



SOCIAL STUDIES TEACHER CANDIDATES' SENSITIVITY AND AWARENESS LEVELS IN NATURE AND ENVIRONMENT EDUCATION

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ABSTRACT

As environment education gains importance in a changing and developing world, studies about this subject has been increasing every day. Nature and environment education is one of the most important subjects being studied. Environmental education applications are insufficient in the education faculties of our country's universities. For nature and environmental education to reach its goals new approaches should be included in the curriculum. Many different teaching techniques, including using field trips, can be used and new techniques can be developed.

For this study, a field trip in which social studies teacher candidates had practical nature and environmental education was organized with 33 (20 female, 13 male) second-year teacher candidates studying Social Studies Education in Niğde University's Faculty of Education. During the field trip, the researcher also used speaking circle technique with the candidates. The purpose of the field trip is to determine the candidates' awareness level about environmental pollution. First, candidates' views on pollution factor on Çakıt River and its effects were taken. Later, students got detailed on-site information about recycling by visiting plastic waste recycling, paper waste recycling and water waste recycling facilities.

In this study, experimental design, one of the quantitative research methods, was used. No control group pre-test post-test method was used. Five open-ended questions were developed for the study. It was aimed to raise teacher candidates' awareness by teaching them behaviors, skills and values that they can pass on to the future generations.

Keywords: Nature and Environmental Education; Sustainable Environmental Education; Social Studies Teacher Candidates

INTRODUCTION

Earth's formation took place in thousands of years and today it turned into an environment that is suitable for us. The plants and animals that live in this environment have been used too much by people and this has begun to be studied as one of the sources of today's environmental problems. Every discipline that deals with environmental problems made definition of what natural environment means. Social sciences, also, have been interested in natural environment and made their own definitions. When we look from a geographer's eye, it is seen that the relationship of people with nature is as old as human history. In fact, it is possible to extend the emergence of environmental science all the way back to times when people came into being as social beings because to survive, people needed to know their environment and adjust their behaviors and lives according to the natural environment (Erer, 1990). According to Güney (2003), environment is a place that living things affect and are affected by. Özey (2009) puts people and all the other living things into the center of the living area and defines all the rest as environment. According to the definition in Collins Dictionary, environment is the external surroundings in which a plant or animal lives, which tend to influence its development and behavior (<http://www.collinsdictionary.com>). With all these definitions, the term ecosystem has begun to be used after combining the words environment and system. The term ecology was used for the first time in 1866 by German Ernest Haeckel. Since 1935 the term ecosystem was used to describe all living things and their non-living surroundings (Özey, 2009). People who are part of this ecosystem have been affected from each other through economic, social and political activities and have changed the shape and structure of this spatial system (Tümertekin&Özgüç, 2002). In this spatial system people have made such big changes that they cannot even differentiate between natural environment and artificial environment.

People are born with the ability to learn. They are teachable. They affect their surroundings with education and culture. They change with time and accumulate what they learn and create a culture and civilization. These are what distinguish people from other living beings. So, people are both receivers and givers and creators of education. They are active members of the biosphere that they positively and negatively affect with education (Bozkurt, 1994; Atasoy, 2005; Kahyaoğlu& Kaya, 2012). Changes that occurred because of people's unstoppable and insatiable ambition and greed turned into environmental pollution and when this pollution began to threaten themselves and also when the resources they thought infinite became nearly extinct, they became aware of the danger. People's relationship with their environment that started with agricultural activities and domestication of animals gained momentum and a new environmental revolution started. This second boom is the technological and scientific revolution and it changed the world tremendously. This historical process brought environmental problems with itself. According to Özey (2009), environmental pollution occurs when foreign substances that affect living things negatively and give structural damage to nonliving environmental elements mix into air, water and soil and therefore nature begins to have negative effect on the fundamental elements like air, water and soil".

The first deaths related to environmental problems occurred in England and Japan. In London, fog containing deadly substance killed 4000 people in 1952. After eating fish full with mercury, 41 fishermen died from minamata disease between the years 1953 and 1956 (Özey, 2009). With time this kind of events made people see how they hurt themselves



and the nature. This awareness has led people to take some measures (Erten, 2007). Especially the works started after the Stockholm Conference were influential in administrative, legal, economic and technological measures and in action plans that emphasized environmental education. 1977 Tbilisi, 1988 Nairobi-Paris and 1992 Rio conferences and meetings were the ones that determined environmental education strategies (Erdoğan, 2003). In environmental conferences and meetings, scientist emphasized environmental education and expressed that environmental education should be given from a very young age (Timur&Yılmaz, 2011). Environmental problems and measures needed to be taken for these problems led scientists focus on this subject. At the end of these studies, it was found out that people who are responsible for environmental problems are the ones who will also solve these problems (Erten, 2007). Furthermore, it is stated that environmental education is not just a way to protect environment and solve environmental problems but it is also a requirement for transition to sustainable social structure (De Haan&Harenberg, 1999; Özdemir, 2007).

Recognizing the importance of education in developing environmental awareness, developed countries started environmental education starting from pre-school years and focused heavily on studies related to this subject. With technological development and industrialization, England, one of the developed countries, informed people regarding environmental education and took the necessary precautions. The studies on environmental sensitivity show this. In 1998, a survey employed to 5 and 6 year old students revealed how children were genuinely interested in environment and nature (Bonnett& Williams, 1997; Öcal, 2014). Around the same years, in a different study comparing England and Mexico showed that Mexican teachers were highly aware of environmental education and taught about it in their classrooms. However, since the environmental education they provided was not practical, they could not achieve the needed results in student sensitivity. On the other hand, it was found that English teachers were both aware and taught using practical methods and various materials. As a results, The English students were more knowledgeable and more aware compared to Mexican students. In addition, due to the development of the countries, the English families were more environmentally aware. Thus, this made English children more aware, too. Yet, Mexican families not being environmentally aware reflected negatively on children's attitudes and behaviors (Barraza &Walford, 2002; Öcal, 2014).

In studies conducted in Finland, one of the developed countries of the European Union, it is revealed that Finland is more environmentally aware since environmental education is incorporated enough in the school curricula and students learn about nature in the nature in the environmental education courses. Practical lessons outside the classroom help develop teachers and students be more sensitive and aware. According to survey studies, nature schools made students more sensitive towards sustainable development (Jeronen&Raustia, 2009; Öcal, 2014). Also, Austrian education system and its curricula make it possible for children to have their nature courses in the forest and natural environment. When this education is also supported by the families, children's awareness and sensitivity are more significant (Cambino, Davis & Rowntree, 2009; Öcal, 2014).

Each individual should be knowledgeable about how to use natural resources and how to make sustainable lifestyle effective. With this, a long-term societal transformation is aimed. One of the important stages of sustainable development process is to inform the society that will be affected from this process and raise awareness. In this context, when studies about educating and raising awareness are not conducted, the process is negatively affected (Nagel, 2005). In general, there are many different applications and studies related to environmental education process carried out in the last 30-40 years. These studies are conducted by environment ministries, education ministries, academic institutions, research centers and NGOs. The general purpose is to give education about environment education and raise awareness. In this regard, there are many different applications carried out throughout the world. Some of the different approaches and ways about environmental education followed in the world are naturalist, protecting natural resources, problem solver, scientific, holistic, eco-education and education for sustainable development. Especially in recent years teaching in nature and education towards creating solutions for problems people are experiencing are getting increasingly common (Kaya, Çobanoğlu&Artvinli, 2011). In Turkey, the concept of environment first appeared in Constitution of 1982 and Environmental Law entered into force in 1983. However, until 1981 environmental education was not a part of pre-school, middle school and high school curricula (Meydan, Doğu&Diñç, 2009). There are educational works towards different age groups and interest groups in Turkey. There are educational camps and nature schools. Education of students in preschools is very important. Since this age groups is very important in terms of intelligence and ability development, environmental education should be given starting from this age. In this context, Turkish Ministry of National Education has been reorganizing the curricula so that environmental education is taught more. Ministry of Environment and Forestry has developed educational materials related to environmental subjects such as coloring books and puzzles. In addition, "Practical Environmental Education Project" was carried out in preschool institutions (Bikmaz&Abken, 2007; Kaya, Çobanoğlu&Artvinli, 2011).

When studies about elementary education are examined, it is seen that there are many studies about environmental education. One of the works developed in this context is "Teacher's handbook on Elementary Environmental Education". This handbook was prepared in accordance with the Contract of Elementary Environmental Education Project signed between Turkish Elementary Education General Directorate and UNESCO on 29.03.1990. Teaching Environment, Health, Traffic and Reading courses in 4th and 5th grades one hour a week alternately was adopted 274 numbered resolution dated 07.09.1992. When the course did not achieve its purpose, this course was removed from the curricula. Based on Turkish National Education general purposes and fundamental principles and 1997 Elementary School Codes, one of the purposes of elementary schools is related to environment. Among the Turkish Ministry of National Education's general purposes are students making a connection between people and their natural environment, raising awareness about development and showing sensitivity towards subjects regarding their own country and world. Furthermore, teaching activities should be active learning activities and should stay away from rote memorization (<http://ttkp.meb.gov.tr>).



Significant changes were made in Turkish National Education Program. As part of these changes, it was decided not to teach environment as a separate course but to incorporate it inside different disciplines with the contribution of the Ministry of Environment. In addition, concepts of sustainability and sustainable development were included into the curricula. To support the changes made projects like "Green Box Environmental Education Project", "Eco-schools and Forests in Schools Project", "Children's Fruit Garden" were implemented. Ministry of Environment and Forestry has been preparing print (leaflets, posters) and visual (animation, film, documentary) materials and distributing them. Furthermore, the ministry aims to inform students and raise their awareness by organizing poster and painting contests. In addition, "Practical Environmental Education Project" towards elementary schools is being implemented. Conducted in 81 cities, trainings are done, field trips are taken and composition and knowledge contests are organized under this project. After year-long works, the project is concluded by celebration of World Environment Day on June 5th. Between the months of September and June, the project reached more than 2000 schools in the country. In 1992, head Council of Education approved the course "Environment and People" to taught as an elective course. However, this elective course was taken out of the curricula due to lack of adequate teachers and due to not reaching its purpose (UÇEP, 1997). In recent years, many research centers were founded in Turkish universities to research environment and environmental problems and to develop possible solutions. Various seminars, conferences, slide shows are shown and poetry, composition and painting contest are organized by university student clubs that focus on environment (Kaya, Çobanoğlu&Atvinli, 2011).

Even though there is no separate course on environmental education in Turkish National Education preschools, middle schools and high schools, lessons about environment are distributed to other courses. Found in Istanbul, Private Çevre Schools and Private Doğa Schools are trying to raise environmental awareness of their students from preschool to university (Akçay, 2006). The purpose of these schools is to turn individuals into participants who have environmental management skills (Ünal&Dımişki, 1999). The studies determining the effects of environmental education on human behavior show that students who have taken environmental education are more sensitive towards environment compared to students who have not taken environmental education. The optimum period for environmental education to be taught is the middle school period (Ada, 2003; Ünal&Dımişki, 1999). However, in Turkish middle schools environmental subjects are taught in science and social studies curricula. Great responsibility falls to teacher candidates who study different disciplines to environmental literacy creation and development. One of these disciplines is social studies. However, not including environmental subjects into the social studies teaching program lead to teacher candidates not learning enough about environmental subjects. This causes them not to be environmentally literate (Artun et al., 2013). Since environmental courses are limited and not being practical in social studies departments, the social studies teacher candidates who will pass on sustainable nature and environment awareness to the next generations have only theoretical knowledge in environmental subjects.

Environmental education is important in realizing environment with its every aspect, having awareness without damaging the environment, learning what to do to solve the problems that causes environmental problems. For this reason, elimination of environmental problems is possible with effective environmental education (Şahin et al., 2004). Kulaksızoğlu (1988) defines environmental education as the process of understanding the mutual relations and interaction between people and their environment and gaining appropriate behaviors and skills needed to protect the environment. Taking into this definition, the purpose of environmental education is to raise awareness about environment, to develop a critical perspective in people's interaction with the environment and to pass on a healthy and clean environment to the next generations (Erol& Gezer, 2006). Furthermore, another purpose of environmental education is to transform people into individuals who have skills in environmental management (Ünal&Dımişki, 1999; İncekara& Tuna, 2010). Environmental education also aims to raise individuals with high environmental culture and awareness who are knowledgeable about local, national and global problems, approach these problems with sensitivity and volunteers to solve these problems. Environmental education has cognitive, affective and behavioral purposes. The cognitive purposes are to provide individuals' ecological culture, environmental literacy and environmental awareness; the affective purposes are to create values, behaviors and attitudes towards environment and environmental problems; behavioral purposes are to raise individuals who take active responsibility in solving environmental problems (Atasoy&Ertürk, 2008). In addition to bringing lasting and meaningful learning opportunities, the green learning activities provide rich educational experiences (Stroh & Sable, 2005; Uzun et al., 2008). In this context, this study aims to determine teacher candidates' attitudes and values about sustainable nature and environmental education and to determine their environmental awareness levels through learning activities.

Between the 15th and 18th centuries, 300 years were enough for the world population double. Between the 17th and 18th centuries, 200 years were enough for the world population double. At the end of the 20th century, 50 years were enough. Today, 30-35 years are enough to double the world population. This means every year population as big as Mexico's is added to the world population. In the 2000s, the three things that will trouble the world will be the "3Ps" (population, poverty, pollution) (Güney, 2004). When considering the rapid growth of world population, environment will be able to meet the needs of the people only with education. Education will also be effective in environmental education be lasting and effective and great responsibilities fall to the teachers in providing effective education. Teachers have an important role in spreading ecological awareness and transforming sustainable living principles into student behaviors. The future teachers should have an idea about the numerical values of the negative effects students have on nature (Keleş et al., 2008). Within this framework, the purpose of this study is to determine the awareness levels of the social studies teacher candidates through practical sustainable educational techniques in the natural environment and to gain lasting environmental awareness.



Field trips in education is planned and purposeful examination of the objects and events in their natural environments. Since methods that address students' senses are more effective, the field trips should address students' senses more. When a teaching method is based on observation, it attracts students' interest and provides a more lasting learning experience. It should not be forgotten that the lasting knowledge is gained directly from objects and events. Through observation, students learn about objects and events in their real environment. Since it addresses students' many senses, more lasting and permanent learning is achieved. Studies show that people retain 10% of they read, 20% of what they hear, 30% of what they see, 50% of what they see and hear, 70% of what they tell and say and 90% of what they do and tell (Hesapçıoğlu, 2011). The field trip method makes it possible to see the events and activities in their real environments, to use different learning environments and to learn about our surroundings better. In this study, in addition to the field trip method to make permanent changes in students' perceptions and knowledge, speaking circle, one of the group teaching techniques, was also used. This is a technique used to make students see the differences in the affective domain and to teach respect to different opinions (Sönmez, 2010).

Developed for in-class teaching activities, the speaking circle can be adopted to any activity done with a group. This technique improves students' self-expression, group work, creative thinking and communication skills. To give the students the opportunity to express their opinions about a concept, principle or a word, the students use a pre-selected object before they take turns. While the student who has the object can talk, the others need to wait until they have the object in their hands to talk. This object can be a round object like a small ball, a pen or a small toy (<http://egitimfakultesi.net/kpssforum/>). In this study, the object was chosen from the natural surroundings. During the speaking circle, it was aimed to learn students' opinions on the pollution factor on the Çakık River and its effects, to determine differences in students' opinions on the reasons behind environmental pollution and sustainable environmental education. After this technique used in the nature, a field trip was taken to paper and plastic recycling facilities in Adana and to potable water facility in Çatalan.

1. Study Purpose

The purpose of this study is to determine social studies teacher candidates' sensitivity and awareness levels about sustainable nature and environmental education. For this purpose, a total of 33 candidates (20 females and 13 males) from Niğde University's Faculty of Education was taken to domestic waste dump area near Çakık River. The candidates later visited paper and plastic recycling facilities in Adana and to potable water facility in Çatalan. To determine these candidates' sensitivity and awareness levels, the following sub-questions were determined:

1. Is there a difference in the social studies teacher candidates' sensitivity levels about sustainable nature and environmental education before and after the field trip taken to recycling facilities?
2. Is there a difference in the social studies teacher candidates' awareness levels about sustainable nature and environmental education before and after the field trip taken to recycling facilities?
3. Is there a gender difference in the social studies teacher candidates' sensitivity and awareness levels about sustainable nature and environmental education before and after the field trip taken to recycling facilities?

2. Study Method

In this study experimental design, one of the quantitative research methods, was used. This study's method is a noncontrol group pre-test and post-test. For the pre-test and post-test, five open-ended questions were developed by the researcher.

2.1. Study Universe and Sample

The study universe of the study is made up off teacher candidates studying at Social Studies department of Niğde University's Faculty of Education during the 2014-2015 academic year. The sample of the study is made up off 20 female and 13 male teacher candidates, a total of 33 teacher candidates, studying at Social Studies department of Niğde University's Faculty of Education during the 2014-2015 academic year.

Table 1. Distribution of participants based on gender

Gender	f	%
Female	20	60
Male	13	40
Total	33	100

As can be seen by Table 1, 60% of the participants are female and 40% of the participants are male.

2.2. Data Collection Tool

During the preliminary work, a literature review on the global environmental problems and general environmental problems was done and scientific studies about nature and environmental education were examined. The necessary permissions were taken from the recycling facilities in Adana that the students were going to take a field trip to. Necessary changes and adjustments were made to the open-ended questions in accordance with three expert opinions. These experts were experts of environmental education, measurement and evaluation and language. The open-ended questions were reduced from 8 to 5 after the validity and reliability tests and expert opinions. Pre-test and post-test were employed to determine whether there was a difference between social studies candidates' sensitivity and awareness levels before and after the field trip.

2.3. Data Collection

After the pre-test and post-test questionnaires were employed to social studies teacher candidates, the questionnaire forms were checked one by one. The answers were grouped according to gender. The answers that are in the same category from each question were classified, counted and the answers were tabulated according to the frequency percent rates.

2.4. Findings and Comments

The data of the three sub-questions asked to Niğde University's social studies teacher candidates were analyzed. The findings and comments about the frequency percent rates of the data obtained from the pre-test and post-test are given below.

Table 2. What kind of waste do you think are the most polluting to the nature?

Waste (Before Field Trip)	f)	%
Nuclear, Biological Waste	4	12
Industrial Waste	12	36
Chemical Waste	13	39
Domestic Waste	31	94

Waste (After Field Trip)	f	%
Nuclear, Biological Waste	10	30
Industrial Waste	16	48
Chemical Waste	16	48
Domestic Waste	32	97

As can be seen by Table 2, there are differences between the nuclear, biological, industrial, chemical and domestic waste rates. Before the field trip 94% of the students replied domestic waste as the answer. This rate went up to 97% after the field trip. The high levels of the social studies teacher candidates' awareness levels show the high education level of these candidates.



Table 3. What are the factors causing environmental pollution?

Factor (Before Field Trip)	<i>f</i>	%
Human	19	57
Industry	13	39
Transportation	0	0

Factor (After Field Trip)	<i>f</i>	%
Human	31	94
Industry	15	45
Transportation	1	7

As can be seen by Table 3, transportation has nearly no effect among the factors causing environmental pollution. However, while the industrial factor was 57% before the field trip, it rose up to 97% after the field trip. When the human factor frequency rates are examined, there is an increase in the rate. The increase in human factor after the field trip shows the increase in social studies teacher candidates' sensitivity and awareness levels.

Table 4. What are your suggestions for prevention of environmental pollution?

Suggestion (Before Field Trip)	<i>f</i>	%
Sustainable Environmental Education	10	30
Awareness	14	42
Recycling	9	27
Using Media	1	3
Effective Supervision	11	33

Suggestion (After Field Trip)	<i>f</i>	%
Sustainable Environmental Education	20	61
Awareness	26	79
Recycling	10	30
Using Media	6	18
Effective Supervision	19	57

As can be seen by Table 4, teacher candidates' awareness levels are not adequate compared to their education levels. This shows the necessity of practical field trips to recycling facilities during their education. Awareness rose up to 79% during the post-test. This shows the importance of raising environmental awareness to prevent environmental pollution. Awareness is followed by sustainable environmental education.

Table 5. Is it necessary to conserve water? What should be done about conserving water?

Suggestion (Before Field Trip)	f	%
Restricting Daily Usage	29	88
Decreasing Agricultural Usage	3	9
Increasing Purification Facilities	4	12

Suggestion (After Field Trip)	f	%
Restricting Daily Usage	30	91
Decreasing Agricultural Usage	8	24
Increasing Purification Facilities	8	24

As can be seen by Table 5, all the teacher candidates believe in conserving water and believe in restricting daily usage. This can be explained by education and life experience. In addition, the rates for increasing purification facilities and decreasing agricultural usage of water rose up. This is the effect of the field trip taken to the recycling facilities in Adana.

Table 6. What is your approach to the waste causing environmental pollution?

Approach (Before Field Trip)	f	%
Recycling is important	12	36
I became aware of sustainable areas	7	21
I understood the damages people inflict on nature	8	24
The want to take precautions	5	15
Recycling is important	f	%
Recycling is important	28	85
I became aware of sustainable areas	21	64
I understood the damages people inflict on nature	20	61
The want to take precautions	21	64

As can be seen by Table 6, while the 36% of the social studies teacher candidates expressed the importance of recycling in the pre-test, this number rose up to 64% in the post-test. Similarly, while 15% of the candidates stated wanting to take precautions as an approach in the pre-test, this number rose up to 64% in the post-test. According to these results, the following is seen: Recycling is very important for the candidates. The sustainability awareness of the environmental waste increased tremendously. How people damage the nature is understood. Candidates' want to take precautions increased.



Table 7. Intensity rate of responses based on gender

Before Field Trip			f	%
1- What kind of waste do you think are the most polluting to the nature?	M	Domestic Waste	12	92
	F	Domestic Waste	19	95
2 - What are the factors causing environmental pollution?	M	Human	11	84
	F	Human	8	40
3- What are your suggestions for prevention of environmental pollution?	M	Awareness	6	46
	F	Awareness	8	40
4- Is it necessary to conserve water? What should be done about conserving water?	M	Restricting Daily Usage	9	69
	F	Restricting Daily Usage	18	90
5- What is your approach to the waste causing environmental pollution?	M	Recycling is Important	2	15
	F	Recycling is Important	10	50
After Field Trip			f	%
1- What kind of waste do you think are the most polluting to the nature?	M	Domestic Waste	12	92
	F	Domestic waste	19	95
2 - What are the factors causing environmental pollution?	M	Human	11	84
	F	Human	20	100
3- What are your suggestions for prevention of environmental pollution?	M	Awareness	8	61
	F	Awareness	18	90
4 - Is it necessary to conserve water? What should be done about conserving water?	M	Restriction of Daily Usage	12	92
	F	Restriction of Daily Usage	20	100
5- What is your approach to the waste causing environmental pollution?	M	Recycling is Important	8	61
	F	Recycling is Important	20	100



As can be seen by Table 6, when the pre-test and post-test results are compared, female social studies teacher candidates' sensitivity and awareness levels are higher compared to the male candidates. This shows that females are more aware and sensitive about environment education.

RESULT and DISCUSSION

In today's world with rapid technological advances, while the environment is getting polluted, sustainable nature and environmental education has gained importance. In developed countries environmental education has been taught practically in the nature. Nature schools have been opening in Turkey and studies on practical environmental education have increased. Furthermore, TUBITAK (The Scientific and Technological Council of Turkey) has been supporting projects about environmental education. The studies show that environmental education should be start with the family and continue at all grades of schooling, from kindergarten to university. Curricula should be supportive of nature and environmental education. Only with practical applications or methods, the learning will be lasting. The ones who will ensure this education are of course teachers and naturally the teacher candidates. For teacher candidates to effectively teach sustainable nature and environmental education when they become teachers, they should take practical courses that will raise awareness. To this end, during this study 33 social studies teacher candidates studying at Niğde University's faculty of Education took a field trip to paper and plastic recycling facilities in Adana and potable water facility in Çatalan. The following are the results of the questionnaire from this field trip:

Most of the 33 students who participated in the sustainable nature and environmental education field trip stated domestic waste as the waste that most polluting to the nature. According to the pre-test and post-test results, the domestic waste response was close to each other proportionally. This can be explained by the teacher candidates' education level. Factors causing environmental pollution show mainly people. The post-test results show that after the field trip students thought people as the lead actor in environmental pollution more because before the practical field trip, 57 % of the students responded with the human factor. Whereas after the field trip, this percentage rose up to 94%, with a difference of 36%. Suggestions for prevention of environmental pollution mostly centered on raising awareness and sustainable environmental education. However, post-test results did not rise up for raising awareness and sustainable environmental education responses but increased the awareness levels. Due to their education levels, all of the participating teacher candidates responded that water conservation is needed. Yet, although restriction of daily water usage was among the most stated responses, the awareness level about increasing the number of purification facilities rose up after the field trip. When teacher candidates' approach to waste causing environmental pollution examined, it is seen that after the practical field trip candidates understood the damage people give to nature. Also, candidates understood the importance of recycling, their want to take precautions increased.

SUGGESTIONS

When all the results of sustainable nature and environmental education are taken into consideration, increasing the number of practical environmental education courses not just in social studies departments but also in all the other teaching disciplines is recommended since teacher candidates are the ones who will pass on the appropriate behaviors, skills and values about environment to the future generations. During the speaking circle activity, employed during the field trip, it was seen that candidates had trouble with the technique because they are not familiar with many active learning techniques. Similar techniques should be used in the courses they take. The teaching techniques can be used in the field trips to increase the awareness level of the students about sustainable nature and environmental education. Social studies teacher candidates' awareness levels should be increased by giving them practical field trips.

RESOURCES

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