

The Quality of Methods and Techniques Used by Classroom Teachers in Developing Effective Environmental Awareness in Turkey*

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Abstract

This study investigated which methods and techniques classroom teachers use to develop effective environmental awareness. Qualitative research methods were utilized in the study. While collecting the data, 15 classroom teachers were interviewed using a semi-structured interview form. The data obtained were analyzed with descriptive analysis method. As a result of the research, the methods and techniques used by the teachers were determined as "lecture, demonstration, animation, application in the school environment and classroom, excursion, observation, drama, question and answer, case study". While teachers think that their students have environmental awareness in general, they stated that some students exhibit negative behaviors towards the environment due to the negative behaviors of the society. According to the findings, teachers prefer theoretical methods more, which makes it difficult for students to develop environmental awareness in the future. In this respect, it is recommended that instead of theoretical trainings, more emphasis should be placed on approaches that are based on activities that are in life and can be applied and that students can continue by living in their daily lives in order to gain environmental awareness at a young age.

Keywords: Method and Technique, Activity, Environmental Awareness, Children, Classroom Teacher

To cite this article:

Demir, Z. M. (2019). The Quality of Methods and Techniques Used by Classroom Teachers in Developing Effective Environmental Awareness in Turkey. *Innovative Educational Research (INNER)*, 1(1), 14-27.

Article Type	Received	Accepted	Published Online
Research Article	09.19.2019	11.22.2019	12.30.2019

* A part of this article was previously presented as a paper at the "VII. International Congress on Social Sciences Education" in Nevşehir, Turkey on May 8-10, 2015.

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Environment is considered as the whole of all living and non-living beings together with human beings; physical, chemical, biological and social factors that affect all kinds of actions and behaviors of living beings (Cansaran & Yıldırım, 2008). Environment, in the simplest terms, is defined as all natural and artificial elements that condition human life (Keleş & Hamamcı, 2005). Together with human and all other living beings, the whole of nature and man-made elements in nature constitute the environment (Ertürk, 1998, p. 45). According to the Environmental Law No. 2872, the environment is defined as "the biological, physical, social, economic and cultural environment in which living things maintain their relations and interact with each other throughout their lives".

While the environment continues to exist in a certain order with the living and non-living beings it contains, it has become unable to function regularly, especially in the last hundred years. Environmental problems are growing mostly due to the pollution of the environment caused by wrong human behavior and the increase in the rate of carbon dioxide in the atmosphere. Today it is known that wherever in the world there is a negative environmental activity, the whole world is affected by its consequences. As a living species, human beings, unlike other species, are alienated from nature, of which they are also a part, by their endless pursuit of dominating nature and establishing superiority over it. As a result of such alienation, nature is seen as a source of wealth, and with the help of science and technology, it is reduced to a tool for human purposes and consumed unlimitedly. However, with each passing day, the carrying capacity of nature is being exhausted.

"For modern man, there is nothing sacred about nature... It is precisely the subjugation of nature that is the main cause of the depletion of natural resources of all kinds, the destruction of natural beauty, the destruction of the environment by machinery and its products, the phenomenal increase in mental illness and a thousand other insurmountable difficulties." (Nasr, 1991, s. 12).

As a matter of fact, environmental problems emerging on a global scale threaten the future of our planet. For a more livable world, people need to be more aware of environmental problems than ever before (Karataş ve Aslan, 2012).

This is because the causes of large-scale global climate changes that occurred before mankind appeared on earth were completely natural. Existing in such an environment, human beings should have adopted a lifestyle and position that would minimize the impact of these natural causes on their own lives, but by acting in the opposite way, they themselves have added a human cause to the natural causes of climate changes in the world for the first time and caused an increase in carbon dioxide in the atmosphere. In this way, he has been thrust into the position of the first "living creature" that does not try to minimize these changes in the world, but rather adds to this natural process as a problem.

For all these reasons, it is of great importance to raise people's awareness about the reasons behind environmental problems and to ensure their harmonious coexistence with nature (Karataş & Aslan, 2012). In other words, human beings are at a critical stage in evolving from a consciousness of "how to use nature" to an environmental consciousness of "how-to live-in harmony with the nature".

Humans look at other living beings and natural ecosystems with the logic that "everything can be taken and consumed" and try to manage the planet in a careless way. For mankind, forests have become a source of paper and timber, seas a source of fish and energy, plants, and animals a source of food, and space an endless storehouse of resources to be conquered. Various factors, especially education, upbringing and acculturation conditions, law, and morality, are determinant in this perception of nature (Atasoy, 2006). In fact, environmental problems arise from the fact that people exploit the environment to the fullest with the urge for profit and prioritize their individual interests over the common interests of society (Geray, 1997, pp. 323-324).

Today, environmental problems are universal and recognize no borders or ideologies (Kışlaloğlu and Berkes, 2009, p. 243). Regardless of who is responsible for environmental pollution and the deterioration of natural life, the consequences affect all living things. For this reason, all individuals should exhibit friendly behavior towards nature and should not think, "What is the harm that only I can do to nature?". Humanity needs to see and understand that nature is an asset to be protected and to stop conquering it, wearing it down and, most importantly, polluting it even more (Güney, 2004, p. 16).

In order to find a real solution, each individual must have environmental awareness, which is not easy to do and requires action rather than knowledge. Environmental awareness can also be defined as "interest not only in people but also in all forms of life and all vital problems such as energy conservation, use of natural resources, and reduction of consumption" (Hampal & Holdsworth, 1996, p. 6, as cited in Aydın & Ersoy, 2013). Türküm (1998) defined environmental awareness as "consisting of thoughts that include decisions, principles and interpretations about the environment, behaviors that transfer these thoughts to life, and various emotions related to all these". Erten (2004) states that the aim of environmental awareness is to emphasize environmental knowledge, attitudes towards the environment and environmentally beneficial behaviors and that a person who does not show environmentally friendly behaviors does not make sense even if he/she knows all the information about the environment. According to Kızılaslan and Kızılaslan (2005, pp. 67-68), "environmental awareness is no longer an ideal and has become the duty of future generations. Mankind is mortgaging the lives of future generations at a great speed.

Therefore, it is of great importance for people to gain the right behaviors about the environment and to be educated in this direction (Kızılaslan & Kızılaslan, 2005). People should gain this awareness from an early age and maintain it throughout their lives. Environmental awareness includes a dynamic structure that can develop throughout life. However, the foundation to be established in childhood is of great importance. Especially environmental education practices carried out in schools can contribute to the development of responsible behavior patterns of students towards their environment (Ay, 2010, p. 77).

For this reason, environmental education should start in the family and students should gain environmental awareness and positive attitude towards the environment in primary education (Alım, 2006, p. 605). It is known that mental sensitivity towards the environment in children develops mostly at the age of 9-10 (Demirkaya, 2006, p. 208). It can be said that the more knowledge, awareness and positive attitudes people have towards the environment, the less environmental problems will decrease (Gökçe et al., 2007, p. 464). In

this context, it is of great importance to give this awareness to primary school students, considering that today's children with environmental awareness will be tomorrow's adults (Karataş & Aslan, 2012). If children, as the adults of tomorrow, can be raised with environmental awareness, the doors of a safer future can be opened (Karataş & Aslan, 2012).

In order for human beings to maximize their innate potential, they need to be provided with various opportunities at an early age. For this reason, the role of the education given to the child at an early age and the physical and social environment in which the child lives in in the child's development is very important (Oktay, 1999). In this context, interests and attitudes formed in pre-school and school ages form the basis of future desired behaviors. Especially the value judgments and attitudes formed in childhood and young age are very important in the development of empathy in relationships with nature and the formation of love for nature in early years. The formation of these means showing environmentally friendly behaviors for the protection of the environment. It is thought that these developmental elements will be learnings in the affective domain that individuals should take into consideration and that will help individuals develop environmentally beneficial and conscious behaviors (Erten, 2004).

Considering the scientific data that cognitive sensitivity to the natural environment develops around the age of 9-10, it is thought that the basic education period is the most important educational level for environmental education (Kostova & Atasoy, 2008). Therefore, the ways in which classroom teachers use to raise environmental awareness for children at this age also gain importance.

On the other hand, when studies on education for the environment are examined, it is seen that the goals of environmental education have not been achieved (Ayvaz, 1998a). Considering that one of the goals of environmental education is to "raise environmental awareness" in children, it is questionable to what extent children of school age have gained this awareness.

It is thought that one of the important factors causing this situation is the methods and techniques applied during the teaching of environmental subjects. The strategy adopted by the teacher for effective learning and the extent to which the methods and techniques chosen according to this strategy are diversified according to the individual differences of the students and the subject matter are important. The teacher works with others to create an environment that encourages positive social interaction, active participation in learning, and self-motivation that supports individual and collaborative learning (D. Borich, Gray, Trans. Ed. M. Bahattin Acat, 2014, p. 37). The fact that environmental awareness has different dimensions means that its acquisition can be realized with different methods and techniques. Because classroom teachers have a great role in developing environmental awareness at an early age. It is necessary for people to gain environmental awareness from an early age and to maintain this awareness throughout life, first of all for a healthy future. Classroom teachers have a great role in developing this awareness at an early age. In this respect, determining the perceptions of classroom teachers about environmental awareness and the methods and techniques they use to develop effective environmental awareness in children is the main subject of this research.

Purpose of the Study

Teachers have a great role in raising environmental awareness. According to the findings in the literature, the age range in which environmental awareness can be raised most effectively at an early age is 9-11. Therefore, it is important to determine what kind of different methods and techniques are used by classroom teachers to raise environmental awareness in children in this age group. Therefore, in this study, it was aimed to determine which methods and techniques were used by classroom teachers to raise environmental awareness in their students and for what reasons.

Method

Text begins as a new paragraph. The subtitles of your study must be written within the title characteristics defined in the writing guide. You can use the *2. level title style* in the template to create subtitles.

In this study, a qualitative research approach was adopted since it was aimed to determine the general views of classroom teachers about environmental awareness, the methods and techniques they use for students to gain an effective environmental awareness in line with these views, and the reasons for using these methods and techniques in detail. Qualitative research aims to understand and explore the problems that individuals or groups perceive individually or socially (Creswell, 2009, p. 4). Qualitative research is defined as research in which a qualitative process is followed to reveal perceptions and events in a realistic and holistic way in a natural environment, and qualitative data collection methods such as observation, interview and document analysis are used in qualitative research (Yıldırım & Şimşek, 2011, p. 39). In this study, a qualitative approach was used to examine in depth what classroom teachers think about environmental awareness and which methods and techniques they use most effectively to develop their students' environmental awareness. The following questions were included in the semi-structured interview form:

1. What do you think about environmental awareness?
2. What do you think about your students' behavior towards the environment?
3. Which methods and techniques do you use most effectively for your students to gain environmental awareness?
4. What is your reason for using these methods and techniques?
5. Which methods and techniques do you think are more effective?
6. Are there any difficulties with the methods you use?
7. Are there any methods that you would like to use but cannot use? If so, what are these and for what reasons?

Participants

In qualitative research, the sample size depends on what the researcher wants to learn, the researcher's purpose, what is reliable and useful, and what can be done with the time and resources available (Patton, 2002, p. 244). The study group was determined as convenience sampling. In convenience sampling, the researcher selects a situation that is close and easy to

access. This sampling method provides speed and practicality to the research (Yıldırım & Şimşek, 2011).

Table 1

Demographic Information of Participants

Teachers	Gender	Seniority	Type of Graduated School
S1	M	24	Classroom Teaching
S2	M	29	Classroom Teaching
S3	M	29	School of Education
S4	F	28	Classroom Teaching
S5	M	29	Undergraduate MA degree in Classroom Teaching: EYTPE
S6	M	16	History Teaching
S7	M	28	Classroom Teaching
S8	F	22	German Language Teaching
S9	F	15	Classroom Teaching
S10	F	28	Business
S11	F	24	Archaeology and Art History
S12	F	35	Institute of Education
S13	F	18	Faculty of Economics and Administrative Sciences
S14	F	23	Business
S15	M	32	School of Education

The participants of the study were 15 classroom teachers working in primary schools in Odunpazarı District of Eskişehir in the 2014-2015 academic year. As seen in Table 1, the study was conducted with 8 female and 7 male teachers. The professional seniority of the teachers ranged between 15-35 years.

Data Collection and Analysis

The research data were collected through semi-structured interviews, one of the qualitative data collection methods. In a semi-structured interview, the participant is asked predetermined questions. In addition, new questions can be asked or some questions can be abandoned when deemed necessary. The interview form includes personal information and interview questions. Care was taken to ensure that the questions were understandable, that the views of the interviewee were respected, and guidance was avoided. Two field experts were consulted for the validity of the form. A pilot interview was conducted with two teachers with the interview form, which was revised in line with the suggestions received from the experts, and no changes were made to the form with the opinions of the teachers.

The data obtained in the interviews conducted in the research were recorded with a voice recorder and then the recorded data were converted into plain text. In the research, data analysis was conducted with descriptive analysis. In descriptive analysis, the data obtained are summarized and interpreted according to predetermined themes. In descriptive analysis,

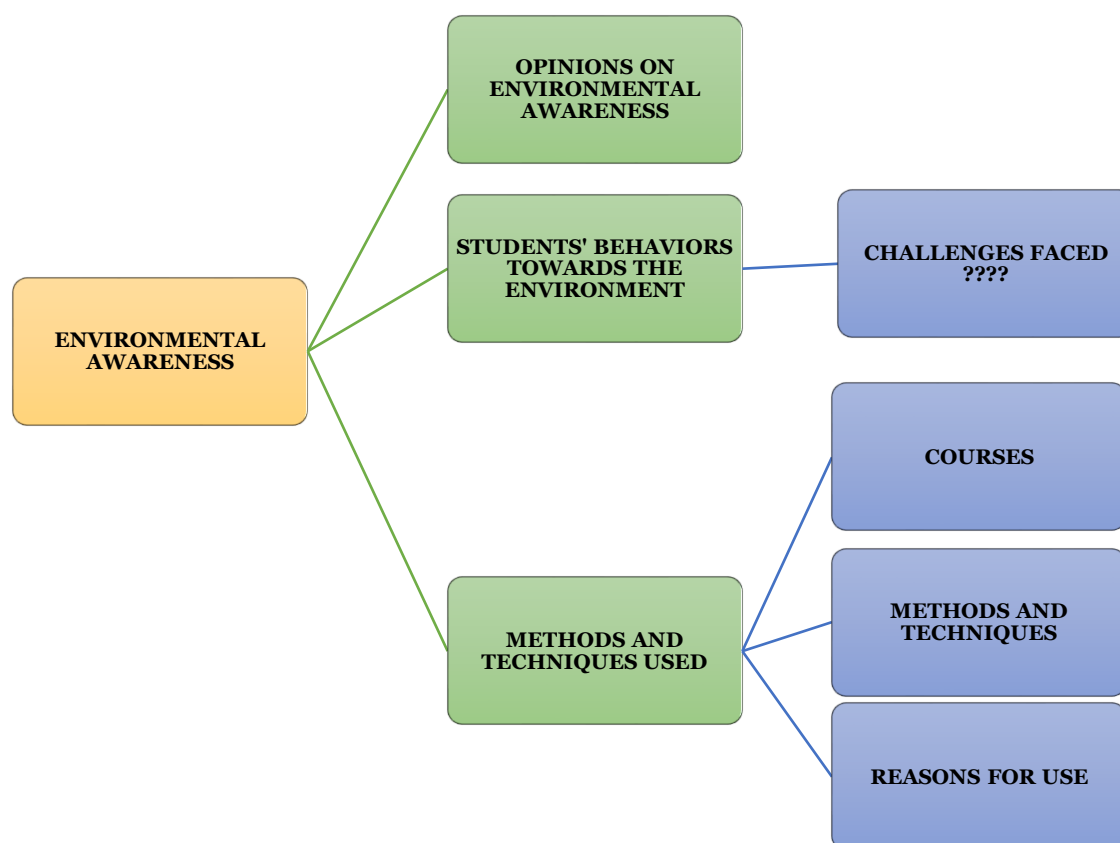
direct quotations are often used to reflect the views of the interviewed or observed individuals in a striking way (Yıldırım & Şimşek, 2011). With the descriptive analysis technique, the data were analyzed independently by two researchers and then the analyses were combined for the purpose of consensus. The data were first analyzed sentence by sentence and word by word and codes were given. Categories were determined by using the codes obtained as a result of the analysis. Themes were also specified depending on the categories.

Findings

As a result of the analysis of the research data, it was seen that the opinions of classroom teachers within the scope of developing environmental awareness consisted of three themes: "Opinions about Environmental Awareness", "Students' Environmental Behaviors" and "Methods and Techniques Used". These three themes and their sub-themes are presented in Figure 1.

Figure 1

Theme and Subthemes



As can be seen in Figure 1, three sub-themes belonging to the theme "Methods and techniques used" were formed. These sub-themes are "Lessons, Methods and Techniques and Reasons for Use".

Teachers' Views on Environmental Awareness

Table 2

Teachers' Views on Environmental Awareness

Sub-themes	Number of People
Protecting wildlife	8
Individual responsibility	3
Healthy, happy and peaceful life	2
Responsibility	2
Requires implementation	2
Making the best use of it	1
Hard won	1
Beautify	1
Must be long-term	1
Teachers have a role	1
One of the most important behaviors that students should acquire	1

S3: "I believe that environmental awareness is one of the most important behaviors that students should gain. An individual who has gained environmental awareness will live in a happier and more peaceful environment.",

S9: "...Since these are common areas of use, it is the responsibility of all of us to use them consciously; that is, to use them without destroying, breaking, polluting or damaging them. Destruction of these places is disrespect and betrayal to other living things, future generations, the state and the public, especially forests, waters, air, parks-gardens, neighborhoods-villages, roads-cities, public areas, the environment of our homes and schools should be kept clean, protected and developed. The way to do this is education.",

S11: "It is the protection of all the assets in the environment and leaving them to the future in a beautiful way.",

S15: "Keeping the environment clean is equivalent to the civilization of societies... We all live in this environment. If we want to progress towards becoming a healthy society, we should start cleaning from our environment." Teachers perceive environmental awareness as protecting the environment and not harming natural life. They also state that raising environmental awareness is not easy.

Table 3

Teachers' Opinions on Students' Environmental Behaviors

Sub-themes	Number of People
Responsive	6
They do not harm plants and animals	6
Some students lack environmental awareness	3
Students' behavior towards the environment is negative	2
Collecting garbage on the ground	2

Sorting garbage	1
Making the best use of resources	1
They warn their friends	1
They have knowledge	1
Beautifying their surroundings	1

S3: "Unfortunately, as a family, teacher and society, we cannot raise our children as environmentally conscious individuals. Students apply the behaviors they see from their elders, and we cannot be exemplary enough for them.",

S6: "Some students have sensitivity while others do not. Some behaviors can be acquired at school as it comes from the family.",

S7: "I think that we have made significant progress in this regard and that our students exhibit positive behaviors towards the environment. I should state that environmental awareness is better in younger students than in older ones.",

S10: "I think they are and will be sensitive citizens.",

S11: "They take care to protect the green and not to pollute the environment.",

T9: "I witness that my students are sensitive in the school and garden, they do not throw garbage on the ground, on the contrary, they pick up the garbage they see on the ground. They express that they want to plant saplings, they do not collect flowers for me because they will wither, and this pleases me greatly." While the positive opinions of the teachers are predominant, it is also seen in Table 3 that there are also negative opinions.

Table 4

Challenges Faced by Teachers in Raising Environmental Awareness

Challenges	Number of People
Observing negative behaviors on the street	7
Insufficient recycling bins	4
Disposing the wrong materials for recycling	4
Degradation of the natural environment	3
Their environment is polluted	3
I have no problems	3
Students are indifferent to the environment	2

S3: "*...The wrong behaviors of the elders delay the environmental awareness of the students. We need to increase the number of beautiful environments, playgrounds and parks that we will give as examples.*",

S9: "*When they see negative examples from their own family or close environment, they are in a dilemma. Even if it is a little affected by this, it can show weaknesses.*",

S7: "*Since students are more sensitive about environmental awareness than adults, they do not have any problems. Students enjoy it.*",

T5: "*We especially have problems with environmental cleanliness, paper waste and not throwing recyclable wastes into recycling bins.*" It is seen that there are mostly problems

arising from the observation of wrong human behaviors. It is seen that three teachers in the study group did not have any problems.

Table 5

Lessons Most Used by Teachers to Raise Environmental Awareness

Lessons	Number of People
Life knowledge	13
Turkish	12
Visual arts	8
Science	7
All courses	6
Social Studies	5
Free activities	5

S14: "When necessary, in every lesson. However, it is frequently taught in Life Science lessons. In art lessons, clean and dirty environment activities are done with pictures". Teachers include activities to raise environmental awareness more in Life Science and Turkish lessons than in other lessons. Teachers do not associate raising environmental awareness with a single lesson but include it in different lessons.

Table 6

Methods and Techniques Used by Teachers

Methods and Techniques	Number of Teachers
Oral expression	7
Application	7
Travel	6
Observation	5
Question and answer	3
Drama	3
Comparison	2
Screening	2
Image.	2
Using media and communication tools	2
Theater	1
Experiment	1
Discussion	1

It is seen that the method most frequently used by teachers to raise environmental awareness is "verbal expression". "Application, travel and observation" are the other methods frequently used by teachers.

S15: "I try to teach the importance of environmental cleanliness by doing, living, seeing and practicing." Teachers generally stated that their students exhibit positive behaviors towards the environment, but some teachers stated that students exhibit unconscious

behaviors towards the environment by taking the negative behaviors of their elders as an example. Teachers stated that they conducted environmental awareness activities in "social studies, life science, Turkish, free activity, visual arts" lessons. The methods and techniques used by the teachers were determined as "lecture, demonstration, animation, application in the school environment and classroom, excursion, observation, drama, question and answer, case study". The reasons for using these methods and techniques were determined as "attracting students' attention, providing learning by doing-living, making it a habit, providing permanence, developing environmental awareness and transforming it into behavior".

Conclusion and Discussion

The interviews conducted to determine the methods and techniques used by classroom teachers to develop environmental awareness were analyzed by descriptive analysis and three themes were formed: "Views on environmental awareness", "Students' behaviors towards the environment" and "Methods and techniques used". Teachers emphasized the need for individual responsibility for environmental awareness, as well as the necessity and importance of social action. Teachers stated that the biggest difficulty they face in raising environmental awareness is the family and negative human behaviors outside. Teachers stated that the most commonly used methods and techniques for raising environmental awareness were "oral expression, practice, travel and observation". Teachers stated that they used these methods for "learning by doing living, providing permanent learning, students being active and setting an example to their environment". While the teachers emphasize the importance of practice on the one hand, it is understood that the fact that the method they use the most is oral expression is one of the main results of this research that reveals a contradiction. Similarly, in a study conducted by Artvinli (2010), it was determined that geography teachers preferred and used rote-based and teacher-centered passive teaching styles in learning-teaching processes.

Researchers have found that different teaching methods significantly increase achievement when matched to students' strengths and needs (Cronbach & Snow, 1981; Mayer, 2002; Tomlinson, 2010; Tomlinson & McTighe, 2006). For example, student-centered discussions increase achievement by providing a more informal, supportive environment for students with high levels of anxiety, while teacher-centered lessons increase achievement by providing a more effective and faster flow for students with low levels of anxiety. While the traditional method of teaching reading enriches vocabulary for students with high auditory skills and those who learn best by hearing, the whole-word approach is more effective for students with low auditory skills and those who learn best by sight. Researchers have found that teaching method increases achievement when it reflects students' preferred methods of learning (Cushner, McClelland & Safford, 2008; D'Amico & Gallaway, 2008; Darling-Hammond & Bransford, 2005; Messick, 1995) (D. Borich, Gray, Trans. Ed. M. Bahattin Acat). p. 39). For example, hands-on activities in nature are of great importance in order to instill a love of nature in students. Thus, students will internalize and remember what they see and experience (Karataş & Aslan, 2012). Aydın and Aytaç (2016) found that the environmental awareness of the students in the experimental and control groups increased; however, the posttest score increase in the experimental group students was higher than the posttest score increase in the control group students. This shows that environmental education given using creative drama method is more effective than environmental education given using existing activities and teaching methods and techniques in teacher's guidebooks.

After the application of the developed student-centered materials, a significant difference was found between the mean scores of the students' pre-test and post-test academic achievement scores. In line with these findings, it can be said that the method used to ensure active participation by putting the student at the center is effective. It was observed that students were more willing to learn, especially with activities such as station, cartoon and animation watching, concept network completion, ecological footprint calculation in computer environment, in which the whole class took an active role by creating multimedia. It was concluded that the materials that put the student at the center and enrich the learning environment with various activities within the scope of the study in the environmental education of the students were more effective in increasing the academic achievement of the students. Many studies that determine the necessity of including student-centered methods or activities in the lessons support these findings (Darçın et al., 2006; Yılmaz, 2006; Sağır, Aslan, & Cansaran, 2008; Şahin, et al., 2004).

Teachers consider learning by doing and experiencing within the scope of travel-observation as very important for developing environmental awareness. However, teachers in middle socio-economic level schools stated that they could not do such activities due to the length of the permission process; teachers in lower and middle socio-economic level schools stated that they could not do such activities due to the insufficiency of facilities; and teachers in upper socio-economic level schools stated that the lack of time and the excess of available time prevented them from doing field trips (Aydın & Ersoy, 2013).

With the renewed understanding of education, a student-centered education approach was adopted and the curriculum of each course was organized accordingly. In parallel with this, teaching methods and techniques appropriate to the new approaches have been adopted. Alternative techniques such as concept maps, questionnaires, cartoons, interviews, word association, critical reading, drawing-writing are used to reveal students' cognitive and affective concepts, thoughts and attitudes (Bahar et al., 2008; White & Gunstone, 1998; Ersoy & Türkkkan, 2010; Özensoy, 2012).

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