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ANALYSIS OF TEACHER CANDIDATES' VIEWS ON SUSTAINABLE DEVELOPMENT

ÖĞRETMEN ADAYLARININ SÜRDÜRÜLEBİLİR KALKINMAYA YÖNELİK GÖRÜŞLERİNİN İNCELENMESİ

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Abstract

The purpose of this research is to evaluate teacher candidates' views about sustainable development. In this study, phenomenological method, one of the qualitative research methods, was used to gather data appropriate for the aim of the research. A total of 35 participants, chosen by purposive sampling among teacher candidates who were students in various teaching programs in an education faculty of a public university, form the study group of this research. The research data were gathered by means of semi-structured interviews and content analysis was used to analyze the obtained qualitative data. The research reveals that teacher candidates are not knowledgeable enough about sustainable development and its importance, and that they do not have enough activities regarding sustainable development.

Keywords: Environment, Sustainable development, Teacher candidates.

Öz

Bu araştırmanın amacı öğretmen adaylarının sürdürülebilir kalkınmaya ilişkin görüşlerinin değerlendirilmesidir. Araştırmanın amacına uygun verileri toplamak için nitel araştırma yöntemlerinden biri olan fenomenolojik (olgu bilim) yöntem kullanılmıştır. Araştırmanın çalışma grubunu bir devlet üniversitesinin çeşitli öğretmenlik lisans programlarında öğrenim gören öğretmen adaylarından amaçlı örnekleme yöntemi ile belirlenen toplam 35 katılımcı oluşturmaktadır. Araştırmanın verileri yarı-yapılandırılmış görüşme soruları ile toplanmıştır. Elde edilen verilerin çözümlenmesi için nitel veri analiz yöntemlerinden içerik analizi kullanılmıştır. Araştırma sonucu öğretmen adaylarının sürdürülebilir kalkınmanın ne olduğuna ve önemine ilişkin yeteri kadar bilgi sahibi olmadıklarını, sürdürülebilir kalkınmaya yönelik çok fazla faaliyette bulunmadıklarını ortaya koymuştur.

Anahtar Kelimeler: Çevre, Sürdürülebilir kalkınma, Öğretmen adayları.

Introduction

Environmental problems are frequently seen as conflicts of interests between people, both globally and locally, that affect nature (Lundegard & Wickman, 2007). Earlier views regarded environmental problems as technical problems to be solved or conflicts between human beings and nature. The problems defined as environmental problems in general are the mis-over and consistent use of the nature and natural resources and the deteriorations on the natural balances caused by the pollution of the basic physical elements of the nature; water, earth and soil (Keleş & Hamamcı, 2002; Kışlalıoğlu & Berkes, 2007). Because of these problems, nowadays to live in a healthy environment is considered as one of the basic human rights and the fact that one of the biggest missions of the humanity is to leave a livable environment to the next generations (Uzun & Sağlam, 2005). The idea of leaving a livable environment whose resources have not been completely consumed is only possible with the sustainable development. The concept of sustainable development has been part of people's lives and many activities since it has been used in reports of Brundtland Commission Our Common Future (World Commission on Environment and Development [WCED], 1987) and the Rio Earth Summit's Agenda 21 (United Nation Conference on Education and Development [UNCED], 1992). The most widely used definition of sustainable development found in the Brundtland report is "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs." (WCED, 1987, p.43). This definition is widely accepted amongst educationalists and policy-makers globally (Scott & Gough, 2003). The other definition for sustainable development used by The World Conservation Union (IUCN), United Nations Environment Programme (UNEP), and World Wide Fund for Nature (WWF) in the report *Caring for the Earth: A Strategy for Sustainable Living* is "improving the quality of human life while living within the carrying capacity of supporting ecosystems" (IUCN, UNEP & WWF, 1991). The concept of sustainable development used in The European Commission's document for the seventh Environment Action Programme: *Living Well, within the Limits of our Planet* (European Commission, 2014). The underlying dimensions that creates a complex system of the concept of sustainable development are environment, economy and society (Berglund, Gericke & Rundgren, 2014).

Education plays a central role which to develop sustainable development as stated in Agenda 21 of the 1992 World Summit. This report addressed the need to meet the goal of sustainable development through education (UNCED, 1992). Also, UN World Summits, in Johannesburg

in 2002 reported that education should be one of the keys for achieving sustainable development by making future generations better able to understand the integrated nature of the economic, ecological and societal changes involved (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2005). In Bonn Declaration on Education for Sustainable Development concluded that education must play a key role in “securing sustainable life chances, aspirations and futures for young people” (UNESCO, 2009). Students should learn how to take responsibility for both themselves and their society for today and in the future, based on the concept of sustainable development (Mogensen & Schnack, 2010). Therefore, teachers had “a crucial role to play in helping to bring about the extensive social changes” (WCED, 1987 p.xiv) necessary for sustainable development. Tuncer et al. (2009) argue that teachers will only produce students who are environmentally literate, if they themselves are knowledgeable and have positive attitudes towards the environment. Also, the teacher needs knowledge dealing with sustainability, sustainable development and their overall meaning (Burmeister & Eilks, 2013). While teachers’ conceptions have a significant role for their teaching it is important to elicit their understanding about sustainable development. Several research argued the importance of teachers having an in-depth knowledge of the subjects that they teach (Liarakou, Gavrilakis & Flouri, 2009; Summers, Corney & Childs, 2003). Many studies (Borg, Gericke, Höglund & Bergman, 2014; Burmeister & Eilks, 2013; Corney, 2006; Cotton, Warren, Maiboroda & Bailey, 2007; Dymont & Hill, 2015; Jucker, 2002; Karpudewan, Ismail & Mohamed, 2013; Pepper & Wildy, 2008; Spiropoulou, Antonakaki, Kontaxaki & Bouras, 2007; Summers & Childs, 2007; Summers, Childs & Corney, 2005; Summers, Corney & Childs, 2004; Winter & Firth, 2007; Zachariou & Kadrij-Beltran, 2009) have focused on teachers’ and trainee teachers’ understanding about sustainable development showed that they have limited understandings of sustainability.

Each teacher’s gaining of the required moral judgments as to the environment and their changing life styles are potentially important agents for the sustainable development and improvement. In order to use this potential a reformist teacher education is necessary and education faculties have the potential to realize this change (UNESCO, 2002). Lukman states “higher education has a direct and indirect impact on the local, regional, national and global environment and also on graduates and their decisions in the future” (as cited in Terlević, Istenič-Starčić & Šubic-Kovač, 2015). Moreover, Winter and Firth (2007) argues that trainee teachers’ understanding of sustainability is potentially of great significance for developing teachers’ capabilities and confidence in mainstreaming education for sustainable development

within schools. Therefore, as America (2014) emphasized it is important to identify the different ways of understanding sustainable development. Recognising the importance of knowledge on sustainability, this study was thus conducted to investigate teacher candidates' understanding about sustainable development.

Method

Research Model

In this research to gather data appropriate for the research's aim phenomenological method, one of the qualitative research methods was used. Phenomenology enables individuals to describe their conscious experiences related to a fact. Thus, the researcher can reach the life of the individual and facts that each of them formed with their own experiences (Christensen, Johnson & Turner, 2011). In this sense, phenomenology will be a suitable research base for this research study which aims to investigate the concepts which are not totally unfamiliar for the candidates, yet are known not to be comprehended fully (Yıldırım & Şimşek, 2008). The base of phenomenology research consists of personal lives and experiences (Akturan & Esen, 2008). Phenomenological method includes the researches revealing what people's phenomenon are, how they live their experiences and perceive and make them meaningful, how they remember, how they describe, how they evaluate and how they transfer to other people (Patton, 2002). During the application process, by gathering their ideas, teacher candidates' already existed perceptions as to the sustainable developments were examined. Therefore, interviews were held to enable participants to present their personal opinions and these opinions were examined carefully.

Sampling Method

Participants were chosen by purposive sampling (Cohen, Monion & Morrison, 2007). Purposive sampling involves selecting participants because they are most likely to provide relevant and valuable information (Maxwell & Loomis, 2003). Researchers chose to study with candidates studying in various branches purposefully to reveal if teacher candidates' ideas as to sustainable development might vary or not. Teacher candidates who were students in various teaching departments in 2012-2013 academic year spring semester in an education faculty of a public university formed the study group of this research. A total number of 35 teacher candidates, 22 female and 13 male, participated in this study. Teacher candidates were chosen

from different departments such as science teaching, mathematics teaching, primary school teaching, pre-school teaching, social sciences teaching, geography teaching, biology teaching, Turkish language teaching and art teaching departments. Participants' properties are seen in Table 1.

Table 1.

Departments and Genders of the Participants According to Their Code Names

No	Gender	Department	No	Gender	Department
S ₁	Female	Preschool teaching	S ₁₉	Female	Social sciences teaching
S ₂	Female	Biology teaching	S ₂₀	Male	Social sciences teaching
S ₃	Male	Geography teaching	S ₂₁	Female	Biology teaching
S ₄	Female	Primary school teaching	S ₂₂	Male	Turkish teaching
S ₅	Female	Primary school teaching	S ₂₃	Female	Biology teaching
S ₆	Male	Social sciences teaching	S ₂₄	Female	Biology teaching
S ₇	Female	Turkish teaching	S ₂₅	Female	Preschool teaching
S ₈	Female	Mathematics teaching	S ₂₆	Male	Primary school teaching
S ₉	Male	Science teaching	S ₂₇	Female	Science teaching
S ₁₀	Female	Science teaching	S ₂₈	Female	Science teaching
S ₁₁	Male	Science teaching	S ₂₉	Female	Primary school teaching
S ₁₂	Female	Science teaching	S ₃₀	Male	Science teaching
S ₁₃	Female	Primary school teaching	S ₃₁	Female	Mathematics teaching
S ₁₄	Female	Primary school teaching	S ₃₂	Male	Geography teaching
S ₁₅	Female	Science teaching	S ₃₃	Male	Geography teaching
S ₁₆	Male	Social sciences teaching	S ₃₄	Male	Science teaching
S ₁₇	Female	Preschool teaching	S ₃₅	Male	Social sciences teaching
S ₁₈	Female	Art teaching			

Data Collection Tool

The data of the research were gathered by means of the semi-structured interview questions prepared by the researchers. In the course of the formation of the interview form, firstly the headings related to sustainable development were identified and appropriate questions were prepared. For the validity of the questions, 5 researchers working in the field of measurement and evaluation, environmental education and science education who are experts in their fields were consulted for their views. The interview form was arranged taking into consideration the

suggestions of the experts regarding the validity of the questions. During the semi-structured interviews, the participants were asked their understanding of what sustainable development is, its importance, their individual contributions to the practice and the description of these sustainable development activities.

Data Analysis

The content analysis of the qualitative data methods was used to analyze the obtained qualitative data. In the content analysis, it is aimed that edit the data including similar concepts and themes, interpreting, bringing together and organizing (Neuman, 2012; Yıldırım & Şimşek, 2008). The texts of the interviews were read repeatedly and evaluated, then a code list was created. After the coding process, the common aspects of obtained codes were determined and the themes were formed. At this stage, relevant data sections are grouped under the main topics. The list of codes obtained from all of the data was re-examined and the data sections were checked to make sure they were assigned in accordance with the generated codes. In all stages of data analysis, coding was done by researchers in agreement.

The collected data consisted of interviews which were transcribed and coded using HyperRESEARCHTM 2.6.1 qualitative analysis programme so as to see the data relation and provide convenience while coding. This program has been preferred by researchers to work with data more systematically and regularly. It has become more possible by using the program to see the relationships between data in the analysis of documents, look at it from a wider perspective on the analysis results and assess without data loss. Since discourses of the participants were going to be transferred directly by preserving exactly without changing in order not to uncover the identities of the candidates, teacher candidate names were assigned a code of S1(Student one), S2 (Student two) and so forth for every participant in the research. Students' codes and their departments were given in Table 1.

Findings

For clarity of data, teacher candidates' opinions for each question were presented under five subheadings.

1. Teacher candidates' understanding of sustainable development

Teacher candidates were firstly asked "What do you understand by the term sustainable development?" and their answers were given in Table 2.

It was determined that teacher candidates used the statements in Table 2 to define the sustainable development. Teacher candidates' answers for sustainable development means living in order to meet the next generation need (f=28), no extinctions in resources (f=7), preserving the nonrenewable energy sources (f=7), human-nature balance(f=5), "entrusted environment" understanding (f=2), recycle (f=1), cultural contribution (f=1), interaction between generations (f=1), cycle consistency (f=1), transferring energy to the future (f=1), awareness (f=1). Some statements of teacher candidates' answers were given below.

Table 2.

Frequency of the Answers for the Question "What Do You Understand By the Term Sustainable Development?"

Question	Answers	Teacher Candidates	Frequency
"What do you understand by the term sustainable development?"	Meeting the next generation need	S ₁ , S ₂ , S ₄ , S ₅ , S ₆ , S ₈ , S ₉ , S ₁₀ , S ₁₁ , S ₁₂ , S ₁₃ , S ₁₄ , S ₁₆ , S ₁₇ , S ₁₈ , S ₁₉ , S ₂₁ , S ₂₂ , S ₂₃ , S ₂₄ , S ₂₅ , S ₂₆ , S ₂₇ , S ₂₈ , S ₂₉ , S ₃₀ , S ₃₁ , S ₃₂	28
	No extinctions in resources	S ₂ , S ₃ , S ₇ , S ₉ , S ₁₁ , S ₂₇ , S ₃₃	7
	Preserving the nonrenewable energy sources	S ₁ , S ₁₁ , S ₁₄ , S ₂₁ , S ₂₈ , S ₃₂ , S ₃₄	7
	Human-nature balance	S ₄ , S ₅ , S ₁₇ , S ₁₈ , S ₃₅	5
	"Entrusted environment" understanding	S ₂₉ , S ₃₁	2
	Recycle	S ₁₅	1
	Cultural contribution	S ₂₀	1
	Interaction between generations	S ₂₀	1
	Cycle consistency	S ₂₆	1
	Transferring energy to the future	S ₆	1
	Awareness	S ₂₀	1

S₂₉; "It is the fact that an individual thinks the environment is not a heritage but an entrusted thing and to be aware of that s/he is going to transfer it to the next generations." (36.139, 07.03.2015).

S₁₃; "It is to meet the needs of the present generations by not abolishing the ability of next generations meeting their own needs." (41.587, 07.03.2015).

S₂₆; "It is to use the available resources carefully and transfer them to the future. Cycles' consistency shouldn't be ruined." (28.899, 07.03.2015).

S₁₅; "Everything can be recycled is sustainable development." (43.547, 07.03.2015).

2. Teacher candidates' understanding about importance of sustainable development

Teacher candidates were also asked “In your opinion what is the importance of sustainable development?” and their answers were given in Table 3.

Table 3.

Frequency of the Answers for the Question “In Your Opinion What is the Importance of Sustainable Development?”

Question	Answers	Teacher Candidates	Frequency
“In your opinion what is the importance of sustainable development?”	The importance given to the next generation	S ₁ , S ₂ , S ₅ , S ₈ , S ₉ , S ₁₀ , S ₁₁ , S ₁₂ , S ₁₃ , S ₁₆ , S ₁₇ , S ₁₈ , S ₂₀ , S ₂₁ , S ₂₂ , S ₂₃ , S ₂₄ , S ₂₅ , S ₂₇ , S ₂₈ , S ₃₀ , S ₃₅	21
	Extinction of resources	S ₂ , S ₉ , S ₁₀ , S ₂₇ , S ₃₀ , S ₃₁ , S ₃₂ , S ₃₃ , S ₃₄	9
	Enhance the life quality	S ₅ , S ₁₉ , S ₂₆ , S ₂₉	4
	Prevention of environment pollution	S ₃ , S ₁₄ , S ₁₅	3
	Continuity of life	S ₄ , S ₆ , S ₇	3
	Prevention of famine problem	S ₆	1

It was determined that teacher candidates used the expressions in Table 3 to define sustainable development's importance. Teacher candidates' answers for sustainable development's importance showed that they found the sustainable development important because it means the importance given to the next generation (f=21), preventing of the extinction of resources (f=9), enhance the life quality (f=4), prevention of environment pollution (f=3), continuity of life (f=3), prevention of famine problem (f=1). Excerpts from teacher candidates' answers were given below.

S22; “There should be sustainable development so that next generations can live healthily.”(57.114, 07.03.2015).

S10; “Thanks to the sustainable development, natural resources are transferred to the next generations before they extinct.” (69.563, 07.03.2015).

S7; “It provides the continuity of this earth and the livings on it.” (59.256, 07.03.2015).

S6; “It extends the length of the life of the people and the world. It prevents the problems such as famine.” (71.208, 07.03.2015).

3. Teacher candidates' opinions of their individual contributions to the practice

The third question teacher candidates were asked “In your opinion what are the activities of sustainable development?” and their answers were given in Table 4.

It was determined that teacher candidates used the expressions in Table 4 to define the sustainable development's activities. According to the teacher candidates' answers, sustainable development activities are preserving the natural resources (f=14), use of renewable resources (f=12), raising the awareness (f=5), environment education (f=3), GAP (f=3), tourism (f=2), entrepreneurship (f=2) and recycle (f=1). Sample quotes from teacher candidates' answers were given below.

Table 4.

Frequency of the Answers for the Question "In Your Opinion What are the Activities of Sustainable Development?"

Question	Answers	Teacher Candidates	Frequency
"In your opinion what are the activities of sustainable development?"	Preserving the natural resources	S ₁ , S ₂ , S ₆ , S ₈ , S ₁₀ , S ₁₁ , S ₁₂ , S ₁₃ , S ₂₂ , S ₂₅ , S ₂₉ , S ₃₀ , S ₃₄ , S ₃₅	14
	Use of renewable resources	S ₇ , S ₁₅ , S ₁₇ , S ₁₈ , S ₁₉ , S ₂₁ , S ₂₄ , S ₂₆ , S ₂₇ , S ₂₈ , S ₃₂ , S ₃₃	12
	Raising the awareness	S ₁₀ , S ₁₄ , S ₁₆ , S ₂₃ , S ₃₁ , S ₃₂	5
	Environment education	S ₉ , S ₁₅ , S ₂₉	3
	GAP	S ₄ , S ₅ , S ₇	3
	Tourism	S ₁ , S ₁₀	2
	Entrepreneurship	S ₄ , S ₇	2
	Recycle	S ₂₁	1

S₃₂; "It is to raise the use of renewable resources and raising the public's awareness." (83.087, 07.03.2015).

S₁₅; "It is the use of renewable resources and to give importance to environment education." (89.779, 07.03.2015).

S₁₀; "It is to preserve the tourism and the natural resources. We shouldn't consume all the resources. Because they will run out if it goes like this. We should pay attention to this, use in a planned way and by saving up..." (103.215, 07.03.2015).

S₃₀; "It is to take the use of resources under control." (79,847, 07.03.2015).

4. Teacher candidates' opinions about increasing sustainable development activities

Another question teacher candidates were asked "In your opinion how can sustainable development activities be increased?" and their answers were given in Table 5.

Table 5.

Frequency of the Answers for the Question “In Your Opinion How Can Sustainable Development Activities be Increased?”

Question	Answers	Teacher Candidates	Frequency
“In your opinion how can sustainable development activities be increased?”	Raising the awareness	S ₁ , S ₄ , S ₅ , S ₆ , S ₇ , S ₈ , S ₁₀ , S ₁₁ , S ₁₆ , S ₁₇ , S ₁₉ , S ₂₁ , S ₂₂ , S ₂₃ , S ₂₄ , S ₂₅ , S ₂₈ , S ₃₀ , S ₃₂	19
	I don't know	S ₁₂ , S ₁₃ , S ₁₄ , S ₁₅ , S ₂₀ , S ₂₆ , S ₃₄ , S ₃₅	8
	Education	S ₂ , S ₁₈ , S ₂₃ , S ₂₉ , S ₃₁	5
	Government support	S ₂ , S ₃ , S ₄ , S ₅ , S ₁₇	5
	Use of renewable energy resources	S ₇	1

It was determined that teacher candidates used the expressions in Table 5 to explain how the sustainable development's activities can be increased. According to teacher candidates' answers, sustainable development activities can be increased by raising awareness (f=19), education (f=5), government support (f=5) and the use of renewable energy resources (f=1). However, it was determined that most part of the teacher candidates had no idea about it (f=8). Quotations from teacher candidates' answers were given below.

S₂₈; “By raising the environment awareness human behavior can be made helpful to the nature.” (99.615, 07.03.2015).

S₂₃; “Seminars about this issues should be held worldwide. Projects should be done and people's awareness should be raised.” (117.536, 07.03.2015).

S₁₁; “They can be increased by public and local people's collaborative and consistent contribution without looking after their own interests and raising the sense of awareness.” (134.107, 07.03.2015).

S₇; “By leading people to the renewable resources...” (94.467, 07.03.2015).

5. Teacher candidates' opinion about their contribution to sustainable development

Teacher candidates were finally asked “How do you evaluate yourself in contributing the sustainable development?” and their answers were given in Table 6.

Table 6

Frequency of the Answers for the Question. "How Do You Evaluate Yourself in Contributing Sustainable Development?"

Question	Answers	Teacher Candidates	Frequency
"How do you evaluate yourself in contributing the sustainable development?"	Not adequate	S ₅ , S ₉ , S ₁₁ , S ₁₄ , S ₂₅ , S ₂₆ , S ₂₇ , S ₃₃ , S ₃₄ , S ₃₅	10
	Very well	S ₁₆ , S ₁₉ , S ₂₁ , S ₂₂ , S ₂₃ , S ₂₉	6
	Sensitive to recycle	S ₁ , S ₁₅ , S ₂₄ , S ₂₈	4
	Using the resources carefully	S ₁ , S ₄ , S ₁₈ , S ₃₂	4
	Informing	S ₈ , S ₂₀ , S ₃₀	3
	Using the renewable resources	S ₃ , S ₇ , S ₃₂	3
	Aware consumer	S ₁₇ , S ₁₈ , S ₃₁	3
	Saver	S ₁ , S ₄	2

It is seen that teacher candidates' answers as to how they evaluate themselves in contributing the sustainable development are consisted of the expression "not adequate (f=10). With this expression, there is also a part who thinks themselves as good enough (f=6). The other answers were showed that they think themselves sensitive to recycle (f=4), using the resources carefully (f=4), informing (f=3), using the renewable resources (f=3), aware consumer (f=3) and saver (f=3). Quotations from teacher candidates' answers were given below.

S₃₂; "I use renewable energy resources. I am careful at using nonrenewable energy resources." (128.421, 07.03.2015).

S₂₈; "I think I contribute only in recycling and I do my best." (131.258, 07.03.2015).

S₇; "I use renewable resources as much as possible. In that way I think myself as a person contributing the sustainable development." (124.533, 07.03.2015).

S₈; "I can give information to my students." (130.995, 07.03.2015).

Discussion and Conclusions

Sustainable development is a relatively new paradigm, which is slowly being introduced in most higher education institutions (Terlević et al., 2015). Tuncer et al. (2006) reflected that Turkey is at the very beginning stage of integrating the concept in the higher education curriculum. To create a reliable base for reform in teacher education it is important to focus on the pre-service student teachers and teacher trainees understanding about sustainability and education for sustainable development (Eilks, 2014).

In this study, teacher candidates' understanding about sustainable development were determined. Our study clearly showed that there were teacher candidates have used some expressions such as recycle, 'entrusted environment' understanding, human-nature balance,

preserving the nonrenewable resources to define sustainable development and emphasized that it means to live for meeting the next generations needs and not to consume the sources. Also, it was seen that they had used some correct expressions related to sustainable development while using some not in the definition of sustainable development. The result indicated that they had some correct expressions but no exact definition as to sustainable development. The ecological perspective is the most commonly recognized among all the teacher candidates in our study. This suggests that participants failed to reference to other dimensions of sustainability, such as economic, social, or political, which are considered key interrelated aspects of sustainability in the literature; this is in accordance with other studies (Cotton et al., 2007; Kılınç & Aydın, 2013; Pepper & Wildy, 2008; Summers & Childs, 2007; Summers et al., 2005; Summers et al., 2004; Tuncer et al., 2006; Yavetz, Goldman & Pe'er, 2013). Moreover, it was seen that candidates had no properly understanding as to the importance of the sustainable development. Teacher candidates expressed that they found the sustainable development necessary because it is important for next generations, it helps the resources no to extinct, it raises the life quality, it prevents the environment pollution but they could not explain the importance of it properly. There were some similar results from other researches as to the fact that understanding what sustainable development means and its importance are inadequate (Birdsall, 2006; Eroğlu, 2007; Lourdel, Gondran, Laforest, Debray & Brodghah, 2007; Wehrmeyer & Chenoweth, 2006). In another question about teacher candidates' knowledge about the sustainable development activities some answers were obtained such as preserving the natural resources, using renewable resources, raising the awareness, environmental education, tourism, entrepreneurship. Teacher candidates' ideas about increasing the sustainable development activities were determined as raising the awareness, education, using the renewable energy resources. However, most part of the teacher candidates expressed that they had no idea about it. And again the most of the answers to the question how they evaluated themselves in contributing the sustainable development were showed that they used the statement "not adequate". Only a few of teacher candidates expressed themselves as an individual using the resources carefully, an aware consumer and a saving person. The result indicated that teacher candidates had poor understanding about what sustainable development is, what the sustainable development activities are, how they can be increased and they evaluated themselves as inadequate in contributing in the sustainable development. This is in accordance with other studies and indicates similarities between teachers' understanding in

different resarches (Hudson, 2006; Kühtz, 2007; Moore, 2005; Qablan, 2005; Tombul, 2006; Tuncer & Erdoğan, 2006).

A holistic perspective of sustainable development is vital because social and cultural factors are often the cause of environmental problems (Borg et al., 2014). Without proper education relating to the subject within the teacher training program it is difficult to have a holistic conception of sustainable development. So their own study of their academic disciplines would be a probable source of information for teachers (Borg et al., 2014). Moreover, lecturer's understandings of the sustainable development is also significant since their positive attitude, and their belief in their ability to integrate the concept into their courses are important features for transferring environmental awareness to the public and decision-makers in order to obtain the aim of environmentally responsible people (Nasir, Yaacob & Hashim, 2012). However, studies in sustainable development have indicated that sustainable development in higher education is still in the early stages of development (Terlević et al., 2015).

According to the results of this research, it has been determined that the awareness of teacher candidates on sustainable development is not adequate. One of the reasons for this may be the inadequacy of knowledge to provide interest in the subject. Sustainable development is a complex concept, so it is important in terms of developing perceptions of students taking along with all aspects in a planned learning environment. For this reason, appropriate courses and subjects should be successfully integrated into teacher education programs and these subjects should be implemented in a manner appropriate to the nature of sustainable development. It is also important that the instructors who will teach these subjects acquire proficiency in the subject.

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