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A Study on Environment - Oriented Knowledge, Attitude and Behavior Level of Teacher Candidates

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Abstract

The purpose of education should be to raise people who are researchers, developer, investigating what they find, use their knowledge in their behaviors and who can interpret and put new things on them. When children are being educated, the experience should be before the occurrence of the story. First, good and bad environment should be shown, then education should be provided through narration. In environmental education, young people should be given the chance to work in the organization. The goal should be to educate environmental literate individuals. The purpose of this study is to determine the social literacy and environmental literacy levels of the elementary school teacher candidates and to demonstrate the influence of various variables on the constituents of environmental literacy. The data show that candidate teachers' environmental behavioral tendencies are higher than environmental perceptual tendencies. Gender has no influence on behavior or thought.

Keywords: environmental literacy, environmental problems, environmental education, candidate teachers, affective tendency towards the environment, environmental behavior.

1. Introduction

The purpose of education should be to raise people who are researchers, developer, investigating what they find, use their knowledge in their behaviors and who can interpret and put new things on them. Environmental education should be provided with specific training programs beginning from the pre-school period and gradually. When children are being educated, the experience should be before the occurrence of the story. First, good and bad environment should be shown, then education should be provided through narration. In environmental education, young people should be given the chance to work in the organization. The aim is to give them the ability to act within the group, acting in a single outcome in collaboration. People who control, supervise, and manage environmental problems must also be trained. However, sensitive and conscious teachers can convey positive information to students about the environment (Yücel and Morgil, 1998). The goal that must be achieved as a result of all these efforts should be to educate environmental literate individuals.

True environmental literacy requires time. You cannot put it in the "training microwave oven". Although human beings have been living in harmony with nature for a long time, had to endure environmental problems stemming from industrial revolution, rapid population growth and industrial development because they neglected natural life (Yıldız, Sipahioğlu and Yılmaz, 2011). As such, environmental degradation has reached the point where it seriously threatens the descendants of human beings and other species (Gökdağ, 1994; Türkmen, 2008). These problems are the result of the interaction of human activities with the global ecosystem. The population of 7 billion people in 2011 is expected to exceed 9 billion in 2054 (Population Reference Bureau, 2011). Organizations such as the World Health Institute (WHO), the Pacific Institute, and the Food and Agriculture Organization of the United Nations (FAO) are pessimistic in their reports. Regarding these reports, 345 million people in Africa cannot reach clean water. 10 million in developed countries; 32 million in Latin America and the Caribbean; 196 million in South, West and Central Asia, and 200 million in Southeast, East Asia and Oceania. Each year, 3.4 million people lose their lives because of water-related diseases, inadequate health care and cleaning-related causes. This figure is close to the population of the city of Los Angeles. Nearly all the deaths occur in developing countries, 99%. 780 million people cannot reach clean using and drinking water. This number is about 2.5 times more than the total population of the United States, or one of every nine people in the world (for now). All the signs are that this negative table will get worse. The need for food, clean water, fuel and habitable areas will increase even more. Changes on natural and artificial environments will continue to create serious economic and other social impacts. Just to give an example, the pressure of declining fish stocks on the cultures and economies of many islands and coastal communities make them feel the complexity and

intensity of these changes. Conflicts over what is the best approach to address these issues will continue to struggle with social and political systems. The purpose of developing environmental literacy is to prepare people to understand and deal with these issues. Only an environmentally literate society will find practical and evidence-based solutions to these challenges (Bozkurt and Cansüngü, 2002; Alp, Ertepinar, Tekkaya, and Yilmaz, 2006; Kışoğlu, Gürbüz, Sülün, Alaç, and Erkol, 2010; Hollweg, Taylor, Bybee, Marcinkowski, McBeth, and Zoido, 2011).

What is environmental literacy? Although researchers did not accept a single definition of environmental literacy (Krathwohl, Bloom and Masia, 1964; Barrow, 1979; Peters, 1981; Disinger, 2001; Morrone, Mancl, and Carr 2001; Disinger, 2005; Hares, Eskonheimo, Myllyntaus, and Luukkanen, 2006) the common view is that Roth (1968) used the concept of environmental literacy for the first time. An article has been received to respond to the frequent reports of the media about "The Environment Ignorant People" used by the polluter. He has defined environmental literacy as the basic consciousness, awareness and understanding of the individual in relation to environmental problems. While pointing out that it is relatively easy to identify environmental people, the question of how a literate citizen should be defined has come to the fore. This question has been asked among different national environmental leaders in the field of science and politics and environmental activists and educators, but the person who fundamentally draws attention to the term “environmental literacy” has been the US President Richard Nixon of that period. The term has been repeatedly used in many parts of the President's speech entitled the National Environmental Education Movement. Environmental literacy was spoken by the president of the federal bureaucrat and by the person who wrote the president's remarks by reprinting Roth's 1968 article in the Times magazine. Roth together with the official worked with different aspects of environmental education. Over time, "environmental literacy" has also been used frequently by environmental educators. For Roth (1992), environmental literacy is essentially the capacity to act for interpreting, perceiving, sustaining or improving the health of environmental systems.

There is also a consensus that environmental information, environmental responsibility, environmental attitudes and environmentally friendly behaviors are fundamental components of environmental literacy (Murphy, 2002; Erten, 2004; Murphy, 2004; Murphy and Olson, 2008; Simsek, 2004; Şahin and Ertepinar, 2010). Simmons' Environmental Literacy Framework Program, developed in 1995, is another important development in environmental literacy. This framework focuses on the following dimensions: cognitive (knowledge and skills), affective, responsible behavior towards the environment and active involvement in responsible behavior towards the environment (Goldman, Yavetz and Pe'er, 2006; Hollweg *et al.* 2011, see in Figure 1).

For Hungerford, Peyton and Wilke (1980) and Roth (1992), environmental literacy has six distinct components. These are (i) environmental awareness, (ii) information, (iii) skill, (iv) attitude and values, (v) individual responsibility and (vi) active involvement. Roth considers environmental sensitivity, attitudes and values in these six components in the affective domain title Active participation was also assessed within the title of individual responsible behaviors. Thus, he stated that environmental literacy consists of four parts as knowledge, skill, affective domain and behavior. On the other hand, in 2008, McBeth, Hungerford, Marcinkowski, Volk, and Meyers described the components of environmental literacy as environmental sensitivity, ecological knowledge, environmental emotions, problem and action abilities, verbal commitment (volunteering to act). More recently, the North American Environmental Education Association (NAAEE) has identified four interrelated components of environmental literacy: knowledge, trends, competences and responsible behaviors towards the environment. These key elements of environmental literacy underscore the fact that individuals will be interactive and developmental about the nature, which means that environmental literacy, or not, will develop itself through the literacy process in which environmental literacy will continue to evolve. Finally, Simmons (1991) described seven elements of environmental literacy: (i) impact (environmental sensitivity, attitudes and moral logic), (ii) ecological knowledge, (iii) socio-political knowledge (environmental and ecological cultural, (iv) knowledge of environmental issues, (v) environmental issues, action strategies, skills in systematic thinking and foresight, (vi) determinants of environmentally friendly behavior (assumptions of audit focus and personal responsibility), and (vii) behavior (types of active participation aimed at solving problems).

2. The Importance of Research

The serious environmental problems facing the planet we live in have brought the breed of many living things to extinction. Recalling that human beings also have the ability to solve the problems of human beings without forgetting the fact that they are the sources of many problems, the results of educating future generations as complete environmental literatures are much more important than attaining the goals of educational programs.

One of the professions with the greatest responsibility for educating future generations to benefit the planet is, of course, a teaching profession. The fact that teachers have a great shaping power as a role model on their students brings with them two major problems. The first is to understand how important it is for teachers to fulfill their responsibilities and perform their duties not only for the students but for the whole world. The second one is the realization of the opposite situation, which can be considered as a disaster scenario. When considered in the context of environmental literacy, these two big problems soon concern the future of the whole world. Therefore, the usefulness of determining the environmental literacy levels of all the teacher candidates in Turkey is too large to be limited by academic studies. The purpose of this study is to determine the social literacy and environmental literacy levels of the elementary school teacher candidates and to demonstrate the influence of various variables on the constituents (knowledge-affect-behavior-cognitive skill) that constitute environmental literacy.

3. Method

In this part of the study, working of design, demographic features of participants, means of data collection and analysis given are included.

4. Design of the Research

This research was carried out using descriptive scanning technique from quantitative research methods. This method is used in research that attempts to describe and explain the similarities and differences of phenomena (Gall, Borg, and Gall, 1996). Descriptive statistics determine what events, objects, assets, institutions and various areas are. (Büyüköztürk, 2002) Frequency, percentage, medium and standard deviation are tried to be explained with descriptive statistics.

This research; Classroom and social studies students at Cumhuriyet University Faculty of Education, Gaziosmanpaşa University Faculty of Education and Gaziantep University Nizip Education Faculty are limited to teacher candidates. A total of 518 students participated in the research. However, 101 of the participants were not included in the analyzes because of random marking of scales or incomplete / false marking. Thus, It was conducted with 417 prospective teachers. Participants; 59.7% (249 persons) were female and 40.3% (168 persons) were male. 62.8% (262 people) of the participants are in the department of social studies teaching, and 37.2% (155 people) are studying in the department of classroom teaching. 29.3% of the participants (122 people) were in the 1st class; 41.5% 2nd class; 29% (122 people) 3.3rd class study. It is seen that 32.5% (135 people) of the participants had taken courses with environmental education literacy and 67.5% (282 people) did not take courses. It is seen that 1.9% (9 people) of the participants are members of environmental NGOs, 91.1% (409 people) have no memberships. It is stated that 24.5% (102 persons) of the participants live in the village, 3.8% (16 people) live in the town, 32.1% (134 people) live in the province and 39.6% (165 people) live in the village. It was found out that 7.7% of the participants (32 people) were not illiterate, 9.1% (38 people) were literate, 36.7% (153 people) were primary school graduates and 20.6% (86 people), Father of 16.1% (67 people) had graduated from high school, 9.1% (38 people) of his father graduated from university and 0.5% of his father (2) had graduate education. Of the participants, 2.6% (11 persons) were teachers, 18.2% (76 persons) were farmers, 23% (96 persons) were workers, 40.8% (170 persons) were self-employed, 13.7% 57 persons), and 0.7% (3 persons) were retired. As the educational level of the participants' mothers; It was found that 33.1% (138 people) were not illiterate, 12.5% (52 people) were literate, 35.7% (149 people) were primary school graduates, 12% (50 people) were middle school graduates and 5.3% (22 people) were high school graduates and 1.4% (6 people) were university graduates. Participants mothers' professional knowledge; 1% (4 persons) teachers, 95.2% (397 persons) housewives, 1.4% (6 persons) workers, 0.2% (1 person) farmers and 1% and 1.2% (5 persons) were self-employed. Monthly average incomes of the participants' families are; It is stated that there is a gain of 10.8% (45 people) from 0-630 TL, 40.5% (169 people) earning 631-1300 TL, 31.7% (132 people) earning 1301-2500 TL, 17% (71 people) was found to be 2501 TL and above.

5. Data collection tools and analysis of data

In this research, Social Science and Classroom Teacher Candidates' criteria of Determining Environmental Literacy Scale developed by Karatekin (2011) were used as data collection tool. By taking advantage of the dimensions of the other measuring instruments in the literature and considering the topics in the research questions, the items in the measure are grouped in 3 different headings regarding their contents. These;

demographic information of the participants, affective tendencies towards the environment sub-scale (ATTESS) and environmental behaviors sub-scale (EBSS).

In the first dimension of the scale are demographic information consisting of 12 items. In the second dimension; It is prepared as Likert 5 with 27 items as "absolutely agree-5" to "never agree-1". In the third dimension; The 19-item "always-5" is the Likert-type with 5 "never-1". The alpha reliability coefficient of the scale used in the study is 0.89. The data obtained in the study were analyzed using the SPSS 21.00 package program. A correlation analysis was conducted to understand the relationship between environmental perceptions of participants and environmental behaviors. In addition, participants' affective perception and environmental behavior to the environment on the scale of the items, descriptive, statistical values were analyzed.

6. Findings

When Table 1 is examined, it is seen that the participant's environmental behavior tendencies are higher than the environmental affective tendencies (ATTESS=2,7092<EBSS=2,9918). The participant's behavioral characteristics are understood to be higher than the affective characteristics. It is seen that there is a moderate positive correlation between AGE and CBD (correlation = 0,316 ***). The level of relationship between them is meaningful ($p<0.05$).

When Table 2 is examined, affective tendencies towards the environment sub-scale "I do not usually realize the natural beings like flowers, trees, clouds in the environment (item 24). "I am not interested in the increase of the size of the deserts in the world" (item 10), "I am not interested in the speed of extinction of the species in the world" (item 20) in the related materials, it is seen that the average is 4 and above. That is, teacher candidates stated that they did not participate in these items. "I think that the damage to the ozone layer is something that everyone should be interested in" (item 8), "I think it is important for me to know environmental issues and problems" (item 6), "I think that individual efforts can contribute to the solution of environmental problems" (item 27). Answers are between 1 and 2, that is, they agree.

When Table 3 is examined, environmental behavior sub-scale "I call the writer or politician to express my views on the environmental issues writes or expresses their views on the environmental issues" (item 9), "Letter/e-mail to journalists about environmental issues or issues" (item 11), "I have indicated that they do not participate at all, that I have monetary support for the strengthening of non-governmental organizations related to the environment" (item 14), 4 and 5 of the average number of entries (13th item) in the actions of environmental NGOs. When I did not use lights and electrically operated appliances to save electricity, they stated that the average of the closure (item 1) was 1-2, meaning that the participants never participated in this item.

Environmental behavioral tendencies are higher than environmental affective tendencies. The participants' behavioral characteristics are higher than their affective attributes. Participants are more concerned with the behavioral dimension of environmental literacy. There is a moderately positive relationship between ATTESS and EBSS.

Affective tendencies towards the environment sub-scale "I do not usually realize the natural beings like flowers, trees, clouds in the environment (item 24), I am not interested in the increase of the size of the deserts in the world (item 10), I am not interested in the speed of extinction of the species in the world (item 20)" in the related materials, it is seen that the average is 4 and above. That is, teacher candidates stated that they did not participate in these items. I think that the damage to the ozone layer is something that everyone should be interested in (item 8), I think it is important for me to know environmental issues and problems (item 6), I think that individual efforts can contribute to the solution of environmental problems (item 27). Answers are between 1 and 2, that is, they agree.

Environmental behavior sub-scale "I call the writer or politician to express my views on the environmental issues writes or expresses their views on the environmental issues (item 9), Letter/e-mail to journalists about environmental issues or issues (item 11), I provide financial support for the strengthening of non-governmental organizations related to the environment (item 14), Participation in the actions of environmental NGOs (item 13)," that is, they never participated so that the average of the items 4 and 5. "When I did not use lights and electrically operated appliances to save electricity (item 1)", The average of the article is between 1-2, meaning that the participants never participated in this item.

7. Conclusion

The data show that prospective teachers' environmental behavioral tendencies are higher than environmental perceptual tendencies. (Table 1). That is, the participants are more concerned about the behavioral dimension of environmental literacy. This means that the prospective teachers have stronger behaviors than the attitudes of their environmentally oriented behavior. As a matter of fact, the data obtained from Table 2 reveal that teacher candidates usually do not participate in articles which contain negative expressions for environmental problems. Those who have positive statements declared their participation. Researches evaluating the behavior of participants from different parts of the society towards environmental problems have achieved different results. For example, Kaya, Akıllı, and Sezek (2009) found that teacher candidates' scores of environmental behaviors tendency were higher than those of environmental perception tendency scores. In other words, the participants have a positive attitude towards acting to solve environmental problems, but they cannot turn their thinking about environmental problems into behavior. Because the average score of environmental thinking is much higher than the average of environmental behavior score. In terms of behavior, girl students are more sensitive. Girls are more successful in warning about harm to the environment, voluntary participation in environment-related activities and selecting less harmful products. In this study, gender had no effect on behavior or thought. On the other hand, some researchers found that the negative behaviors of teacher candidates towards the environment were low to moderate (Erten, 2005; Akıllı and Yurtcan, 2009; Sadık and Çakan, 2010; Karatekin, 2011; Erten, 2012; Gürbüz and Çakmak, 2012; Çimen and Timur, 2013). Therefore, the literature contradicts with the results obtained in this research.

On the other hand, it has been understood that the gender variant does not influence negative attitudes towards the environment. This result overlaps with similar research (Hines, Hungerford, and Tomera, 1987; Schultz, Oskamp, and Mainieri, 1995; Çimen and Timur, 2013; Karakas, 2014; Timur, Timur, and Karakas, 2014). The same result was obtained four university students in Erdoğan and Ok (2011) for fifth grade students, Karatekin (2011) for social studies teacher candidates, Budak, Zaimoglu, Kekeç and Sucu (2005) for university students and MacKenzie and Smith (2003) for teachers. Although these results are in parallel with the results obtained in this study, there are also studies showing that there is a relationship between gender and behavior towards the environment (McStay and Dunlap, 1983). Similarly, variants such as education and class level did not significantly affect positive/negative behaviors towards the environment (Amirshokoohi, 2010; Koç and Karatekin, 2013). However, the opposite has also been achieved. As the age or class of the participants grows, the positive behaviors towards the environment also increased (Huang and Yore 2003; Atasoy and Ertürk 2008; Tuncer, Ertepinar and Şahin, 2008; Akyol and Kahyaoğlu 2010; Karatekin, 2011). Alp *et al.* (2006), who work with the 6th, 8th and 10th grade students reached same conclusions.

Another conclusion reached in the survey is that the income level of the family and environmental variables did not have a significant influence on the negative behavior of the environment variables (Kollmus and Agyeman, 2002; Çimen and Timur, 2013). On the other hand, research (Karatekin, 2011; Gürbüz and Çakmak, 2012; Çimen and Timur, 2013, and Timur *et al.* 2014) showed that environmental behaviors of teacher candidates participating in environmental club activities and worrying about the future of the environment are more sensitive, contradicts with the data obtained in this study. However, there are other research (Uzun and Sağlam, 2007) argued that voluntary membership to environmental organizations does not affect positive/negative behaviors towards the environment. Therefore, Uzun and Sağlam (2007) achieved the same parallel with this research. On the other hand, there was no statistically significant relationship between having taken courses related to environmental education and show positive/negative behaviors towards the environment. Conflicting with this finding in the literature, biology has been carried out by Gürbüz and Çakmak (2012), who are studying the attitudes of the biology candidate students towards the environment.

The data showed that the relationship between the place of living and the positive/negative behaviors towards the environment is not statistically significant (Gürbüz, Kışoğlu, and Erkol, 2007; Günindi, 2010; Çimen, Yılmaz, and Çimen, 2011; Yalmancı and Gözüm, 2011; Gürbüz and Çakmak, 2012). There was no statistically significant relationship between the age of the participants and the positive/negative behavioral behavior towards the environment (Aktuğ and Göbekli, 2002; Yılmaz, Morgil, Aktuğ, and Göbekli, 2002; Vaughan, Gack, Solorazano, and Ray, 2003).

Teacher candidates have stated that they cannot accept articles such as writing letters to politicians or journalists as a point of action to solve environmental problems, providing financial support to NGOs or participating in the actions of such organizations. They have explained the adopted article as turning off lights and electrical appliances in their homes. Participants' most preferred solution at the point of displaying behavior towards environmental problems is that they have a statistically significant relationship between the level of energy

saving in their homes and the level of knowledge about environmental problems and responsible behavior toward the environment. Işıldar and Yıldırım, (2008); Tuncer *et al.* (2008); Yavetz, Goldman, and Pe'er, (2009a); Karatekin, (2011) and Timur (2011) found that university students; Negev, Sagy, Garb, Salzberg, and Tal (2008) and Yasar, Yaşar, and Yalçın (2012) have shown that secondary school and high school students have no significant relationship between environmental awareness and responsible behavior towards the environment.

Participants' responses show that they are aware of natural beings and are disturbed by desertification and the speed of species disappearance. On the other hand, it can be interpreted that the attitudes towards the environmental problems are positive, even if they are uncomfortable with the damage to the ozone layer, believe that they should have information about environmental problems, emphasize the necessity of individual contribution in solving the problems. Whether the attitudes of the participants towards the environment are positive or not is not included in the scope of this study This result is also supported by researches in the literature (Grifford, Hay, and Boros, 1983; Arcury, 1990; Hsu and Roth, 1995, 1996, 1998; Eagles and Demare, 1999; Sadık and Çakan, 1999; Yilmaz, Boone, and Anderson, 2004; Uzun and Sağlam, 2006; Deniş and Genç, 2007; Ek, Kılıç, Öğdüm, Düzgün, and Şeker, 2009; Kahyaoğlu and Özgen, 2009; Yavetz, Goldman and Pe'er, 2009b; Çınar, Akduran, Dede, and Altınkaynak, 2010; Kayali, 2010; Gürbüz and Çakmak, 2012; Young and Young, 2013; Tuncer Teksoz, Boone, Tuzun, and Oztekin, 2014). The same result was obtained by Fennessey, Livingston, Edwards, Kidder, and Nafziger (1974); Jaus (1982); Armstrong and Impara (1991); Bonnet and Williams (1998); Dettmann-Easler and Pease, (1999); Eagles and Demare (1999); Kuhlemeier, Van Den Bergh, and Lagerweij, (1999); Ma and Bateson (1999); Dimopoulos and Pantis (2003); Tuncer, Sungur, Tekkaya, and Ertepinar (2004); Tuncer, Ertepinar, Tekkaya, and Sungur (2005); Alp *et al.* (2006); Kasapoğlu and Turan (2008); Sarkar, Alam, Ara, Raihan, and Ozaki (2008); Şahin and Erkal (2010); Aydın and Kaya (2011); Aydın, Coskun, Kaya, and Erdönmez (2011); Aydın and Çepni (2012) for primary and secondary school students; Negev et al., (2008) for middle and high school students and Deniş and Genç (2007), Teksöz *et al.* (2008) and Aksoy and Karatekin (2011) for teacher candidates. Bogner (1998) argued that participants have made progress on the positive side, especially in the attitudes towards the life in the natural environment. On the other hand, Erten, Özdemir, and Güler (2003) underlined that kindergarten teachers explain to spend their leisure time by talking about their livelihoods with their colleagues, shopping, watching television and reading books. They underestimated that no participant was involved in environmental activities during his free time. While environmental conscious people are expected to participate in environmental activities, they have found that none of the teachers mentioned this, indicating that environmental problems are not among the priority problems of the people. Therefore, they reached a completely contradictory result with the findings of this research (Erten *et al.* 2003).

Participants' attitudes to environmental problems have no effect on gender, parental education, family economic status, living quarters, and part of students. This result contradicts the findings of some investigations (Erol and Gezer 2006; Yalmancı and Gözüm, 2011; Aydın and Çepni, 2012; Genç and Genç, 2013). The results of this research are partially overlapping or contradictory to some of the investigations. For example, for Timur and Yilmaz (2011), the education level of the mother is influential on the attitude, but the education level of the gender and the father is not effective. It has also been revealed by different researchers that gender has an influence on the attitudes towards the environment and that female teacher candidates are more concerned with environmental problems (Hines *et al.* 1987; Özdemir, 1988; Tarrant and Cordell, 1997; Riechard and Peterson, 1998; Worsley and Skrzypiec, 1998; Loges and Kidder, 2000; Tikka, Kuitunen, and Tynys, 2000; Yılmaz *et al.* 2002; Çabuk and Karacaoğlu, 2003; Paraskevopoulos, Padeliadu, and Zafiropoulos, 2003; Özdemir, Yıldız, Ocaktan, and Sarışen, 2004; Budak, Budak, Zaimoğlu, Kekeç, and Sucu, 2005; Ekici, 2005; Özmen, Çetinkaya, and Nehir, 2005; Tuncer *et al.* 2005; Uzun, 2005; Vaizoğlu, Altıntaş, Temel, and Ahrabi, 2005; Alp *et al.* 2006; Erol and Gezer, 2006; Hacıeminoğlu, Alp, and Ertepinar; 2006; Deniş and Genç, 2007; Gökçe *et al.* 2007; Pe'er, Goldman, and Yavetz, 2007; Alam, Jahan, Jahir, and Koji, 2008; Alp *et al.* 2008; Atasoy and Ertürk, 2008; Işıldar and Yıldırım, 2008; Kahyaoğlu, Daban and Yangın, 2008; Uluçınar, Aslan, and Cansaran, 2008; Yücel, 2008; Kaya, Akıllı, and Sezek, 2009; Krnel and Naglič, 2009; Kayalı, 2010; Mansuroğlu, Karagüzel, Atik, and Kınıklı, 2010; Teksöz *et al.* 2010; Timur and Yılmaz, 2011; Yalmancı and Gözüm, 2011; Sadık, 2013; Şama, 2003; Timur, Timur, and Yilmaz, 2013). On the other hand, there are also research that find that the attitude changed for men about the gender (Gökçe *et al.* 2007; Aydın *et al.* 2011; Aydın and Çepni, 2012).

Attitude have not changed regarding the sex. Therefore, the findings overlap with the findings of this research have also taken place in the literature (Kahyaoğlu *et al.* 2008; Köse, 2010). Researchers report that attitude changes regarding division but is not statistically significant is as follows: Kahyaoğlu *et al.* 2008; Aksoy and Karatekin, 2011; Kolomuç and Açışlı, 2013. Another variable with no statistically significant difference between

attitudes is taking environmental education (Erol and Gezer, 2006). There are also studies that find a meaningful relationship (Littledyke, 2008; Sadık and Sari, 2008; Gürbüz and Çakmak, 2012). Research that support this finding that there is no statistically significant relationship between the part of the study in which the students are educated and the attitude towards environmental problems is published by Kahyaoğlu *et al.* (2008) and Timur *et al.* (2013). Another conclusion reached about attitudes is that no statistically significant relation was found between the attitudes of the prospective teachers to the environmental problems and the points they got from the information test, which overlap with some researches (DeChano, 2006).

One of the findings of this study was that the teacher candidates belongs to the high level educational family did not positively affect the attitudes towards the neighborhood. Some research results suggest that they reach different findings (Altın, Bacanlı, and Yıldız, 2002; Shama, 2003; Özmen *et al.* 2005; Vaizoglu *et al.* 2005; Kayalı, 2010). Teacher candidates do not influence their attitudes towards environmental problems in which class they are in (Yılmaz *et al.* 2002 and Vaughan *et al.* 2003).

Their respondents show that they are aware of natural assets and are disturbed by desertification and the pace of species disappearing, they are disturbed by damage to the ozone layer, believing that they should have information about environmental problems and stressing the necessity of individual contribution in solving problems. The literature also includes both overlapping and contradictory investigations. Hsu and Roth, (1998), as an example of research that participants are highly responsive and responsible for environmental problems; Straughan and Robert, (1999); Teksöz, Tekkaya and Erbaş, (2009), Tuncer *et al.* (2009) and Teksöz, Sahin and Tekkaya-Oztekin (2012) while the sensitivity of the study was poorly studied by Hsu and Roth (1995, 1996). There was no significant difference between the departments and the genders. While Çabuk and Karacaoğlu (2003) point out that classroom teacher students are more sensitive to the environment than students of social studies teaching, Kayali (2010) defended the opposite. Hines *et al.* (1987) and Tikka *et al.* (2000) reported more sensitivity and concern for the environment, which is a demonstration of healthy and quality life for women.

Demographic data were compared with the scores of the prospective teachers on the information test and no meaningful difference was found. Like many other studies in the same literature. For example, it has been understood that factors such as gender, school type of graduation, mother education level and father education level do not affect environmental literacy level of students (Yilmaz *et al.* 2002; Vaizoglu *et al.* 2005; Erol and Gezer 2006; Goldman, Yavetz, and Pe'er, 2006; Gürbüz *et al.* 2007; Artun, 2013). There was no statistically significant relationship between participants' level of knowledge about environmental problems and environmental behavior. Alp *et al.* (2008) Also concluded that there is a negative relationship between two variables. Kaplowitz and Levine (2005) reported that participants did not find a satisfactory relationship between scores from the information test and demographic data.

Finally, the impact of gender and previous environmental education lessons on environmental information was examined and no meaningful relationship was found. Looking at the literature, some research both support this result and vice versa. Alp *et al.* (2006) for 6th, 7th and 8th grade students; Uluçınar *et al.* (2008) for 7th and 8th grade students; Makki *et al.* (2003) for middle school students; Timur and Yilmaz (2011) for science and technology teacher candidates; Karatekin (2011) reported that no meaningful difference was found for social science teacher candidates. Timur *et al.* (2014) are supported by other researchers (Uzun and Sağlam, 2006), who argue that gender has an impact on environmental knowledge and that female teacher candidates are more successful. Surveys reaching the conclusion that men are more successful are also included in the literature (Murphy, 2002-2004; Coyle, 2005; Karatekin and Aksoy, 2012; Timur *et al.* 2014) Investigations advocating that you have taken an environmental education course and that you have increased the level of environmental knowledge in your environmental club/association (e.g. Timur *et al.* 2012), do not correspond to research that suggests that teacher candidates have no influence on the level of knowledge of having an environmental education course (Timur *et al.* 2014).

8. Suggestions

It is because people are responsible for what they do, unlike other creatures, they have reason and free will. This freedom of choice brings with it the consequences and to bear responsibility. You should not confuse freedom with what you want to do Without responsibility, freedom is not freedom It's a mess. This kind of freedom has only animals in the nature. They are not responsible for what they do, because they do not determine their behavior by reason, intelligence and by their free will, but by their instincts, because their nature is that they cannot behave otherwise. However, people do what they do for a purpose (Ralph Waldo Emerson).

Yes, mankind has long been trying to fully control the natural environment and thus to soothe its insatiable appetite. This is obviously a preference. A part of nature is a privileged creature that does not accept that it is a member of natural life (such as an ant, donkey, elephant, lion, or bat), but that it is a privileged creature that tries to dominate it, (At least those who are defeated by their ambitions.) has made the decision as Emerson has said, has gone through a lot and has begun to get some results too; Deforestation, an increase in the number of rapidly depleted species, global climate change, air pollution, acid rain. From this point of view, the humanity that creates environmental problems is doing it for a purpose. What should be done under these circumstances? Moving decision makers to make more effective decisions, making legislators more effective and concluding laws, further developing joint partnerships between governments, allocating more resources to scientific research. But there is a more effective force than all these; education. Because the actors listed above can ultimately solve existing problems and develop suggestions that will work for now. No one can shape the future, to grow stronger, intelligent, practical, resultant and productive individuals. But you have education. What can education do?

Educators need to pay more attention to the development of finding responsible behaviors towards the environment to encourage prospective teachers to adopt a participatory view as citizens. Academic studies do not influence teacher candidates' environmental literacy levels. The main influencing factors are individual pasts with personal qualities. For the creation of individuals with environmental awareness, education should be given firstly to strengthen the ecocentric attitudes of the students so that they can get away from the "cost-benefit" approach in protecting the environment. Today, the biggest problem of environmentally friendly behavior is the "utilitarian" philosophy. Attitudes can only be transformed into behavior in democratic societies. That is to strengthen the democratic society that adopts the principle that libertarians should be trained as members of a society that appreciates individual talents, abolishes all obstacles in front of their ability to develop, is open to any kind of thought, and believes in taking all kinds of precautions and decisions in order to sustain natural diversity in the world. To create societies that are not harmful to the planet but which are useful by saving from the education system and saving the evaluation system based on the differences of the individuals, based on the contributions of the individuals based on the contribution of the process and making efforts for the increase of these contributions. Perhaps this is the most effective way of solving current environmental problems and preventing the emergence of new ones.

How created a democratic society? Or how can existing societies be transformed for this purpose? As mentioned above, philosophy change may be the most difficult but perhaps the most effective solution. The increase in the number of individuals who study for philosophy change is a basic condition. Finnish mathematics teacher explain that the basic condition of success is to read. Mental change seems inevitable. Given the negative consequences of our country, especially in the educational statistics, directing children and young people who will shape our future starting from a small age to read, democratic thinking and becoming established with all institutions of living style and it can be considered as the most effective tool at the point of solution of environmental problems. At this point, it is emphasized that all layers of the society are encouraged to read the book and it is a reasonable and effective step to change the extremely uncomfortable statistical average for our country like a book reading average every 12 years.

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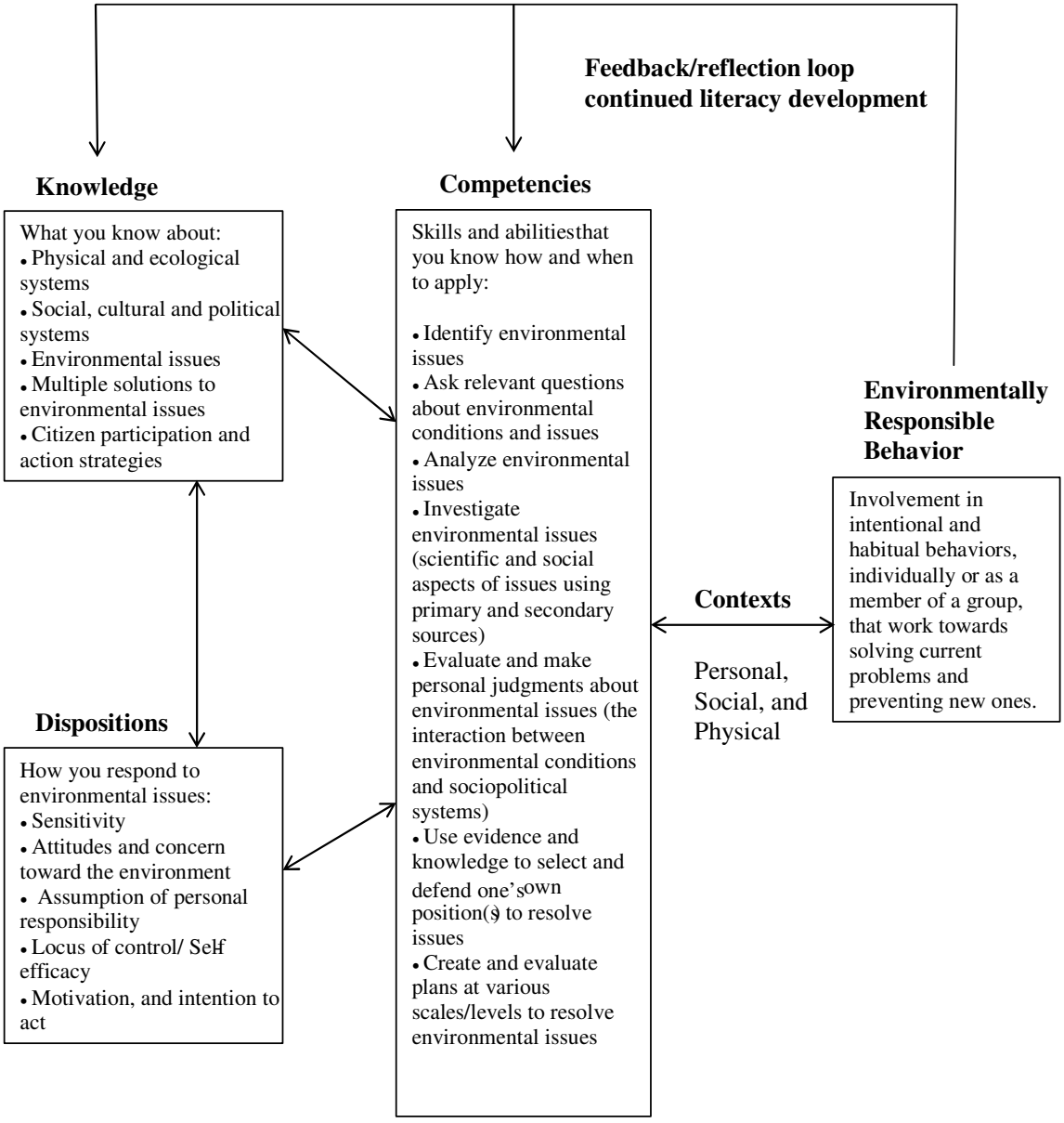

Figure 1: The domain of environmental literacy

Table 1. Correlation Values

	N	Mean	Std. Deviation	Pearson Correlation	P
ATTESS	417	2.7092	0.30490	0.316***	0.000
EBSS		2.9918	0.57526		

Table 2. ATTESS. Descriptive statistics values

	N	Min.	Max.	Mean	SD
ATTESS24	417	1.00	5.00	4.1511	1.05553
ATTESS10	417	1.00	5.00	4.0216	0,98889
ATTESS20	417	1.00	5.00	3.9904	1.08747
ATTESS2	417	1.00	5.00	3,8585	1.02452
ATTESS3	417	1.00	5.00	3,8537	0,99769
ATTESS5	417	1.00	5.00	3.8393	1.09877
ATTESS11	417	1.00	5.00	3,7050	1,13163
ATTESS15	417	1.00	5.00	3.1966	1,24796
ATTESS16	417	1.00	5.00	3,1319	1,05127
ATTESS18	417	1.00	5.00	3,1031	1,07481
ATTESS23	417	1.00	5.00	2,9976	1,17363
ATTESS13	417	1.00	5.00	2,9089	1,27526
ATTESS14	417	1.00	5.00	2,3981	1,07855
ATTESS21	417	1.00	5.00	2,2638	1,04350
ATTESS7	417	1.00	5.00	2,2206	1,10691
ATTESS12	417	1.00	5.00	2,2206	0,87390
ATTESS26	417	1.00	5.00	2,2182	1,14264
ATTESS9	417	1.00	5.00	2,1894	1,02145
ATTESS1	417	1.00	5.00	2,0216	0,87267
ATTESS19	417	1.00	5.00	2,0120	1,03187
ATTESS17	417	1.00	5.00	1,9856	1,00469
ATTESS22	417	1.00	5.00	1,8945	,82822
ATTESS4	417	1.00	5.00	1,8609	1,06285
ATTESS25	417	1.00	5.00	1,8513	0,88359
ATTESS27	417	1.00	5.00	1,8369	0,90260
ATTESS6	417	1.00	5.00	1,8153	0,94663
ATTESS8	417	1.00	5.00	1,6019	0,82322
TOTAL	417			2.7092	30490

Table 3. EBSS Descriptive Statistical Values

	N	Min.	Max.	Mean	S. D
EBSS9	417	1.00	5.00	4,3381	1,08455
EBSS11	417	1.00	5.00	4,3141	1,11356
EBSS14	417	1.00	5.00	4,0432	1,19416
EBSS13	417	1.00	5.00	4,0432	1,16975
EBSS12	417	1.00	5.00	3,7458	1,22185
EBSS19	417	1.00	5.00	3,2446	1,37198
EBSS8	417	1.00	5.00	3,2374	1,24180
EBSS16	417	1.00	5.00	2,9544	1,16863
EBSS10	417	1.00	5.00	2,9281	1,13282
EBSS4	417	1.00	5.00	2,7818	1,29639
EBSS2	417	1.00	5.00	2,7386	1,12073
EBSS17	417	1.00	5.00	2,7122	1,06909
EBSS5	417	1.00	5.00	2,6595	1,02803
EBSS3	417	1.00	5.00	2,4293	1,05630
EBSS6	417	1.00	5.00	2,4125	0,97450
EBSS7	417	1.00	5.00	2,3429	1,16020
EBSS15	417	1.00	5.00	2,2398	1,10290
EBSS18	417	1.00	5.00	2,1415	1,06140
EBSS1	417	1.00	5.00	1,5372	0,81405
Valid N (list wise)	417			2.9918	0,57526