



Sınıf Öğretmeni Adaylarının Sürdürülebilir Kalkınmaya Yönelik Tutumları

Nese SOYSAL ^{1*}, Ahmet OK²

Öz

Bu araştırmanın amacı, sınıf öğretmeni adaylarının sürdürülebilir kalkınmaya yönelik tutumlarını yaşadıkları şehrin gelişmişlik düzeyleri ve anne ve babalarının eğitim düzeyleri açısından incelemektir. Araştırmada tarama deseni kullanılmıştır. Katılımcılar, Türkiye genelindeki 12 üniversitede öğrenim gören 1008 sınıf öğretmeni adayından oluşmaktadır. Veriler, araştırmacı tarafından tasarlanmış olan, demografik bilgiler ve tutuma yönelik sorular içeren, iki bölümden oluşan 5li Likert ölçeği ile toplanmıştır. Verileri analiz etmek için betimsel istatistikler (MANOVA) kullanılmıştır. Betimsel istatistik analiz sonuçları sınıf öğretmeni adaylarının sürdürülebilir kalkınmaya yönelik olumlu tutumları olduğunu ortaya koymuştur. MANOVA analizi sonuçları, sınıf öğretmeni adaylarının sürdürülebilir kalkınmaya yönelik tutumlarının yaşadıkları şehrin gelişmişlik düzeylerine göre farklılık gösterip, ebeveynlerinin eğitim düzeylerine göre ise farklılık göstermediğini ortaya çıkarmıştır.

Anahtar Kelimeler: Sürdürülebilir kalkınma, öğretmen tutumları, sınıf öğretmeni adayları

Attitudes of Pre-service Classroom Teachers Towards Sustainable Development

Abstract

The purpose of this study is to analyse the attitudes of pre-service classroom teachers towards sustainable development regarding the level of development of the city they live in and their fathers' and mothers' education level. The study based on a survey design. The participants consisted of 1008 pre-service classroom teachers in 12 universities across Turkey. The data was collected through a data collection tool of five-point Likert Scale designed by the researcher including two parts related to demographic information and attitudes. For data analysis, descriptive statistics and inferential statistics (MANOVA) were used. The results of descriptive statistical analyses revealed that pre-service classroom teachers had positive attitudes towards sustainable development. The results of MANOVA analysis indicated that the level of the development of the city they live in changes pre-service classroom teachers' attitudes towards sustainable development, whereas their parents' education level did not change their attitudes.

Key Words: Sustainable development, teacher attitudes, pre-service classroom teachers

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^{1*}**Corresponding Author:** PhD PhD, Independent Researcher, London, UK, Middle East Technical University Department of Educational Sciences, Ankara, Turkey nesesoysal@yahoo.com, ORCID:0000-0002-2392-5028

²Prof., Middle East Technical University Department of Educational Sciences, Ankara, Turkey, as@metu.edu.tr, ORCID: 0000-0002-5941-4158

Introduction

With the beginning of globalization, the world has been a place where all cultures, nations, histories and economies live interconnectedly. This diversity has required some basic skills to enable people live equally together. Education is one of the keys that open the doors of equality to everyone. Thus, the unity and interdependence of all societies, appreciation of cultural diversity, promoting social justice and a sustainable future are needed to be included in all education programs.

Sustainable development is one of the basics of global education. In 2012, in Rio de Janeiro, Brazil, the United Nations Conference on Sustainable development was held. In the conference, eradicating poverty; maintaining sustainable development by integrated with economic, social and environmental aspects; creating greater opportunities for everyone; reducing inequalities; raising basic standards of living, promoting human rights and basic freedoms for all people without discriminating their race, color, sex, language, religion, political or other opinion, national or social origin, property, birth, disability or other status was indicated as the aims for an economically, socially and environmentally sustainable future for the planet and for present and future generations (United Nations Sustainable Development Knowledge Platform, 2012). The pillars of sustainability are indicated as environmental, economic and social including culture in its social aspects. However, in the Four Dimensions approach, culture is accepted as the fourth dimension and the conflicts and synergies among the dimensions are emphasized (Mastrandrea and Santini, 2012; p.73).

There are many studies conducted on the concept of sustainable development analysing it from both teacher and student perspectives. Some of the studies conducted focuses on the attitudes and the perceptions of teachers towards sustainability (Birdsall, 2014; Borg, Gericke, Höglund and Bergman, 2014; Burmeister and Eilks, 2013; Corney and Reid, 2007; Jaspar, 2008; Jones, Trier, and Richards, 2008; Nickel, 2007; Soysal and Ok, 2016a; Yang, Lam and Wong 2010; Ull, Agut, Piñero and Minguet, 2014) and some of them focuses on the perceptions and attitudes of students (Kagawa, 2007; Lamp, Greculescu, and Todorescu, 2013; Leeuw, Valois, and Seixas, 2014; Sharma and Kelly, 2014; Olsson, Gericke and Rundgren, 2016). In these studies, it was indicated that both students and the teachers had positive attitudes towards sustainable development. Also, it is stated that they are in tendency of conceptualizing the term with environmental aspects in general. The effects of different demographic variables such as age differences, gender differences, school climate and subject matter differences were examined through the studies as well. However, there is a gap in the literature for analyzing the perspectives regarding socio-economic factors.

The studies conducted on teachers' perspectives regarding sustainable development in the world is comparatively high, but the ones conducted in Turkey is quite limited (Demirbaş, 2015; Kaya, 2013; Kılınç and Aydın, 2013; Sağdıç and Şahin, 2015; Şahin, 2008; Teksöz, Şahin and Ertepinar, 2010; Tuncer, Tekkaya and Sungur, 2006; Öztürk and Öztürk, 2015). It was highlighted in these studies that the concept of sustainable development was a recent term for students and teachers, and there was a necessity for training on sustainable development. Moreover, they mostly focus on environmental aspects of sustainable development. This indicates the need for analyzing the perspectives of teachers for revising the curriculum of teacher education focusing on all aspects of sustainable education accordingly to inform both the teachers and the students about sustainability.

The studies conducted in Turkey were analyzed emphasising the effects of different demographic variables such as age differences, gender differences, training and subject knowledge differences. However, there might be some other factors that might affect the attitudes towards sustainable development. Parents' education level and the level of development of the regions are some of these main factors. As Erkal et al. (2011, as cited in Soysal and Ok, 2016b) emphasized, family is the beginning of the socialization process and also it is the first place where each individual is prepared for society. Therefore, family plays a significant role in shaping the behaviors of the individuals. For that reason, this study will analyse the differences the education level of their fathers and mothers create on pre-service classroom teachers' attitudes towards sustainable development.

There are some studies that indicate the importance of socio-economic factors on shaping the attitudes of individuals. According to Kılıç and Yücel (2013) it is difficult for the individuals to focus on environmental problems without the solution of socio-economic problems. Also, Iuzuka's (2000) study indicated the differences between the attitudes of the citizens of highly developed countries and developing countries toward environmental issues. In addition, in Turkey, the Ministry of Development has also conducted a study named as "The Research of the Socio-economic Order of the Provinces and The Districts" (SEGE-2011) and sorted the provinces according to some indicators (The Ministry of Development, 2013). These indicators might also be important for the analyses of attitudes.

The results of the study will support the development of pre-service teacher attitudes towards sustainability. Also, the education level of pre-service teachers' parents and the development level of the provinces pre-service teachers live in will shape the ideas of policy makers. Teacher education programs and the activities can be designed according to these differences.

This literature review highlights the importance of sustainable development as a recent concept for the world and the number of the studies conducted on it both in Turkey and the world. There is a need for the studies for sustainable development both in Turkey and in the world to analyze local and global differences.

The goal of this research is to analyze pre-service classroom teachers' attitudes towards sustainable development with regards to the education level of their parents and the level of development of the city in which they live in. For this aim, the following research questions are constructed:

1. What are the pre-service classroom teachers' attitudes towards sustainable development?
 - 1.1. Are there significant differences in pre-service classroom teachers' attitudes towards sustainable development regarding the level of development of the city they live in?
 - 1.2. Are there significant differences in pre-service classroom teachers' attitudes towards sustainable development regarding the education level of their fathers and mothers?

Methods

In this design, as a quantitative study, a survey is used as it gathers data with the intention of describing the nature of existing conditions for attitudes and preferences, beliefs and predictions or behavior and experiences (Cohen, Manion & Morrison, 2007). The use of survey in this study aims to examine pre-service classroom teachers' attitudes towards sustainable development.

The senior students enrolled in the department of classroom teaching in the state universities in Turkey indicate the population of the study. The senior university students was thought to cover a large proportion of the curriculum in their departments. Thus, the effects of the curriculum is thought to be observed.

For the selection of the sample, six regions of Turkey that were determined according to “The Research of the Socio-economic Order of the Provinces and The Districts” (SEGE-2011) conducted by the Ministry of Development (The Ministry of Development, 2013) was analysed. The reason of the analysis was the relation of sustainable development with economic and social factors in addition to environmental ones. Thus, the effects of these factors was expected to be analyzed. Then, the provinces that had universities with the department of classroom teaching were determined. The universities with this department from each region were selected according to their experiences, accessibility and the number of students they have. It could be reached 12 universities with 1008 participants.

Data Collection Tools

The scale for the attitudes of pre-service classroom teachers towards sustainable development:

The data were collected by a data collection instrument designed by the researcher. The data collection instrument included two parts. In the first part, the questions focused on gender, age, university, and the level of participants’ fathers’ and mothers’ education. In the second part, the questions were related to the participants’ attitudes towards sustainable development in terms of environmental, socio-economic and cultural aspects. Five-point Likert Scale ranging from (1) Strongly Disagree to (5) Strongly Agree was used to reach this aim. It included 13 items.

For the construction of the instrument, the literature on ESD was reviewed. The demographic questions were determined based on “The Research of the Socio-economic Order of the Provinces and The Districts” (The Ministry of Development, 2013). The main themes are developed from the goals of sustainable development and the literature were studied to determine the attitude statements to be included in the survey (Kagawa, 2007; Mastrandrea & Santini, 2012; UNESCO, 2013; United Nations, 2015).

Also, factor analysis was conducted after checking the related assumptions. Normality was assumed for Kurtosis and Skewness since all of the items are within the limits of +/- 3 around the ideal value “0” (Tabachnick & Fidell, 2001). For the sampling adequacy, Kaiser Meyer Olkin (KMO) analyses were conducted. The values of .60 and above are accepted good sampling adequacy (Tabachnick & Fidell, 2001). In this study, sampling size is appropriate as KMO=.86. Bartlett test of Sphericity was also found significant .000 ($p < .05$) (Field, 2005).

Table 1. Eigenvalue, Percentages of Variance and Cumulative Percentages for Factors of Pre-service Teachers’ Attitudes

Factor	Eigenvalues	% of Variance	Cumulative %
1	4.497	30.82	30.82
2	1.963	10.84	41.66

3	1.021	3.53	45.19
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Common Factor Analysis, principle axis factor extraction method and oblimin rotation was used for factor analysis. As it can be seen from Table 1, there were three factors with eigenvalues greater than 1.00. Thus, dimensions of their attitudes were defined as “environmental” for the first factor, “socio-economic” for the second one and “cultural” for the third factor. The results related to their attitudes were presented based on these three factors.

Table 2. Reliability Analysis of Pre-service Teacher Attitudes

	Cronbach’s Alpha	Number of Items
Environmental	.759	5
Socio-economic	.614	4
Cultural	.763	4

Regarding reliability, internal consistency was examined through Cronbach’s Alpha level for each three factors (Table 2). Cronbach’s Alpha level for the first factor “environmental” is .76, for the second factor “socio-economic” is .61, and for the third factor “cultural” is .76.

Data Analysis

The data of the study were analyzed through descriptive and inferential statistics. Firstly, descriptive statistics was run to analyze the attitudes of pre-service classroom teachers towards sustainable development and then, the effect of the level of development of the cities they live in and their parents’ education was analyzed through multivariate analysis of variance, MANOVA. As a result, conclusions were drawn, and the findings were discussed.

Findings

Basic Characteristics of the Participants

The basic characteristics of the participants are summarized on the table below regarding their gender, age, and university.

Table 3. Basic Characteristics of the Participants

Variables	Groups	N	%
Gender	Female	699	69
	Male	309	31
Age	18-20	9	9
	21-23	851	85
	24-26	141	14
	27-29	7	7
Name of university	Uludağ	112	11
	Gazi	20	2
	Çanakkale	79	8
	Karadeniz Technical	105	10
	Afyon Kocatepe	75	7
	Sivas Cumhuriyet	46	4

Hatay Mustafa Kemal	120	12
Trakya	108	11
Gaziosmanpaşa	102	10
Atatürk	72	7
Kars Kafkas	96	10
Pamukkale	73	7

Regarding their fathers' and mothers' educational level, their characteristics are summarized below.

Table 4. Education Level of Participants' Parents

Variables	Groups	<i>n</i>	%
Fathers' education	illiterate	16	2
	literate without diploma	31	3
	primary school	405	40
	secondary school	130	13
	high school	241	24
	college	51	5
	university	121	12
	master's degree	13	1
Mothers' education	illiterate	101	10
	literate without diploma	60	6
	primary school	538	53
	secondary school	111	11
	high school	153	15
	college	10	1
	university	34	3
	master's degree	1	0.1

Pre-service Classroom Teachers' Attitudes towards Sustainable Development

For the results about the attitudes of pre-service teachers' attitudes towards sustainable development, they were asked to rate their attitudes on a five-points scale ranging from Strongly Agree (5) to Strongly Disagree (1). The findings indicated that teachers' attitudes towards "environmental" ($M = 4.13$, $SD = .70.9$, $n = 987$) and towards "cultural" ($M = 4.12$, $SD = .68$, $n = 987$) factors were rated as agree. However, their attitudes towards "socio-economic" factor of sustainable development ($M = 3.44$, $SD = .73$, $n = 987$) indicated that pre-service classroom teachers rated socio-economic factor less positive than the environmental and cultural ones

Table 5. Mean and Standard Deviations of the Attitudes of Teachers

Attitudes	<i>M</i>	<i>Sd</i>
Environmental	4.13	.71
Socio-economic	3.44	.74
Cultural	4.12	.69

Pre-service Classroom Teachers' Attitudes towards Sustainable Development regarding Environmental Factors

As it can be seen from Table 6, many participants agree that alternative energy should be used to protect the environment ($M=4.24$). Most of the participants agree that there is a need for sustainability for the protection of the environment ($M=4.18$). When it is compared with the other items related to environmental factors of sustainable development, as for the use of energy, less participants think that less energy as possible should be consumed for the sustainable development ($M=3.74$).

Table 6. Environmental Factors of Sustainable Development

Items	%					M	Sd	n
	SD	D	NA/ND	A	SA			
4. The products suitable for recycling should be used in all the places possible.	1.1	3.9	14.4	38.3	42.4	4.38	.86	987
3. Alternative energy should be used to protect the environment.	1.3	3.4	13.5	33.5	48.2	4.24	.90	987
1. There is a need for sustainability for the protection of the environment.	2.2	1.7	14.5	38.7	42.9	4.18	.90	987
2. Less energy as possible should be consumed for the sustainable development.	3.3	10.2	21.8	39.8	24.8	3.74	1.1	987

SD=Strongly Disagree; D=Disagree; NA/ND= Neither agree nor disagree; A=Agree; SA=Strongly Agree

Pre-service Classroom Teachers' Attitudes towards Sustainable Development regarding Cultural Factors

The participants' attitudes related to sustainable development's support on social development look similar to their attitudes on economic support ($M=4.17$). High percentage of the participants agree that people from different cultures should be able to live together ($M=4.17$). Furthermore, the participants agree that cultural diversity in a society should be supported ($M= 4.09$). In addition, a few participants agree that there is a need for sustainable development as there are enough natural resources for future generations ($M=1.96$).

Table 7. Cultural Factors of Sustainable Development

Items	%					M	Sd	n
	SD	D	NA/ND	A	SA			
11. Sustainable development supports economic development.	.4	4	14.8	38.3	42.6	4.19	.86	987
6. Sustainable development supports social development.	1.1	3.9	14.4	38.3	42.4	4.17	.89	987
10. People from different cultures should be able to live together.	1.2	3.3	14.4	39.4	41.6	4.17	.88	987
9. Cultural diversity in a society should be supported.	1.6	3.1	16.3	42.6	36.4	4.09	.89	987
5. As there are enough resources for the next generations, there is no need for sustainable development.	51.5	21	11.9	11	4.7	1.96	1.2	987

Pre-service Classroom Teachers' Attitudes towards Sustainable Development regarding Socio-economic Factors

As it is indicated in Table 8, the participants agree that sustainable development can reduce poverty ($M= 3.77$). In terms of gender equality, the participants partially agree that sustainable development can provide gender equality ($M=3.38$). Also, the participants partially agree that economic development should be given priority rather than sustainable development ($M=3.33$) and that sustainable development can provide equality for everyone ($M=3.29$).

Table 8. Socio-economic Factors of Sustainable Development

Items	%					<i>M</i>	<i>Sd</i>	<i>n</i>
	<i>SD</i>	<i>D</i>	<i>NA/ND</i>	<i>A</i>	<i>SA</i>			
12. Sustainable development can reduce poverty.	1.7	6.3	30.6	36.2	25.2	3.77	.96	987
7. Sustainable development can provide equality between men and women.	6.0	14.5	38.4	26.6	14.5	3.38	1.08	987
14. Economic development should be given priority rather than sustainable development.	7.9	17.3	27.7	27.7	19.5	3.33	1.20	987
8. Sustainable development can provide equality for everyone.	5.7	12.9	36.3	28.3	16.9	3.29	1.07	987

The Effect of the Level of Development on Attitudes towards Sustainable Development

A multivariate analysis of variance (MANOVA) was conducted to test whether there were any differences between pre-service classroom teachers' attitudes towards sustainable development regarding the level of development of the cities they live in. The levels of development were divided into six categories: as Level 1, Level 2, Level 3, Level 4, Level 5, and Level 6 according to the study of Ministry of Development in Turkey named as "The Research of the Socio-economic Order of the Provinces and The Districts (SEGE-2011) and their sorting the provinces according to some indicators (The Ministry of Development, 2013). Level 1 represents the highest and Level 6 represents the lowest. Their attitudes for sustainable development were divided into three factors as environmental, socio-economic and cultural.

As it is indicated in Table 9, the results indicated that there are differences between the level of development of the city pre-service classroom teachers live and their attitudes towards sustainable development with respect to "environmental", "socio-economic", and "cultural" factors (Pillai's Trace=.121, $F(15, 3)=8.27$, $p=.000$, multivariate $\eta^2=.040$).

Table 9. Multivariate Tests for Attitudes regarding Level of Development

	Effect	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>Sig.</i>	Partial η^2
Level of developme nt	Pillai's Trace	8.27	15	3	.000	.040
	Wilks' Lambda	8.50	15	3	.000	.042
	Hotelling's Trace	8.71	15	3	.000	.043

Roy's Largest Root	22.8	5	981	.000	.104
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Thus, since the multivariate main effects of the level of development were significant, the univariate tests of main effects were also examined. Univariate analysis indicated that the effect of the level of development on “cultural”, “socio-economic” and “environmental” factors was significant.

Table 10. The Effect of the Level of Development on Teachers’ Attitudes on ESD

	Dependent Variable	SS	df	MS	F	Partial η^2
Level of development	cultural	27.67	5	5.53	12.42*	.060
	socioeconomic	19.79	5	3.96	7.57*	.037
	environmental	19.39	5	3.88	7.97*	.039
Error	cultural	437.08	981	.45		
	socioeconomic	512.88	981	.52		
	environmental	47723	981	.49		
Total	cultural	17299	987			
	socioeconomic	12236	987			
	environmental	17348	987			

*p<.025

The results showed that the level of development had statistically significant effect on pre-service classroom teachers’ attitudes towards sustainable development with respect to cultural factor F (5,981) =12.42, p=.000, explaining 24 % of the variance in that variable, socio-economic factor F (5,981) =7.57, p=.000, explaining 19% of the variance in that variable, and environmental factor F (5,981) =7.97 explaining 20% of the variance in “environmental” variable.

In addition, in order to examine the source of differences between pre-service teachers’ attitudes towards sustainable development’s cultural, socio-economic and environmental factors, in terms of the level of the development of the city they live, post hoc analysis was performed.

With regard to the cultural factor, Dunnett’s C test demonstrated that there were statistically significant differences between the means of pre-service classroom teachers’ attitudes living in the 1st level of development ($M=4.47$) and the 2nd level of development ($M=4.09$), 4th level ($M=4.03$), 5th level ($M=4.17$) and the 6th level of development ($M=3.83$). This result indicates that the pre-service classroom teachers living in the 1st level of development had more positive attitudes towards sustainable development in terms of cultural factors compared with the ones living in the 2nd, 4th, 5th and the 6th level of development. For level 3, the difference was not found significant.

Moreover, in terms of socio-economic factor, there were statistically significant differences between the means of pre-service classroom teachers’ attitudes living in the 1st level of development ($M=3.15$) and the 2nd level of development ($M=3.59$), 5th level ($M=3.48$) and the 6th level of development ($M=3.57$). This result indicates that pre-service classroom teachers living in the 1st level of development

had less positive attitudes towards sustainable development in terms of socio-economic factor compared with the ones living in the 2nd, 5th and the 6th level of development.

In addition, with regards to the environmental factor, there were statistically significant differences between the means of pre-service classroom teachers' attitudes living in the 1st level of development ($M=4.38$) and the 2nd level of development ($M=4.08$), 4th level ($M=4.03$) and the 6th level of development ($M=3.92$). This result indicates that pre-service classroom teachers living in the 1st level of development had more positive attitudes towards sustainable development in terms of environmental factor compared with pre-service classroom teachers living in the 2nd, 4th and 6th level of development.

The Effect of Parents' Education on Attitudes towards Sustainable Development

In order to examine the effect of the education level of pre-service classroom teachers' fathers and mothers on the pre-service classroom teachers' attitudes towards sustainable development with respect to "environmental", socio-economic" and "cultural" factor, MANOVA analysis was conducted.

Table 11. Multivariate Tests for Attitudes regarding Parents Education

Effect		<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>Sig.</i>	Partial η^2
father education	Pillai's Trace	.508	9	3	.870	.002
	Wilks' Lambda	.508	9	2	.870	.002
	Hotelling's Trace	.507	9	3	.871	.002
	Roy's Largest	.993	3	972	.395	.003
	Root					
mother education	Pillai's Trace	.793	9	3	.622	.002
	Wilks' Lambda	.793	9	2	.623	.002
	Hotelling's Trace	.793	9	3	.623	.002
	Roy's Largest	1.91	3	972	.126	.006
	Root					
meducation * feducation	Pillai's Trace	.876	24	3	.638	.007
	Wilks' Lambda	.876	24	3	.637	.007
	Hotelling's Trace	.877	24	3	.636	.007
	Roy's Largest	1.92	8	972	.055	.016
	Root					

The results indicated that the education level of their fathers did not have statistically significant effect on pre-service classroom teachers' attitudes towards sustainable development with respect to "environmental", socio-economic" and "cultural " factors, "Wilks' Lambda=.995, $F(9,2)=.508$, $p>.025$, multivariate $\eta^2=.002$.

Similarly, the education level of their mothers did not have statistically significant effect on their attitudes towards sustainable development with respect to “environmental”, socio-economic” and “cultural” factors, Wilks’ Lambda=.993, $F(9, 2) = .793$, $p > .025$, multivariate $\eta^2 = .002$. In addition, the interaction between father education and mother education was not statistically significant Wilks’ Lambda =.979, $F(24, 3) = .876$, $p > .025$, multivariate $\eta^2 = .007$.

Conclusion and Discussion

The analysis of the attitudes of pre-service classroom teachers towards sustainable development indicated that pre-service classroom teachers had positive attitudes towards sustainable development. Also, the findings regarding the three dimensions of sustainable development indicated that teachers had positive attitudes towards the environmental and cultural aspects of sustainable development. However, in terms of their attitudes towards socio-economic aspects, it was seen that their attitudes were less positive than the environmental and cultural aspects. The reason can be explained by the study of Kagawa (2007) which indicates that the concept of sustainable development has appeared with environmental aspects, and social and economic dimensions of sustainability were less focused. Another reason of it can be explained by the emphasis the international reports and coursebooks indicate for environmental aspects. As Soysal and Ok (2016b) emphasized in their studies, another reason may be related to the difficulty of drawing the limits of the socio-economic dimension of sustainability. As each dimension is interrelated to each other and it is not easy to draw a line between them, it can be difficult for the pre-service classroom teachers as well to understand the concept of socio-economic sustainability. Therefore, this indicates the need to emphasize the other dimensions of sustainable development in teacher education curricula.

There are also many studies indicating the condensed understanding of sustainability focusing only on the environmental aspect of sustainability (Alkış and Öztürk, 2007; Birdsall, 2014; Kagawa, 2007; Leeuw, et al., 2014; Summers, et al., 2004; Tuncer, et al., 2006). As it is highlighted in these studies as well, pre-service classroom teachers are in a tendency to understand the environmental aspects of sustainable development easily compared with the cultural and socio-economic aspects. This can also be explained through the global attitudes towards sustainable development. Historically, the protection of the environment was the main concern of environmental education. Thus, sustainability was considered as focusing on mainly the environmental protection of the world for the next generations. Also, the ease of defining environmental sustainability and the complexity of promoting socio-economic sustainable development might be another reason for them to be less positive about this aspect of sustainable development.

In addition to the descriptive findings on attitudes, the differences in pre-service classroom teachers’ attitudes with respect to the level of development of the city they live, and the education level of their parents were analysed. It has been found that pre-service classroom teachers’ attitudes towards sustainable development change according to the level of the development of the city they live in. The results also explained that the level of development had statistically significant effect on teachers’ attitudes of sustainable development with respect to cultural aspects more than the socio-economic and environmental aspects respectively.

As for the cultural aspects, the study indicated that the pre-service classroom teachers living in the cities of higher level of development presented more positive attitudes towards cultural sustainability than the ones living in the cities of lower level of development. This could be explained by the indicators of the level of development of the cities determined by SEGE (The Ministry of Development, 2013). Firstly, demographic indicators such as population density, actual migration rate and urbanization rate may create this difference. As the cities are categorised regarding the demographic indicators, cities in the first level of development are more crowded, urbanized and the rate of migration are higher in them. That is, there is more cultural diversity in these cities compared with the other ones that are in the lower level of development. Therefore, pre-service classroom teachers' level of awareness regarding diversity could be higher and consequently, their attitudes towards cultural sustainability, which includes diversity, could be more positive. As they observe that it is easier to live together with people from different backgrounds in their cities that are in higher level of development, they might think that people from different cultures should be able to live together as a result of sustainable development. Also, as urbanization is closely related to economic development, they may be more positive about sustainable development's social and economic support on cultural aspects of sustainability.

The differences in the pre-service classroom teachers' attitudes can be explained through educational indicators. The high rate of literacy can be among the factors that could shape the attitudes of the people living in these cities. In that way, their attitudes towards cultural diversity and living together with people from different cultures become more positive.

Regarding the environmental aspects, it is concluded that the pre-service classroom teachers living in the cities of higher level of development had more positive attitudes towards environmental sustainability, as compared to the pre-service classroom teachers living in the lower level of development. This can be explained by the quality of life indicators of the level of development by SEGE (The Ministry of Development, 2013). For instance, among the quality of life indicators, the electricity consumption of a residential area per capita and the number of private cars per ten thousand are also the causes of environmental problems of a city. Mostly, the higher the economic level of a city is, the higher these consumptions are. Therefore, the people living in those places are more aware of the environmental issues such as energy consumption, alternative energies, recycling and environmental protection. For that reason, they might have positive attitudes towards sustainable development as a solution to these problems. Moreover, as Kılıç and Yücel (2013) indicated in their studies, there is a relationship between economic situation of a city and the protection of the environment. Sometimes better economic situations cause environmental problems. Therefore, protection of environment becomes more significant.

However, for the socio-economic factor, the pre-service classroom teachers living in the 1st level of development, had less positive attitudes towards sustainable development in terms of socio-economic aspects compared to the other levels of development. They stated that they were not sure that sustainability can reduce poverty and they were not sure that sustainability can provide gender equality or equality for everyone. The reason might be as they are living in a higher socio-economic region, they may come across the problems of poverty and inequality. Therefore, they may not be sure that sustainable development can be a solution to these problems. However, the pre-service classroom

teachers living in the other cities might have a hope for the solution of these problems with socio-economic sustainability.

The other factor that was assumed to influence the attitudes of pre-service classroom teachers toward sustainable development was the education level of their parents. However, the results of the study indicated that the education level of prospective classroom teachers' fathers and mothers did not have statistically significant effect on their attitudes towards sustainable development with respect to "environmental", socio-economic" and "cultural" factors. Although Erkal, et al. (2011) emphasized the importance of family's being the beginning of the socialisation process and the role of it in shaping the behaviors of the individuals; and Saraçlı, et al. (2014) emphasized the role of mothers' and fathers' education level on students' environmental behaviours, in this study, pre-service teachers' attitudes did not change according to the education level of their parents. The reason might be related to their departments. Their knowledge, values, emotions and thinking skills may shape their attitudes rather than what they learned and experienced from their parents' education level (Kollmuss and Agyeman, 2002).

As a result, the results of the study might be used for the development of positive teacher attitudes towards sustainability in terms of all the factors and it can be helpful for the reconstruction of teacher education curricula and teaching policies. For future studies, the effects of these factors can be analysed in different countries as well to be recognise global differences.

Araştırma ve Yayın Etiği Beyanı

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Yazarların Makaleye Katkı Oranları

Makale 1. yazarın doktora tezinden üretilmiştir, 2. yazar tez danışmanıdır ve makale üzerinde görüş bildirip düzenlemeler yapmıştır.

Çıkar Beyanı

Bu çalışmada yazarlar arasında çıkar çatışması bulunmamaktadır.

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