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THE OPINIONS OF CLASSROOM TEACHER CANDIDATES "ON ACTIVITY-BASED ENVIRONMENTAL EDUCATION"

ABSTRACT

This study aims to reveal the opinions of classroom teacher candidates about activity-based environmental education in which *action research*, one of the qualitative research methods, has been used. A seven week activity schedule has been prepared for 78 teacher candidates. After the schedule, the views of the participants about the activity-based environmental education have been received. The data gathered have been analyzed with content analysis. A significant proportion of the students have positive thoughts about this kind of environmental education. However, a limited number of participants have stated negative opinions with the reason that they have not been accustomed to these activities and they found these activities time-consuming and tiring. According to the participants, characteristics of an effective environmental education have been categorized as "*content, teaching process, and lecturer*".

Keywords: Classroom Teacher Candidates,
Opinions of Teacher Candidates,
Activity-Based Learning, Environmental Education,
Fieldwork

SINIF ÖĞRETMENİ ADAYLARININ "ETKİNLİK TEMELLİ ÇEVRE EĞİTİMİNE" YÖNELİK GÖRÜŞLERİ

ÖZET

Sınıf öğretmeni adaylarının etkinlik temelli çevre eğitime yönelik düşüncelerini ortaya koymak amacıyla gerçekleştirilen bu çalışmada, nitel araştırmalardan biri olan *eylem araştırması* kullanılmıştır. 78 öğretmen adayı için 7 haftalık bir etkinlik programı hazırlanmıştır. Bu program sonrasında katılımcıların etkinlik temelli çevre eğitime yönelik görüşleri alınmıştır. Elde edilen veriler içerik analiziyle çözümlenmiştir. Öğrencilerin önemli bir kısmı bu tarz çevre eğitime yönelik olumlu düşüncelere sahiptir. Olumsuz görüş belirten sınırlı sayıda katılımcının gerekçeleri ise bu etkinliklere alışık olmamaları, zaman alıcı ve yorucu bulmalarıdır. Katılımcılara göre etkili bir çevre eğitiminin özellikleri *içerik, öğretim süreci* ve öğretim elemanı açısından sınıflandırılmıştır.

Anahtar Kelimeler: Sınıf Öğretmeni Adayları,
Öğretmen Adayı Görüşleri,
Etkinlik Temelli Öğrenme, Çevre Eğitimi,
Arazi Uygulaması

1. INTRODUCTION (GİRİŞ)

It is an undeniable fact that human beings are having a significant impact on the natural environment. As the global population continues to rise, humans place more and more pressure on a finite number of resources. Human environmental impacts can largely be attributed to consumption patterns. The best way to promote awareness for environmental issues and promote environmentally responsible behaviors is through increased access to environmental education (Barrett, 2005: 3, Sarabhai et al, 2002).

Environment, classified as natural and artificial, is defined as a setting where creatures live. In this setting, human can have significant effects on the functioning of natural habitat and natural processes with some major human activities. These effects started to create more serious pressures on the sustainability of the ecosystems with world population which entered a period of rapid increase in especially second half of XIX. Century and with huge advances which appeared in the field of technology. Such disastrous events as global warming and climate changes or oscillations caused by the global warming, serious differentiations in the temporal and spatial distribution of rainfalls, air, water and soil pollution, the danger of extinction for some species, glacial melting, floods, tropical storms have begun to take place among the most fundamental problems of modern man. All these processes caused the interaction between human and nature to change to the detriment of the nature day by day and the artificial environmental pressure turned to be felt in a greater extend. Mankind, as the mainspring of causing such a great extend of pollution and destroying natural balance, actually will be the most affected creature from this negation and this brings along serious discussions. It's also known that some never remain insensitive, they are organized and contend for this inconceivable attitude of humankind who jeopardize the fortune of his generation with his own hand.

All these developments bring along the necessity of environmental education. It is known that this education must include all segments of society to get people acknowledged with the environment, to make them conscious about the environment and to have them acquire a permanent change in behavior (Cubuk & Karacaoglu, 2003: 190, Barrett, 2005: 5, Stokking at all, 1999, Sarabhai et al, 2002).

Actually, the studies for environmental education have accelerated in 1970s, in which negative effects of rapid industrialization in the aftermath of industrial revolution and urbanization having developed more rapidly than the speed of industrialization were felt clearly. During 1972, in Stockholm the meeting named "Environment of the Mankind" which has been held by the United Nations can be accepted as an important study for the developments of this field (Guler, 2009: 32). Later on, as a compulsory result of pressures on the natural system, these studies continued with various international actions such as "Tbilisi Conference" in 1977 and "Our Shared Future" report in 1987. According to the approach adopted especially with the recent two studies, it is seen that environmental education is not only a way of protecting the environment and overcoming the environmental problems; instead it is accepted as a basic condition of developing a sustainable social structure (De Haan & Harenberg, 1999; as cited in Ozdemir, 2007; Stokking at all, 1999, Sarabhai et al, 2002).

The common point of the definitions for *environmental education* and targets shown by various foundations, corporations, organizations and individuals who know the available effects of degradational ecosystem alteration on living beings is to develop a sensibility on the individuals toward the environment, and create positive and

permanent behavioral changes. For instance in 1977, in "International Environment Conference" held in Georgia, *environmental education* was defined as an activation and subject to the solution of practical environment problems of education with an interdisciplinary approach enabling the attendance of every individuals and society (Ozogul, 1993 as cited in Ozdemir, 2007), but in the year 1990 in our country, during the seminar held by UNESCO and Prime Minister Undersecretariat, environmental education was defined as developing environmental awareness on individuals, gaining environmentally-conscious, positive and permanent behavioral changes and protecting natural, historical, cultural and socio-aesthetic values, enabling the active participation and taking a role in solving the problems (Undersecretariat of Environment, 1990 as cited in Ozdemir, 2007). According to Guler (2007: 32), environmental education includes the processes such as informing, awareness raising, warning, balancing, improving and protecting and it aims at modifying behaviours of people in this direction. Environmental education is ethical and related with actions and it is not only a subject that should be learned but it is also a way of thinking and a pattern of behavior. Surely for a sustainable life, one of the most important goals of society is to raise children with attitudes, values, knowledge and required crafts for protecting the nature (Davis, 1998 as cited in Guler, 2009, p.32). However, the environmental education should be organized in the way that the teaching processes follow respectively these phases as experience, enlightenment, responding development, valuation and constructing behaviour (Klautke & Kohler, 1991 as cited in Ozdemir, 2007).

It is undebatable fact that the only way of developing environmental awareness is effective "environmental education". However, it is still not possible to refer to a consensus regarding what kind of education should be given for reaching more effective results. Especially, giving particular importance to different aims and functions, have arised differet approaches towards this education. These approaches show themselves in the literature in the following way; environmetal education, pedagogy of ecology (ökopadaegogik), ecological learning (ökolojigischenlernen), nature experience (narurerfahrung), and education for sustainable development (nachhaltige umweltbildung). (Grasel, 2002 as cited in Ozdemir 2007, p.6). In our country, especially in recent periods, the studies that make it possible for the individuals to face natural processes by the support of TUBITAK (Scientific and Technological Research Institution Of Turkey), is the sign that natural experience approach has gained a wide public acceptance.

According to ecological philosophy, the human finds himself in nature, becomes a part of the nature, takes into account the wills and the benefits of nature while thinking of his own wills and benefits (Guler, 2007: 33). For this reason, the fieldworks, that are assumed to be extrascholastic activities, enable people to behave more responsible since they contribute to the mutual interaction between the human and the nature more. The environmental education taking place in authehtic athmosphere is rather crucial because it raises awareness towards the nature and makes the human develop empathy between him and the nature (Ozoner, 2004, Atasoy, 2006). It should also be considered that similar activities increase the predisposition of individuals towards nature, make them more sensitive and conscious and contribute them to think more creatively and critically (Demirsoy, 2004, Yanik, 2006, Thoe & Lin, 2006). Besides, as it is aimed for students to have sense of mission and sense of responsibility which will enable them to participate actively, it can be possible to

develop such an approach by making them raise awareness which can essentially be realized in their primary and even in their pre-school educational processes.

Students' experience in nature can make it available to develop empathy between the students and the nature. Because of that reason, students should be given the opportunity of gaining experience in nature and discovering by themselves. Such an effective teaching process can only be realized by *environmental-friendly* teachers (Malone & Tranter, 2003). In this process, it is essential that primary school teachers be primarily environmental friendly. Moreover, teachers should have such a perspective and in line with this perspective, they also have to know the implementation phases of educational process.

In our study, the method 'The Education of Nature' or 'Learning via Nature', one of the approaches commonly approved in terms of raising more sensitive individuals towards nature, have predominantly been used, and in this regard requirements of an effective environmental education were tried to be determined by asking for the viewpoints of classroom teachers. Recently, TUBITAK sponsored environmental education studies of lecturers from disciplines such as geographers and biologists was pointed out to be this kind of approach. However, we should not ignore that in most studies on environmental education, some different approaches are used except for the determinate approach. Besides, those approaches draw attention in terms of their applicability to the principles of *participatory* and *innovative* environmental education which Ozdemir (2007) pointed out as well. Indeed, such an approach and principles contribute to the constructivist learning process as well. Educational processes, in which the applications are based on the environmental education, are organized in a way that which make it possible to know the nature in its own authentic atmosphere and to use what the nature offers as the subject and material of the education (Ozner, 2004: 587).

It is hard to say that the studies on environmental education are not in the adequate level. The issue of environmental education has began to show itself in the year 1991 in public education but new plans and programmes have not been prepared yet (Erol & Gezer, 2006: 67). Environmental education should start in pre-school and should be continued regularly in primary education in order to inform individuals, to raise awareness and to make them have positive attitudes towards environment (Uzun & Saglam, 2007: 211). As a necessity of this case, in the content of educational programmes of year 2005, this subject has been covered in some certain aspects, but academical studies have shown that abilities acquired in primary school are mostly about getting information and developing behaviour, but not enough for developing ability, understanding, and value, and moreover, the programmes focus merely on preserving the environment rather than sustainable environmental education (Tanriverdi, 2009). In parallel with the developments in the world, especially in recent years, a plenty of academic studies on environmental education have been done in our country. Some of the studies on this field are as follows: Uzunoglu (1996), Yucel & Morgil (1998), Bozkurt & Cansungu (2002), Sahin et al. (2004), Kabaş (2004), Şimşekli (2004 & 2010), Erol (2005), Atasoy (2005), Yılmaz Yıldız (2006), Kocak (2006), Erdogan (2007), Gokce et al. (2007), Tecer (2007), Sagır et al. (2008), Kostova & Atasoy (2008), Tanriverdi (2009), Aydin (2010), Unlu and Acar (2010).

2. RESEARCH SIGNIFICANCE (ÇALIŞMANIN ÖNEMİ)

Since the nature is a laboratory for a study, making the individuals get to know the members of environment up to necessary level, giving them the opportunity of witnessing the biological reality by the help of trips, observations and experiments about the systematic relationship between the visible and invisible living beings, in short having the environmental education based on visual and applied methods as possible as, it is one of the most effective ways in terms of environmental education (Yıldız and et al. 2002: 2) This study was carried out considering learning outputs [to educating teacher candidates having basic ecological knowledge, conscious about the environmental problems, participating actively in solving the environmental problems (www.fatih.ktu.edu.tr,)] of "environmental education" course, two class hours a week, in classroom teaching undergraduate program, and considering to do fieldworks in environmental education. In short, the primary objective of our study, is to make teacher candidates -who will work in the primary school where the environmental education has gained a formal structure-comprehend the importance and reasons of this implementation, to get their opinions about this approach and subsequently pave the way for them to be experienced teacher having adequate knowledge, ability and attitudes.

What are the opinions of the classroom teacher candidates about "Activity-Based Environmental Education"?

How should be "Environmental Education" course from classroom teacher candidates' point of view?

3. METHOD (YÖNTEM)

In this study, a qualitative approach has been used to reveal the effects of application on the students. So, the study can also be accepted as an action research. Johnson (2003) defines the action research as a research process carried out to comprehend and develop the quality of the education or activities in a real school or class setting.

3.1. Participants (Katılımcılar)

The study was conducted with 78 teacher candidates who were studying at Department of Classroom Teacher Education at Education Faculty, Rize University in the fall term of 2010-2011 academic year. Out of 82 teacher candidates, the forms of were not taken into analysis as they did not include reliable data. These both classes (şube) in which the participants receive education consist of the students of daytime education in order for the extrascholastic activities to be implemented more comfortably.

3.2. Process Steps (İşlem Basamakları)

The implementation continued for 7 weeks in Environmental Education course which is two class hours a week. Teacher candidates have been informed about Activity-Based Learning. The activity plan is as follows:

Table 1. Activities used in activity-based environmental education
 (Tablo 1. Etkinlik temelli çevre eğitiminde kullanılan etkinlikler)

	Activity Name	Type	Objective
1st week	If I were a mineral	Introducing and building a mineral collection	To increase the awareness by getting familiar with the minerals in the neighbourhood and have a mineral collection.
2nd week	How much do I know my neighbourhood	Land trip	Studying such concepts as <i>basic ecological information, functions of ecosystems, energy flow, cycle of substance</i> in the field
3rd week	I am also in	Artistic design	Acquairing environmental sensitivity
4th week	Cayeli, district of Rize, in my dream	Slogan and logo creation	Getting familiar with the neighbourhood you live in, being able to introduce it and being able to recognize environmental problems
5th week	Can we develop in a sustainable way?	Debate	Participating actively with your ideas about the solution of environmental problems by becoming conscious of environmental problems, trying to find solution to the energy problem.
6th week	Letter to 70 years later	Presentation and letter writing	Becoming conscious of the limits of natural resources and protecting them
7th week	As a teacher, living in harmony with the environment	Presentation	Getting tips to love, adopt and protect the environment to which they are not accustomed and to be an effective teacher

In the first week, the mineral collection of the lecturers has been introduced to the students and they have been expected to build their own collection. Moreover, the students have been asked: "If you were a mineral, what mineral would you like to be?". In the second week, a trip has been organized to "Lover's Valley" which is in the faculty campus. The students have been informed about the processes of regional and valley geography. In this process, such basic concepts as wetland areas, ecosystem, functions of the ecosystem, energy flow, cycle of substance have been tried to be explained in the field. In the third week, the students have been asked to create an artistic design (monument) by combining 3 natural objects. They have been also asked not to harm to any natural elements and to keep size of the elements as small as possible. In this activity, the students have been asked to do a group action. At the end of the projection, students have been asked to write a text explaining name and the message of these monuments which were created by the combination of natural components. In the fourth week, the teacher candidates have been asked to build a logo and slogan for Cayeli, district of Rize, in their dream. This activity was designed as a group action. In the fifth week the question "Can we develop in a sustainable way?" has

been discussed in the form of a debate. In this process, they have been also asked to discuss on nuclear energy which is particularly important for the people in the region. In the sixth week, the presentation "a letter from 70 years later" has been performed for them. The answer to the question "How would be the world in which the water has ended?" which a grandfather asked to his grandson in a letter has been tried to be given with musical accompaniment. The teacher candidates have been required to write a letter to the future in response to this letter. In the last week, real samples from teacher experiences have been given to the teacher candidates in a presentation, prepared by the lecturers, containing the information which simplifies the adaptation process to different geographies in which they would probably work.

3.3. Data Collection Tool and Analysis (Veri Toplama Aracı ve Verilerin Analizi)

In order to reveal the opinions of the teacher candidates about the activity-based environmental education, 2 semi-structured questions have been prepared to use. The objective of these questions has been to reveal the opinions of the teacher candidates for the course and the practice of the course. The content validity of the questions has been provided by preparing the questions through a consensus of the authors. In order to get better data, the teacher candidates have been given as much time as they want. The data obtained from responses have been analyzed through "content analysis. In this analysis, themes and codes have been created. The basic procedure in content analysis is to bring similar data together within the framework of particular concepts and themes, and to interpret them in a way that the readers can understand (Yıldırım & Simsek, 2008). In order to strengthen the reliability of the data, the results coded independently by both researchers were compared. In this way, the evaluation has been provided to be carried out according to a common point of view. In order to generate themes by determining the relationship between main lines of codes, the researchers were considered to have a common point of view. The codes under any theme have been paid attention to be apart from the codes of different themes.

4. FINDINGS (BULGULAR)

In this part of the research, after the practice the teacher candidates were asked "What are your opinions about 'Activity-Based Environmental Education'?", positive opinions about the practice have been analyzed in Table 2 and negative opinions about the practice were analyzed in Table 3. In addition, the answer to the question "How should be an effective 'Environmental Education'?" which is the subject of the other sub-problem of the research was analyzed in Table 4.

Table 2. Positive opinions of the teacher candidates about "activity-based environmental education" (in the table, the codes that are N<10 were not taken into consideration)

[Tablo 2. Öğretmen adaylarının "etkinlik temelli çevre eğitimi" uygulamasına yönelik olumlu düşünceleri (Tabloda N<10 olan kodlar değerlendirilmeye alınmamıştır)]

Themes	Codes	Teacher Candidates	N	f (%)
Individual	I enjoyed	1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17,18,19,20,22,23,25,26,27,28,29,31,32,34,35,37,39,40,41,42,44,45,46,48,49,50,51,54,55,56,57,58,60,62,63,68,69,71,72,73,78	56	72
	It has reflected in my life	2,3,5,7,9,10,13,14,19,20,22,23,24,26,27,28,29,31,33,34,35,37,39,40,41,42,44,45,46,48,49,50,51,54,55,56,57,58,60,62,68,69,73,72,77	45	58
	It has broadened my horizons	7,14,19,20,22,23,24,26,27,28,29,31,33,34,35,37,39,40,41,42,44,45,46,48,49,50,51,54,55,56,57,58,60,62,63,68,69,73,72,77	40	51
	I could express myself	6,9,10,12,14,17,19,20,22,23,24,26,27,28,29,31,33,34,35,37,39,40,41,42,44,45,46,48,49,50,51,54,55,56,57,62,63,68,69,73,	40	51
	Our creativity has developed	4,5,7,9,13,14,19,20,22,23,24,26,28,29,31,33,35,37,39,40,41,42,44,45,46,48,49,50,51,54,56,58,60,63,68,69,73,77	38	49
	My self-confidence has increased	1,2,4,5,7,9,10,19,20,24,26,27,28,29,31,33,34,35,37,39,40,41,42,44,48,49,50,51,54,55,56,57,62,63,68,72,77	37	47
	My social interaction has increased	2,4,5,7,9,19,20,22,26,27,28,29,31,33,34,35,37,39,40,45,46,48,49,50,56,57,58,60,62,63,68,69,77	33	42
	Our participation has increased	1,13,14,26,27,28,29,37,39,40,41,42,49,50,51,54,57,58,60,69,73,76,78	23	29
	We could discuss	9,10,13,39,46,48,57,58,60,62,72,77	12	15
Point of view on the environment	Awareness /conscious level have increased	1,3,4,5,7,9,10,13,14,19,20,22,23,24,26,27,28,29,31,33,34,36,37,39,40,41,42,44,45,47,49,50,51,54,55,56,57,58,60,62,63,67,69,73,70,76	46	59
	I Love it more	4,6,7,9,11,14,19,20,22,23,24,26,28,29,31,33,35,37,39,40,41,42,44,46,48,49,50,51,54,56,58,60,63,68,69,73,77	37	47
	We have become more questioning	5,7,9,10,13,14,19,20,22,23,24,26,27,28,29,31,37,39,40,41,46,48,49,50,51,54,55,56,57,58,60,69,73,72,77	35	45
	We have learned to respect more	1,9,11,14,18,21,25,28,32,35,37,39,42,44,45,46,48,49,50,51,54,56,58,60,63,65,69,73,77	29	37
	I have changed	4,8,12,17,26,27,31,39,47,52,69,76	12	15
	I am using the resources more carefully	1,5,11,12,13,15,18,33,28,58,59	11	14
	I protect the resources more	3,4,5,11,12,13,18,24,33,53,59	11	14
Content	I liked	2,3,5,6,7,8,9,10,11,13,14,16,17,18,19,20,22,23,25,26,27,28,29,31,32,34,35,37,39,40,41,42,44,45,46,48,49,50,51,54,55,56,58,60,61,64,68,69,70,72,78	51	65
	I learned	2,4,5,7,9,13,14,19,20,22,23,24,26,28,29,31,33,35,37,39,40,41,42,44,45,46,48,49,50,51,53,56,58,60,63,68,69,73,77	39	50
	Permanence was achieved	1,4,6,9,10,11,14,16,17,22,24,27,28,31,32,37,40,41,42,44,47,48,52,54,55,63,68,71,72,78,	30	38
	I have established a interdisciplinary relationship	1,13,14,26,27,28,29,37,39,40,41,42,49,50,51,54,57,59,60,69,73,76,78	23	29
Teacher candidate	I have learned how to make it loved	2,5,12,19,28,31,32,36,47,55,58,70,73	13	17
	I have learned how to teach	4,12,17,26,27,31,39,42,69,77	10	13
	I have experienced a student centered learning	2,8,9,10,15,21,24,49,53,70	10	13

When the opinions of the teacher candidates on activity-based environmental education were evaluated with the content analysis, the benefits they gained from this practice were divided into themes as "individual, point of view on the environment, content and teacher candidate". Each of these themes contains codes organized from the highest repetition percentage to the lowest repetition percentage.

According to these codes;

The individual benefits that the teacher candidates gained from activity-based environmental education are respectively that they enjoyed (72%), what they learned have changed their life (58%), It has broadened their horizons (51%), it enabled them to express themselves (51%), it has developed their creativity (49%), it increased their self-confidence (47%), social interaction (42%), and participation in the class (29%), and they discovered they could discuss (15%).

Some sample selected expressions of the teacher candidates, which have been effective in generating these codes are below:

E5 " I would participate to every lessons even there wouldn't have been taken registration. It was the best lesson I have ever entertained."

E31 "Most importantly, environmental education is not only what I have learned in the lesson. It affected my whole life from my school to street, to my house, to my kitchen.....etc"

E49 "I haven't seen so many different minerals together, It has broadened my horizons."

E10 "We generated a slogan and each of our words were in it; and it reflected our opinions."

E73 "How could we become so different and creative with such simple materials."

E40 " 'I can do' was the sentence of my philosophy instead of 'I can't do'. As a result we achieved."

E28 "I discovered that I didn't know some of my friends deeply. It was also pleasure to discover my friends. At last, we could say 'we achieved' ".

E69 "Once everybody would sit in his corner calmly...."

E46 "I had great difficulty in breaking the pre-judgements of people who suffered from nuclear energy. Even in the dormitory we discuss this subject while laying on our berths."

The codes which reflect the effect of the education on the teacher candidates' point of view to the environment are "it increased the awareness/consciousness level (59%), they loved the environment more 47%, they became more questioning 45%, It increased his respect to the environment 37%, it changed their point of view to the world 15%, they started to use the resources more carefully 14%, they started to protect the resources more carefully 14%".

E7 "Previously, the word 'environmet' was my house and the trees around it form me, or not much more than the borders of the district I live in. Now, it means not only Turkey but also the world is in my understanding of the environment"

E4 " Cayeli, the district area of Rize, became my heaven in my mind and heart after these lessons, which enabled me to get rid of vicious circle in my mind."

E1 "In this lesson, so many ideas of mine changed which I thought not to"

E65 "Maybe, it is not only me getting hurt when I fall down"

E76 "I thought it was ridiculous thinking a tree, stone or the nature itself or putting yourself instead of it but over time my point of view has changed"

E33 "After the performance about the water saving, I am careful when I brush, even when I fill my glass. I think about the years later. I do not remain insensitive. I can feel sorry about the environment anymore."

E53 "After the memorial activity, I examine the natural environment more carefully. Even I am more careful when I walk in the environment and warn people who do harm."

In the activity-based environmental education, teacher candidates liked the content, learned, believed what they learned was permanent and established interdisciplinary relations in the process.

E22 "I would participate to every lessons even there wouldn't have been taken registration. It was the best lesson I have ever entertained."

E2 "We analyzed the minerals. What a lot of things in the world. We know little"

E63 "I am sure that I will forget what I have learned from the book but I think my conscious level after this practice will never go off"

E37 "I learned that the nature is not only food, water and air. Physics, Chemistry and Biology are in them."

The codes which reflect the effect of the practice to himself as a teacher candidate are "how to make it loved (17%), learning how to teach (13%), experiencing student centered teaching practice (13%)".

E5 "I understand better anymore, one loves more which he knows better. As I love more, I can make it loved easier."

E42 "The name of this course is not environmental science, but environmental education. What I understand from this is being taught how to teach. I think the activities will help me about that"

E1 "We must be able to discuss. While there is a discussion about the environment in which we live, we must have something to say as a university teacher."

E2 "Student centered teaching has been mentioned for many years. I have heard about it many times in my 13 years of educational life."

Table 3. Negative opinions of teacher candidates on "Activity-Based Environmental Education" practice
 (Tablo 3. Öğretmen adaylarının "etkinlik temelli çevre eğitimi" uygulamasına yönelik olumsuz düşünceleri)

Codes		Teacher Candidates	N	f (%)
Criticisms of the teacher candidates about "Activity-Based Environmental Education" practice	Being unaccustomed to it	5, 9, 13, 16, 18, 20, 22, 24, 25, 32, 38, 42, 43, 47, 52, 56, 57, 58, 61, 69, 73, 72, 78	23	29
	Time taking	6, 7, 44, 54, 59, 62, 73	7	9
	Tiring	31, 46, 50, 63, 73, 77	6	8

Table 3 shows the content analysis of the teacher candidates' criticisms about "Activity-Based Environmental Education". Each of the codes has organized from the highest repetition percentage to the lowest repetition percentage. According to this table, the criticisms of the teacher candidates about activity-based educational process are respectively *being unaccustomed to it* (29%), *time taking* (9%), and *tiring* (8%).

Some sample selected expressions of the teacher candidates, which were effective in generating these codes are below:

E13 "reviously, I was against to these practices which I didn't know and couldn't understand what's waiting for me, but..."

E7 "There were so many people to listen and to deal with but the time was limited."

E31 "... but getting interested in it more than the other lessons causes us to get very tired"

Table 4. Features of an effective "Environmental Education" according to teacher candidates (in the table, the codes that are N<10 have not been taken into consideration)

[Tablo 4. Öğretmen adaylarının görüşlerine göre etkili bir "çevre eğitim" dersinin özellikleri (Tabloda N<10 olan kodlar değerlendirmeye alınmamıştır)]

Features of an effective "Environmental Education" course according to teacher candidates	Themes	Codes	Teacher Candidates	N	f (%)
	In terms of content	Must have up-to-date and functional samples from our surrounding and daily life		1, 3, 6, 11, 12, 15, 16, 17, 18, 19, 20, 22, 23, 25, 26, 27, 28, 29, 30, 32, 34, 37, 38, 39, 41, 42, 44, 45, 48, 49, 50, 51, 54, 55, 56, 57, 58, 59, 61, 63, 66, 69, 71, 72, 73, 76	46
Must also give the didactics			4, 6, 9, 10, 11, 14, 16, 17, 22, 24, 27, 28, 31, 32, 37, 40, 41, 42, 44, 47, 48, 52, 54, 55, 63, 68, 71, 72, 78,	29	37
In terms of teaching process	different techniques/materials must be used		2, 3, 4, 5, 7, 9, 10, 11, 13, 14, 16, 20, 22, 23, 25, 26, 27, 28, 29, 31, 32, 34, 36, 37, 39, 40, 41, 42, 43, 47, 49, 50, 51, 54, 55, 56, 57, 58, 60, 62, 63, 65, 69, 73, 70, 76	46	60
	There mustn't be grade anxiety		11, 27, 35, 46, 51, 55, 59, 61, 63, 72, 78	11	14
	Everybody must be able to share his/her ideas		4, 11, 16, 28, 33, 46, 54, 68, 71, 74	10	13
In terms of lecturer	Must love environment		11, 14, 35, 37, 39, 42, 44, 45, 46, 49, 50, 51, 54, 56, 58, 69, 73	17	22
	Must be knowledgeable		3, 11, 12, 22, 26, 27, 28, 29, 31, 40, 41, 46, 48, 56, 57, 60, 75	17	22
	Must love the course		7, 9, 10, 14, 19, 20, 37, 39, 49, 52, 69, 73, 72	13	17

In table 4, the answer of the question asked to the teacher candidates "How should be an effective Environmental Education course?" has been analyzed. According to the teacher candidates, the answer to this question includes the themes of "in terms of content, in terms of teaching process, in terms of lecturer". These themes consist of codes in themselves. Themes and codes have been organized from the highest repetition percentage to the lowest repetition percentage.

According to the teacher candidates, an effective environmental education must have up-to-date and functional samples from our surrounding and daily life (60%) and must also have didactics (37%).

Some sample selected expressions of the teacher candidates, which have been effective in generating these codes are below:

E15 "Environmental education must start from our surrounding, I must be able to see and experience it in my daily life"

E27 "The name of this lesson is not environmental science but environmental education. For example, we also learn how to teach in social studies lesson. How can we introduce it, make it loved and protected also in this course? Don't we need to learn these?"

According to the teacher candidates, in terms of "teaching process" different techniques/materials must be used (60%), there must be no grade anxiety (14%), everybody could state his/her opinion (13%) for an effective environmental education.

Some sample selected expressions of the teacher candidates, which have been effective in generating these codes are below:

E32 "In my opinion, being stick to the book is not good. One of the reasons of this is that I do not attend the classes in the week which I believe I do not like the issues"

E9 "I think this course must be done with nature, pictures, figures and different materials by exploring and examining. We must not be stick to the course book. All of the students who read the book may come from different surroundings. How could they practice what they have learned?"

E61 "If the activities were compulsory, they would be done just to be done."

E33 "Not everyone could do something aesthetic monumental activity. Visual aesthetic was not taken into consideration, the important thing was simply to express himself/herself"

According to the teacher candidates, the lecturer must love the environment (22%), must be knowledgeable about the environment (22%), and must love the course (17%).

Some sample selected expressions of the teacher candidates, which have been effective in generating these codes are below:

E3 "In my opinion, the effect that the course does is also related to how much our teacher knows and loves the environment"

E10 "I remember you telling about the stones even while you are stepping on the ground. Maybe, it's because you tell with pleasure"

5. RESULT AND DISCUSSION (SONUÇ VE TARTIŞMA)

One of the findings of this study- done to define the thoughts of classroom teacher candidate about activity based environmental education and how the environmental education course should be - is the positive thoughts of them towards activity based environmental education. These positive thoughts have been evaluated under the theme titles of *as an individual, towards the environment, content* and *as a teacher candidate*. Under these themes, most of the teacher candidates have stated that *they enjoyed themselves, liked this activity, raised their conscious about the issue, had reflections of the activity in their lives and by broadening their horizons they could express themselves in this activity*. Some of the other important findings are that *they developed the ability of creativity, increased the level of self confidence and became more questioning*. The negative thoughts about the activity based study are not so many, but some limited thoughts about this field are *being unaccustomed to it, time taking and tiring*. The opinions about how an effective environmental education should be were evaluated under three theme titles. These themes have been classified in terms of *content* (up-to-date and functional samples must be from our surrounding and daily life),

educational process (must be used different methods and techniques) and lecturer (must love the environment and the course, and also be knowledgeable).

One of the most important findings has been that activity based environmental education is enjoyable, in fact it is fundamentally applicable with the main principles of constructivist approach. Learning in a enjoyable way also meets the needs of current educational understanding. Our other study findings have been paralel with the some studies that have been carried out before. For example, the positive results of the study by Şahin et al. (2004) and Yıldız et al. (2002) on student centered environmental education, the study of activity based environmental education towards the primary school students by Unlu and Acar (2010), Wilson (1996) the results of the effect of nature training project by Guler (2009) for the teacher candidates on the opinions of environmental education, the study of Simsekli (2004) which analyze the sensitivity of primary school students towards environmental education activities, and also the study on the effect of environmental education activities on primary school students (2010) show parallellism with our study. In fact, all these outcomes show that an effective environmental education and nature training indicate that it can only be realized by the confrontation with these natural processes and developing empathy with those processes when needed.

In literature, there are a plenty of studies who propose to enrich the content and teaching settings with various materials and techniques (Birinci Konur et al., 2011). Moreover, teachers, who love his/her environment, his/her job and his/her field, will most probably reflect the same enthuasim and excitment to the learning atmosphere. The study of Cin (2008) can be given as an example for those teachers who love their environment are more successful. In the study, organizing trips, using different methods and materials have been offered in order to familiarize with the nature, introduce it, care for it and make it to be cared. The studies also are avaiable which support the view that enjoying the profession of geography teaching affects student's behaviours and success positively (Gumus and Capar; 2011).

6. SUGGESTIONS (ÖNERİLER)

- Since the activity based environmental education gives individuals the opportunity of experiencing the nature and developing mutual empathy, this kind of education should be considered in all educational processes as much as possible.
- One of the most fundamental ways of being able to develop an effective insight of environmental education and to be considered as an important issue by the public is only possible with its availability in formal education programmes. For that purpose, firstly in undergraduate programmes of education faculties then in all other undergraduate programmes of the other faculties, "Environmental Education" has to be among those obligatory courses.
- The cirruculum of "Environmental Education" course should be appropraite with "the education for sustainable development".
- The parcipations of educators must be provided to attend ecological based nature training programs both in pre-serice and inservice periods.
- The content of the course is to be as much flexible as to be enriched with samples from our surrounding and daily life and with field trips.

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