environmental issues and they should have a great level of environmental awareness. Accordingly, as the implementer of the educational programs the prospective teachers are supposed to lead the education-learning activities and scientific studies in the process of setting the knowledge levels and awareness related with the environmental problems. From this point of view the purpose of this study is to make comparison between the programs by examining the environmental awareness levels and attitudes of the prospective teachers. In order to achieve this aim the following problems are handled:

What is the achievement level of environmental issues knowledge test scores of the prospective teachers studying at different undergraduate programs and is there a significant difference between the average scores?

How are the attitude scale scores of the prospective teachers from the different undergraduate programs based on the subject of environmental problems?

METHOD

The study has been done via survey model. The survey study is called as the studies are the investigations of setting the participants skills, interests and attitudes, besides searching the more extensive sampling compared to the other types of the study (Fraenkel & Wallen, 2006).

Sampling

The sample of the study consists of prospective teachers studying at Faculty of Education in Kastamonu University in 2015-2016 academic years in the spring semester. The sampling consisted from the 405 prospective teachers from five different undergraduate programs. These programs were Classroom Teaching, Turkish Teaching, Science Teaching, Pre-school Teaching and Elementary Mathematics

Teaching, who were selected by purposive sampling. The number of the participants according to the division of the programs is seen at Table 1.

Table 1. *The number of the participants of the sampling and undergraduate programs*

Undergraduate Program	**N**	%
Classroom Teaching	91	22,5
Turkish Teaching	81	20
Science Teaching	86	21,2
Pre-school Teaching	79	19,5
Elementary Mathematics Teaching	68	16,8
Total	**405**	**100**

Data Gathering Tools

Environmental Problems Knowledge Test

In order to determine the knowledge levels of the prospective teachers on the issue of environmental problems the Environmental Problem Knowledge Test was used. This test was developed by Güven (2013). Being provide the content validity of the test. The test has been examined by 8 academicians from Faculty of Education in Gazi University and their opinions were asked. The test includes 55 articles of which article difficulty ranges between .44 and .53 and the selective index were in the range .21 and .68. The degree of KR-20 reliability of the test was found .87. The mean difficulty of the articles in the test was calculated .49 and the standard deviation was calculated as 9.80. These values recalculated for this study. According to this, KR-20 value was founded .83. The mean difficulty of the articles in the test was calculated .47 and the standard deviation was calculated as 9.90. According to this findings, the knowledge test is said to be applicable in this study in terms of validity and reliability. Environmental Problems Knowledge Test has 18 knowledge questions, 17 comprehensions, 2 practices, 10 analysis, 3 integrative and 5 evaluative questions. The true responses are scored as 1 point, the false answers were scored as 0 points in this 55 question-test. In this way, the lowest score is 0 and the highest score is 55 in this test.

Attitude Scale towards Environmental Problems

Attitude Scale towards Environmental Problems, which was developed by Şama (2003), was used in order to determine the attitudes of the prospective teachers in relation with the environmental problems. 21-articles scale was developed as in the type of 5 points Likert scale. To check the content validity of the scale the opinions of the professionals were asked. The options of the scale were set as it follows: 'strongly disagree', 'disagree', 'indecisive', 'agree' and 'strongly agree'. 10 of the articles were positive while 11 of them were negative; all of them were in the scale. The Cronbach Alpha (α) reliability coefficient of the scale was calculated as .77. The most positive responses have 5 points, while the most negative expression was assessed as 1 point. In this way, the highest score could be 105 points, while the lowest score was 21. The rise of the points in this scaling means that the positive attitude of the environmental problems was increasing.

Data Analysis

During the analysis of the data, SPSS 21.0 Statistics software package was used. In the scope of the study, the scaling tool was applied to the prospective teachers from the different undergraduate programs and founded difference of the average scores were compared. The data were analyzed by Tamhane's T2 Test among the multiple comparison tests in order to compare the points of the more than 3 groups at the same time and they were analyzed also by one way ANOVA test. Since the variances of the groups do

not have homogenous property Tamhane's T2 test was used. The findings were tested at the $p<0.05$ significance level.

FINDINGS

This section includes the results related to the findings of research.

Findings of the First Sub-problem

The descriptive statistics of the environmental issues' knowledge levels of the prospective teachers, who were studying at the different undergraduate programs, are listed in Table 2.

Table 2. The descriptive statistics of the environmental issues' knowledge levels of the prospective teachers from the different undergraduate programs

Undergraduate Program	N	$\overline{X}$	Sd
Classroom Teaching	91	45.97	4.73
Turkish Teaching	81	31.95	6.40
Science Teaching	86	47.11	2.66
Pre-school Teaching	79	33.59	5.65
Elementary Mathematics Teaching	68	37.63	3.69

At Table 2 the results of the test of environmental issues' knowledge levels of the prospective teachers, who study at the different undergraduate programs, are listed. According to this, the calculation was the average score of the classroom teaching students was $\overline{X}$ =45.97. The average scores of the students from Turkish Teaching $\overline{X}$ =31.95, average scores of the students from Science Teaching $\overline{X}$ =47.11, average scores of the students from Pre-school Teaching $\overline{X}$ =33.59 and average scores of the students from Elementary Mathematics Teaching $\overline{X}$ =37.63. The column graph is can be seen in the Figure 1 which is related with the environmental problems knowledge test of the different undergraduate program students.

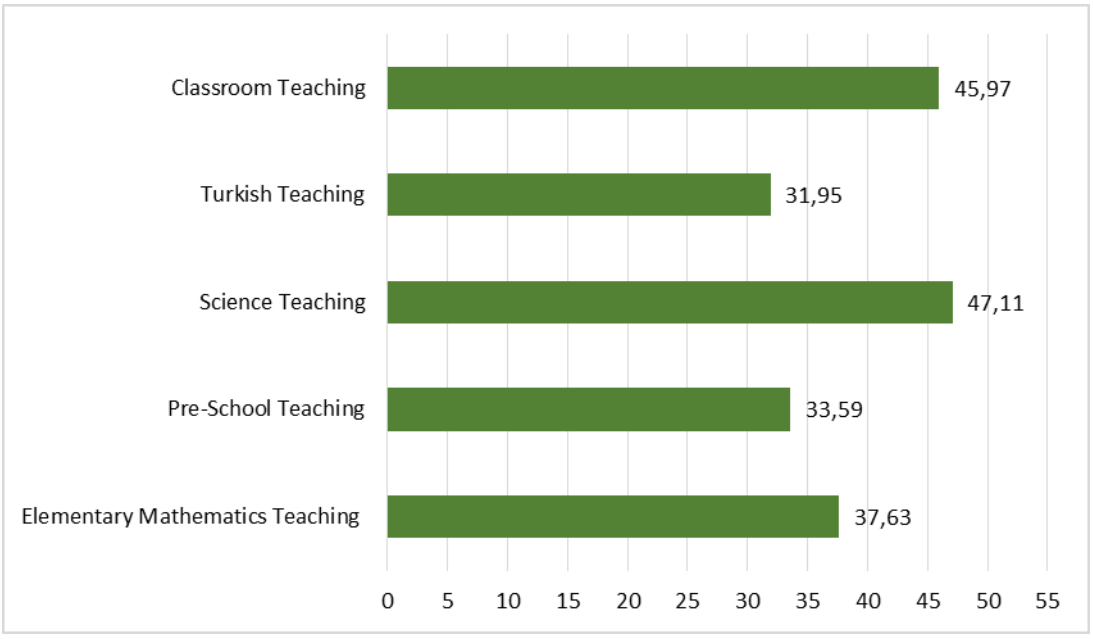

Figure 1. The column graph which is related with the environmental problems knowledge test of the different undergraduate program students

In order to examine whether there was a significant difference between the prospective teachers of different undergraduate programs, one way variance analysis (ANOVA) was used. The findings of the ANOVA analysis are seen in Table 3.

Table 3. ANOVA results in relation to environmental issues' knowledge level test of the prospective teachers

Source of Variance	Sum of Squares	df	Mean Square	F	p	Significant Difference
Between Groups	16411.955	4	4102.989	176.218	0.00*	1-2, 1-4, 1-5
Within Groups	9313.443	400	23.284			2-3, 2-5, 3-4
Total	25725.398	404				3-5, 4-5

1: Classroom Teaching; 2: Turkish Teaching; 3: Science Teaching; 4: Pre-school Teaching; 5: Elementary Mathematics Teaching

The results of analysis listed in the Table 3 show that there was a statistically significant difference between the different undergraduate programs and the teacher candidates of these programs on the environmental problems knowledge testing $F(4, 400) = 176.218$, $p^* < 0.05$.

According to Tamhane's T2 Test, which was done to determine the difference occurs between in which different undergraduate program, there was a statistically significant difference in favor of the Classroom Teaching prospective teachers when compared to the following programs: Turkish Teaching, Pre-school Teaching and Elementary Mathematics Teaching. The difference was in favor of Science Teaching prospective teachers when compared to the groups of Turkish Teaching, Pre-school Teaching and Elementary Mathematics Teaching. In addition, a statistically significant difference was observed in favor of Elementary Mathematics Teaching prospective teachers when compared to the Turkish Teaching and Pre-school Teaching prospective teachers. The difference between the average scores of Classroom Teaching and Science Teaching prospective teachers was not much.

Findings of the Second Sub-problem

The descriptive statistics of the prospective teachers from the different undergraduate programs and their attitude scale about the environmental issues are listed at Table 4.

Table 4. The descriptive statistics of the environmental issues' attitude scale of the prospective teachers from different undergraduate programs

Undergraduate Program	N	$\overline{X}$	Sd
Classroom Teaching	91	82.61	11.51
Turkish Teaching	81	80.59	11.81
Science Teaching	86	81.29	7.62
Pre-school Teaching	79	79.84	6.53
Elementary Mathematics Teaching	68	80.79	5.75

At Table 4, the attitude scale concerning the environmental problems of the students from the different undergraduate programs is shown. According to this, these average scores were determined: the average score of the classroom teaching students was $\overline{X}$ =82.61, the average score of the students from Turkish Teaching $\overline{X}$ =80.59, average score of the students from Science Teaching $\overline{X}$ =81.29, average score of the students from Pre-school Teaching $\overline{X}$ =79.84 and average score of the students from Elementary Mathematics Teaching $\overline{X}$ =80.79. In order to find if there is a significant differences at the

scores of the Attitude Scale towards Environmental Issues of the prospective teachers from the different undergraduate programs, one way variance analysis (ANOVA) was used. The related findings of ANOVA are listed in Table 5.

Table 5. The findings of ANOVA at the attitude scale scores in relation with environmental problems of the prospective teachers from different undergraduate programs

Source of Variance	Sum of Squares	df	Mean Square	F	p	Significant Difference
Between Groups	1.852	4	.463	2.675	0.032*	1-4
Within Groups	69.264	400	.173			
Total	71.116	404				

According to Table 5, there is statistical significant difference between the attitude scale of the prospective teachers from the different undergraduate programs, $F(4, 400) = 2.675$, $p^* < 0.05$. According to the Tamhane's T2 Test, which was used to check the differences of the undergraduate programs by the groups, there is a positive difference in favor of the classroom teaching prospective teachers when compared to the student group of pre-school teaching prospective teachers. The other differences in the attitude scale of the prospective teachers between the other undergraduate programs were not statistically significant. The related line graph showing the mean points of attitude scale of the prospective teachers concerning the environmental problems can be seen in the Figure 2.

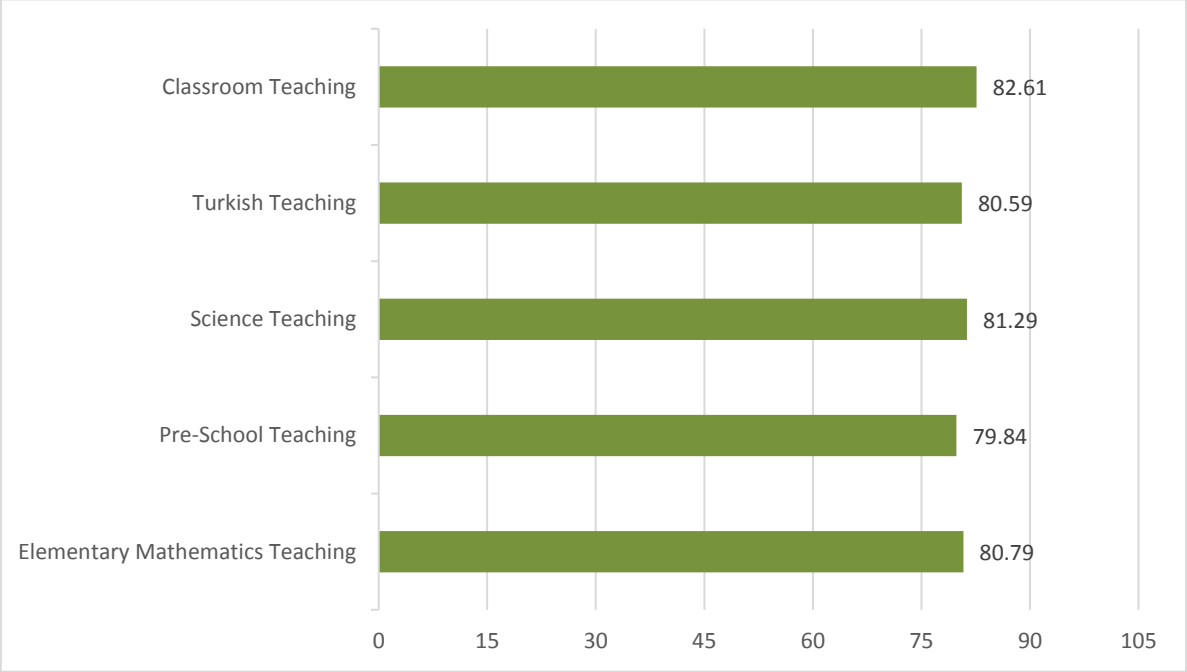

Figure 2. The line graph which is related with attitude scale towards environmental issues of the different undergraduate program students

When looking at the Figure 2, it can be argued that the attitude scale of the different undergraduate programs' prospective teachers were almost at the same level. However according to the Tamhane's T2 Test, the results of the classroom teaching prospective teachers' average score is higher than the average scores of the pre-school teaching prospective teachers. This result might arise from the fact that Classroom Teaching undergraduate program includes the 'Environmental Education' course within its curriculum. This course might have enabled the Classroom Teaching prospective teachers to have more

awareness, sensitivity and to behave more logical in terms of environmental problems. However in attitude scaling, the average scores of the Science Teaching prospective teachers are higher than the all undergraduate programs. This situation is expected to arise from the fact that Science Teaching undergraduate program includes some courses about the environment.

DISCUSSION, CONCLUSSION AND RECOMMENDATIONS

The environmental issues knowledge levels and attitudes towards environmental problems of the prospective teachers were examined in this study. According to the results of the study, the knowledge levels about the environmental problems of the prospective teachers, who were from the Classroom Teaching and Science Teaching undergraduate programs, were higher than the other prospective teachers from Turkish Teaching, Pre-school Teaching and Elementary Mathematics Teaching undergraduate programs.

The knowledge levels of the students from the undergraduate programs, which do not have any course about Environmental Education, were found inefficient. These undergraduate programs are Turkish Teaching, Pre-school Teaching and Elementary Mathematics Teaching. These results resembled to the following studies Alp, Ertepınar, Tekkaya & Yılmaz (2006); Altınöz (2010); Atasoy (2005); Azapagic, Perdan & Shallcross (2005); Çimen & Yılmaz (2014); Erol (2005); Jeffries, Stanisstreet & Boyes (2001); Kayalı (2010); Makki Khalick, & Boujaoude (2003); Owens (2000); Sam, Gürsakal, & Sam (2010); Şahin & Gül (2009); Uyanık (2016a); Yener & Kalıpcı (2007).

Environmental problems knowledge level test of the Elementary Mathematics Teaching students, who did not take any educational course in their program but despite that was significantly higher than the prospective teachers of the Turkish Teaching and Pre-school Teaching prospective teachers. This situation is expected to arise from the fact that Elementary Mathematics Teaching undergraduate program includes some courses about the some environmental and science subjects.

There has been a statistically significant difference between the attitude scale scores in favor of the Classroom Teaching prospective teachers when compared to the prospective teachers from the Pre-school Teaching prospective teachers. Similarly Uyanık (2016c) was obtained the same findings. In both studies this result might be related to fact that the Environmental Education course. Which is a compulsory course at the undergraduate program of Classroom Teaching, whereas it is not listed in the curriculum of the Pre-school Teaching undergraduate program.

There was not any significant difference between the attitude scale scores of prospective teachers at the other teaching undergraduate programs (Turkish Teaching, Science Teaching, Pre-school Teaching and Elementary Mathematics Teaching). It was found that the prospective teachers in general have a positive attitudes about the environmental issues. This result was similarly, Altınöz (2010); Çabuk & Karacaoğlu (2003); Deniş & Genç (2007); Erol (2005); Kayalı (2010); Owens (2000); Sam, Gürsakal & Sam (2010); Şama (2003); Timur (2011) and Uyanık (2016c) have stated that prospective teachers have positive/high attitudes about the environmental problems in general. In contrast to these studies, Erol & Gezer (2006) argued that the attitudes about the environmental issues of the university students were weak. Almost all of these studies claimed that the individuals do not have enough knowledge level about the environmental problems. This insufficient knowledge levels about the environmental problems are directing the researchers to make studies in order to increase the knowledge level on this subject field about the environment. The central point of these studies is of course to provide the individual with a purposeful environmental education. Environmental education must be an inherent part of the educational programs. (Güven, 2013). In this context, environmental education courses are extremely important. As a matter of fact Uyanık (2016a) were determined his study that sensitivity towards environmental issues and knowledge levels of prospective teachers in the course of environmental education based on transformational learning theory was effected. Accordingly, it can be said that the use of effective teaching methods in environmental education will enhance environmental awareness and environmental knowledge.

The knowledge level about the environmental issues and the attitudes about the environment of the teacher candidates form the Classroom Teaching and Science Teaching undergraduate program, in which Environmental Education is a compulsory course within the program, were found higher and more positive. Consequently, "Environmental Education" course is expected to be useful for both the prospective teachers and for the other students. In this direction, to have 'Environmental Education' course in all the education programs either in compulsory or elective way will be useful.

The students are in communication with their teachers from pre-school to the university level. Since the teacher could serve as a model, the teachers should know the environmental issues and they must have a positive attitude about the nature. The prospective teachers must have a well education as they are teachers of the future. Upon these conclusions, including the faculties of education at first, than all of the undergraduate programs of the universities should have an "Environmental Education" course or similar courses in their curriculums. Providing the young generations with awareness on environmental issues will have a crucial role in the solution of the environmental problems and at the attitude of the people on the nature. In this context, it is argued that every part of the society are in the need of taking environmental courses especially the younger children. The following studies on this subject might be related with the investigation of the knowledge levels and environmental attitudes of the teachers, who are working as different faculties of universities.

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Öğretmen Adaylarının Çevre Sorunlarına İlişkin Bilgi Düzeylerinin ve Tutumlarının İncelenmesi

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Summary

Yaşam standartlarının giderek yükselmesi ve dünya nüfusundaki hızlı artış doğal kaynakların aşırı kullanımına sebep olmaktadır. Artan nüfusun beslenme ve barınma gibi ihtiyaçları, doğal kaynak kullanımını hızlandırarak ciddi çevre sorunlarını beraberinde getirmiştir. Günümüzde bu sorunlar tüm dünyayı tehdit eder duruma gelmiştir. Atıkların bilinçsizce çevreye saçılması, hava, su, toprak gibi çevre unsurlarını kirletmekte, doğal kaynakların israf edilmesi ve eğitimsizlik de doğal dengenin bozulma sürecini hızlandırmaktadır. Sanayi, bilim ve teknoloji alanlarında yaşanan gelişmeler de insan-doğa dengesini bozarak, insana doğaya müdahale imkanı vermiş ve bunun sonucunda da ekolojik denge bozulmuştur. Ekolojik dengenin bozulmasıyla hızla toprak kaybı, canlı türlerinin yok olması, çölleşme, asit yağmurları, açlık, yoksulluk, radyoaktif kirlenme gibi çevre sorunları artmıştır. Bu sorunların insan yaşamını tehdit eder boyutlara ulaşması sebebiyle insanlar çözüm önerileri aramaya başlamışlardır. Bunun için de en önemli faktörün çevre konusunda eğitim vermek olduğu toplumun birçok kesimi tarafından kabul edilmektedir. Çevre eğitiminin temeli doğayı ve doğal kaynakları korumaya yöneliktir. Çevre eğitimi bilgi vermenin yanında insan davranışını da etkilemelidir. Olumlu ve kalıcı davranış değişiklikleri kazandırmak ve sorunların çözümünde bireylerin aktif katılımını sağlamak çevre eğitiminin temel hedefidir.

Günümüzde çevrenin geldiği bu noktada çevre sorunlarının olumsuz etkilerinin ortadan kaldırılması için çevre eğitimine önemli görevler düşmektedir. Çevre eğitimi, çevre ile ilgili olaylara yönelik farkındalığın artmasını ve çevre sorunlarının çözümü için gerekli davranışların kazanılmasını sağlamaktadır. Çevre eğitimi her ne kadar toplumun bütün üyeleri için vazgeçilmez olsa da, çevre sorunlarından en çok etkilenecek kesim olması nedeniyle çevre eğitiminin öncelikli hedef kitlesi olarak genç nesil gösterilmektedir. Bu nedenle, genç neslin küresel ölçekte karşılaşılan çevre sorunlarına dair farkındalık ve duyarlılık sahibi olması, çevresel değerleri korumaya aktif olarak katılmak için motivasyon ve istek sahibi olması önemlidir. Özellikle, üniversite öğrencilerinin eğitimleri sırasında edindikleri çevre ile ilgili bilgi, beceri, tutum ve değerleri profesyonel meslek hayatlarına başlamalarıyla birlikte kişisel ve sosyal yaşamlarında uygulamaları, üniversite öğrencilerinden beklenen bir sorumluluk olarak görülmektedir. Bu nedenle, yükseköğretim programlarında yer alacak Çevre Eğitimi ile ilgili derslerle üniversite öğrencilerinin, çevre meselelerinin altında yatan nedenleri, gerçekleri anlayabilmesi ve ekonomik, yasal, politik mekanizmaların çevre sorunları ile ilişkilendirebilmesi sağlanmalıdır.

Çevre sorunlarının çözümünde, bireyin duyarlılığının ve aldığı çevre eğitiminin yeterliliğinin etkisi göz ardı edilemez. Çevreye karşı pozitif tutum ve değer yargılarının oluşması ise çevre eğitimi ile mümkün olabilir. Ailede ve tüm örgün eğitim kurumlarında verilecek olan çevre eğitiminin başlangıç noktasının belirlenmesi için bireyin çevreye karşı göstermiş olduğu davranışlara, çevre sorunlarına karşı duyarlı olup olmadığına bakılmalıdır. Bu anlamda, gelecek nesillerin yetiştirilmesinde önemli görevler üstleneceği kabul edilen öğretmen adaylarının, çevre sorunlarına ilişkin bilgi düzeylerinin ve çevre sorunlarına karşı duyarlılıklarının üst düzeyde olması oldukça önemlidir. Bu doğrultuda, eğitim programlarının uygulayıcıları olacak olan öğretmen adaylarının, çevre sorunlarına ilişkin bilgi düzeylerinin ve tutumlarının belirlenmesinin, öğretmen adaylarının yetiştirilmesi ile ilgili yapılacak eğitim-öğretim faaliyetlerine ve bilimsel çalışmalara yol göstereceği düşünülmektedir. Buradan hareketle bu çalışmanın amacı, farklı lisans programlarında öğrenim gören öğretmen adaylarının çevre

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sorunlarına ilişkin bilgi düzeylerini ve tutumlarını belirleyerek, programlar arasında karşılaştırma yapmaktır. Bu amaca ulaşmak için aşağıdaki alt problemlere cevap aranmıştır:

Farklı lisans programlarında öğrenim gören öğretmen adaylarının çevre sorunları bilgisi testi başarı düzeyleri nasıldır ve elde edilen ortalama puanlar arasında anlamlı bir fark var mıdır?

Farklı lisans programlarında öğrenim gören öğretmen adaylarının çevre sorunlarına yönelik tutum ölçeği puanları nasıldır ve elde edilen ortalama puanlar arasında anlamlı bir fark var mıdır?

Araştırma tarama modelinde gerçekleştirilmiştir. Araştırmanın evrenini 2015-2016 akademik yılı bahar döneminde Kastamonu Üniversitesi Eğitim Fakültesi'nde öğrenim görmekte olan öğretmen adayları oluşturmaktadır. Örneklem ise amaçlı örnekleme yöntemiyle belirlenen Sınıf Öğretmenliği, Türkçe Öğretmenliği, Fen Bilgisi Öğretmenliği, Okul Öncesi Öğretmenliği ve İlköğretim Matematik Öğretmenliği olmak üzere beş farklı lisans programında dördüncü sınıf düzeyinde öğrenim görmekte olan 405 öğretmen adayından oluşmaktadır. Veri toplama araçları olarak Çevre Sorunları Bilgisi Testi ve Çevre Sorunlarına Yönelik Tutum Ölçeği kullanılmıştır. Verilerin analizinde tek yönlü ANOVA uygulanmıştır.

Araştırmanın sonuçlarına göre, Sınıf Öğretmeni ve Fen Bilgisi Öğretmeni adaylarının, Türkçe Öğretmeni, Okul Öncesi Öğretmeni ve İlköğretim Matematik Öğretmeni adaylarına göre çevre sorunlarına ilişkin bilgi düzeylerinin daha yüksek olduğu tespit edilmiştir. Lisans programlarında Çevre Eğitimi dersi bulunmayan Türkçe Öğretmeni, Okul Öncesi Öğretmeni ve İlköğretim Matematik Öğretmeni adaylarının çevre sorunlarına ilişkin bilgi düzeylerinin yetersiz olduğu belirlenmiştir. Bu sonuç, literatürde yer alan ilgili bazı araştırmaların sonuçlarıyla benzerlik göstermektedir. Araştırmada sınıf öğretmeni adaylarıyla okul öncesi öğretmeni adaylarının çevre sorunlarına yönelik tutum ölçeği puanları arasındaki fark sınıf öğretmeni adaylarının lehine istatistiksel olarak anlamlı bulunmuştur. Bu sonucun, okul öncesi öğretmenliği lisans programında bulunmayan ve sınıf öğretmenliği lisans programında zorunlu ders olarak işlenen Çevre Eğitimi dersinden kaynaklandığı düşünülebilir. Diğer lisans programlarındaki öğretmen adaylarının tutum ölçeği puanları arasındaki fark anlamlı bulunmamıştır. Araştırmanın sonunda öğretmen adaylarının, genel itibariyle çevre sorunlarına yönelik tutumlarının olumlu olduğu tespit edilmiştir. Bu sonuç, ilgili literatürde yer alan bazı araştırmaların sonuçlarını desteklemektedir. Üniversitede Çevre Eğitimi dersinin zorunlu olduğu Sınıf Öğretmenliği ve Fen Bilgisi Öğretmenliği lisans programlarında öğrenim gören öğretmen adaylarının çevre sorunları bilgisi ve çevreye yönelik olumlu tutumlarının daha yüksek olduğu belirlenmiştir. Bu bakımdan, Çevre Eğitimi dersinin hem öğrenciler hem de öğretmenlik mesleğine başlayacak öğretmen adayları için oldukça önemli olduğu düşünülmektedir. Bu doğrultuda, Çevre Eğitimi dersinin eğitim fakültelerinde yer alan bütün lisans programlarında zorunlu veya seçmeli ders olarak bulunmasının faydalı olacağı düşünülmektedir.

Öğrenciler, okul öncesinden üniversiteye kadar sürekli öğretmenleriyle etkileşim içerisinde bulunmaktadır. Öğretmenlerin öğrencilerine rol model olduğu düşünüldüğünde, öncelikle öğretmenlerin çevre sorunlarını bilmeleri ve çevreye yönelik olumlu tutuma sahip olmaları gerekmektedir. Bu bakımından geleceğin öğretmenleri olan öğretmen adaylarının iyi eğitilmesi gerekmektedir. Bu sonuçlardan hareketle, başta eğitim fakülteleri olmak üzere üniversitelerin bütün lisans programlarında çevre eğitimi veya çevre ile ilgili derslerin zorunlu olarak verilmesi önerilmektedir. Geleceğin teminatı olan genç nesillerin çevreye ilişkin daha bilinçli davranışlara sahip olması, insanlığın çevreye yönelik bakışında ve çevre sorunlarının çözümünde önemli rol oynayacaktır. Bu anlamda, özellikle küçük yaştaki bireylerden itibaren toplumun her kesiminin çevre ile ilgili derslere ihtiyacı olduğu düşünülmektedir.

Anahtar Kelimeler: *Tutum, Çevre eğitimi, Çevre sorunları, Öğretmen adayları*