

## ORIGINAL ARTICLE

# Elementary School Teachers' Experience of Environmental Protection Education

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## ABSTRACT

The present study examines the teachers' experience of teaching "environmental protection" to elementary school students. Qualitative research has been done using the phenomenological method. The research population includes all teachers working in primary schools in Ahvaz. Sampling was purposeful, and after semi-structured interviews with 30 teachers, theoretical data saturation was obtained. The condition for selecting teachers was their desire to participate in research and interest in environmental topics. Interview data were analyzed using the Van Manen method to explore teachers' experience of environmental protection education. Findings include five main themes: ethics education in environmental protection, elements of environmental protection education, knowledge in environmental protection, attitude in environmental protection, and skills in environmental protection, and 15 sub-themes. According to teachers' experience, promoting and increasing students' sense of responsibility towards the environment and teaching environmental ethics is essential. It is also necessary to pay attention to human interaction and the two-way relationship with the environment and teach students that there is a kind of trade between us and nature, and if humans do not fulfill their obligations to nature, they face dangerous and unsolvable consequences. The teachers believed that, to increase students' understanding of how to preserve the environment, its harmful factors, and the consequences of polluting it, some lessons should mention environmental issues and problems and their solutions. Also, teaching aids should be prepared and used for environmental protection education. Improving students' attitudes toward the environment can motivate them to react to right and wrong environmental behaviors, make them aware of the value of nature, and ultimately lead to environmental protection.

## KEYWORDS

Education, Elementary School, Environment, Lived Experience, Teachers.



# آموزش محیط‌زیست و توسعه پایدار

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«مقاله پژوهشی»

## تجربه آموزگاران دوره ابتدایی از آموزش حفاظت از محیط‌زیست

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### چکیده

پژوهش حاضر به بررسی تجربه آموزگاران از آموزش حفظ محیط‌زیست به دانش‌آموزان مقطع ابتدایی می‌پردازد. پژوهش کیفی و با استفاده از روش پدیدارشناسی انجام شده است. جامعه پژوهش شامل کلیه آموزگاران شاغل در مدارس ابتدایی شهر اهواز است. نمونه‌گیری هدفمند بوده و پس از مصاحبه نیمه ساختمند با ۳۰ معلم، اشباع نظری داده‌ها به دست آمد. شرط انتخاب آموزگاران نیز تمایل آنها به شرکت در پژوهش و علاقه‌مندی به مباحث محیط‌زیستی بوده است. داده‌های حاصل از مصاحبه با استفاده از روش ون‌منن و برای کشف تجربه آموزگاران از آموزش حفاظت از محیط‌زیست تحلیل شد. یافته‌ها شامل پنج مضمون اصلی آموزش اخلاق در حفاظت از محیط‌زیست، عناصر آموزش حفاظت از محیط‌زیست، شناخت در حفاظت از محیط‌زیست، نگرش در حفاظت از محیط‌زیست و مهارت در حفاظت از محیط‌زیست و ۱۵ مضمون فرعی می‌شود. نتیجه این‌که بنابر تجربه آموزگاران ارتقاء و افزایش حس مسئولیت دانش‌آموزان نسبت به محیط‌زیست و آموزش اخلاق محیط‌زیستی امری ضروری است. همچنین باید به تعامل و ارتباط دوطرفه انسان با محیط‌زیست توجه نمود و به دانش‌آموزان آموزش داد که نوعی دادوستد بین ما و طبیعت وجود دارد و اگر انسان به تعهدات خود نسبت به طبیعت عمل نکند با پیامدهای خطرناک و غیرقابل‌حلی مواجه می‌شود. آموزگاران معتقد بودند که برای افزایش شناخت دانش‌آموزان از نحوه حفظ محیط‌زیست، عوامل آسیب‌زای آن و پیامدهای آلوده کردن محیط‌زیست باید در محتوای برخی دروس به مسائل و مشکلات محیط‌زیست و راه‌های حل آنها اشاره شود. همچنین وسایل کمک‌آموزشی باید راستا آموزش حفاظت از محیط‌زیست تهیه و به کار گرفته شوند. ارتقاء نگرش دانش‌آموزان به محیط‌زیست نیز موجب ایجاد انگیزه در آنها، واکنش نسبت به رفتارهای صحیح و غلط محیط‌زیستی، آگاهی از ارزشمندی طبیعت و درنهایت به حفاظت از محیط‌زیست منجر می‌گردد. آموزش مهارت‌هایی نظیر صرفه‌جویی، نحوه صحیح بازیافت مواد و مشارکت در پاک‌سازی محیط‌زیست می‌تواند موجب حفظ سرمایه‌های باارزش طبیعت و نحوه درست استفاده از آنها شود.

### واژه‌های کلیدی

آموزش، آموزگاران تجربه زیسته، محیط‌زیست، مدرسه ابتدایی.

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## Introduction

Human beings need a healthy and clean environment to continue living a healthy life. Environmental issues such as air pollution, cutting down trees, excessive use of water, and dumping waste in nature are important problems that we face today. These issues have effectively disrupted the relationship between the elements of the environment and caused the extinction of some species of plants, animals, and other members of the Earth's ecosystem. The destruction and improper use of the environment is a serious issue, and there is a risk that harmful human activities will cause the destruction of vast parts of the earth.

It is obvious that pollution does not remain within the borders of a country, and the waste and pollution of one country easily cause problems in neighboring countries, which is especially evident in the case of water and weather pollution. In addition, any major change in a natural system by humans may be harmful and even fatal for that system. This change, along with the exploitation and profit-seeking of nature, can lead to the destruction of the environment and its resources. (Sharif Yazdi, 2017: 6).

With a closer look, the factors affecting environmental protection can be categorized into four areas: cultural, economic, political, and religious. Culture is the main factor and, in a sense, the engine of sustainable development and environmental protection. Environmental health is achieved when the natural environment and human culture are related. Achieving such a goal requires the existence of environmental ethics in all sections of the country's society. Environmental ethics is the ideal behavior of human beings towards their environment, including the natural environment and the social and cultural environment (Adhami, 2016: 27).

The set of disciplinary behaviors in the context of culture will lead to different aspects of life, and, in other words, culture is the root and main structure of all-round development, and one can expect freshness and dynamism for society when this structure is done in a principled way. Environmental economics has been one of the topics of interest to economists in recent decades, but the emergence of

environmental crises has led to the emergence of this field of economics. The influence of rich countries to impose environmental costs on poor countries and reduce society's ability to find solutions to environmental problems are all factors that have occurred due to economic inequality in different countries (Herati et al., 2016). Also, the reaction to environmental issues will be ineffective without the effect of examining the bold policy issues in this field. In fact, it is governments that are emerging as a means of enforcing environmental policies. In other words, the government is a good tool for implementing environmental policies. However, the concern of governments in both developed and developing countries to promote economic growth is the increase in growth, which is the main cause of environmental damage and prevents them from playing their proper role. In addition, there are religious guidelines in many issues of human life, including the environment, and there is a significant relationship between people's religious beliefs and their performance towards the environment (Sharif Yazdi, 2017: 6).

Abedi Sarvestani et al. (2007) believe that in order to protect the environment, human behavior with nature and lifestyle should be changed. In this regard, ethics is obliged to regulate a set of behaviors as a guide for human interaction toward nature, which is expressed in the form of should and should not and the right and wrong of human behavior. According to Parishani et al. (2016), strengthening environmental ethics should be at the forefront of general desirable goals of environmental education.

The educational system, in the process of teaching responsible and appropriate environmental behaviors, can play a major role in changing the attitudes and skills of future generations. In fact, environmental education increases the power and ability of human beings to maintain and improve their living environment. Strang (2020), in his research entitled "New Environmental Ethics in a Human Perspective," seeks to create an ethical view of the environment. Also, Shobeiri et al. (2014), during their research, studied the factors affecting the creation of environmental ethics in the citizens of the world and believe that one of the influential components in the environment

is to create an attitude of environmental protection. Zafari (2013) also believes that by improving the level of knowledge and attitude of the young generation, environmental considerations can be increased.

Environmental protection education is a missing link through which the people of a society can get acquainted with all the pillars of the environment and realize the dangers of some of their actions. Education on various dimensions of the environment informs them of the growing environmental crises and determines its impact on human problems today. Therefore, they will make more efforts to protect the environment and its resources. Keramati and Ahmadabadi (2018) believe that environmental education in different courses can play an effective role in mobilizing public opinion to protect the environment and the most important task of curriculum planners in environmental protection education is to design and compile a book of activities. The focus is on environmental protection education, which promotes students' attitudes and skills about environmental protection. Kiraca et al. (2012) also emphasized in their research on the role of news in teaching environmental ethics that environmental ethics should be included in the curriculum. Callicott (2018) has concluded in his research that in order to have a healthy environment, it is necessary for different groups to cooperate with each other in order to avoid the imminent dangers that may befall human beings.

Given the growing prevalence of environmental issues, educating and promoting environmental protection among students, especially elementary school students, is necessary and inevitable in order to prevent the escalation of environmental crises. Beg Mohammadi et al. (2020) consider environmental education as one of the important indicators of achieving sustainable development, and believe that educating the young generation, especially students, is the basis for achieving sustainable development and environmental protection.

Based on this, environmental protection education in schools, especially in the elementary school, institutionalizes the culture of environmental protection. Khosravi Pour et

al. (2017) also believe that educational systems with continuous and targeted environmental education can acquaint different segments of society with major environmental concepts. Teachers, as one of the main components in the education process, play a key role in environmental education. In this research, the phenomenological method was used to study the lived experience of primary school teachers in teaching environmental protection to students.

**Study design and setting:** The present study is a qualitative study that has been done by phenomenological method. Phenomenology is an approach that describes the phenomena, objects, and experiences of a particular life as they appear. In this study, hermeneutic phenomenology with emphasis on Van Manen's perspective and method was used to examine teachers' experiences of educating environmental protection to students (Van Manen, 1997).

**Data collection tools:** In this research, semi-structured interviews were used to collect data. The reason for using semi-structured interviews is to avoid inducing the researcher's mentality in the participants and prevent the researcher from guiding the interview. Also, at the beginning of the research, the researcher explained the goals and stages of the research to the participants and obtained their consent to participate in the research.

**Study and sampling participants:** The research population includes all teachers working in primary schools in Ahvaz. Sampling was purposeful, and the condition for selecting teachers was the willingness to participate in research, their interaction and effective communication with students, and their interest in environmental topics. After semi-structured interviews with 30 teachers (19 females and 11 males), theoretical data saturation was obtained. The duration of the interview was between 30 and 50 minutes for each of the interviewees. Interview data were analyzed using the Van Manen method to explore the meaning of teachers' experience of environmental protection education.

Data analysis was performed from the first interview and in parallel with the interview. Then, all the information was carefully studied

to gain knowledge of teachers' beliefs and experiences. Then, all the words and sentences related to the phenomenon were extracted and coded, and finally, by re-reading the information and categorizing it, the themes were obtained.

### Reliability and Validity:

For the reliability and validity of the results in qualitative research, four criteria of validity (internal validity), transferability (external validity), verifiability (objectivity), and reliability are used (Bagheri Far & Salehi, 2016). To validate and increase the accuracy of data, the findings of the interviews were referred to the participants for review. In other words, to determine the validity of the findings, results were presented to the participants, and they were confirmed regarding accuracy and completeness. Furthermore, the accuracy of the data was determined by the subject experts, the subcategories were re-extracted from the interview text, and the extracted categories were compared. To increase the transferability of the findings, the researcher's multidimensionalization strategy was used by a research colleague in the process of data collection, analysis, and interpretation. In addition, by explaining the exact details of the

data collection and analysis process, data validation was performed, and to achieve reliability so that other researchers could be scrutinized in the research, all data were documented, and a final report was prepared.

**Ethical consideration:** In order to observe ethical considerations for the study participants, the purpose of the research, research method, research benefits, and voluntary participation in the research were explained, and after providing the necessary information about the research, the participant's willingness and consent for the interview were obtained. In addition, research participants were assured that the information obtained from them would be kept confidential and that the research results would be published without mentioning their names. In order to comply with this issue, the names of the participants were changed to numbers, and during the analysis of the data and the expression of the results, only numbers were mentioned.

### Research Findings

Table No. 1 shows five main themes and 15 sub-themes obtained from interviews with elementary school teachers about their experience of how to teach students about environmental protection.

**Table 1.** Main Themes and Subthemes Obtained from Data Analysis

Main theme	Sub-theme
Ethics education in environmental protection	Creating a sense of responsibility in education Creating a sense of cooperation and helping nature Creating a sense of interaction with the environment
Elements of education in environmental protection	Course content Educational aids Diverse training methods
Cognition in environmental protection	Understanding the components of the environment Recognition of environmental harmful factors Recognizing the consequences of environmental pollution
Attitudes towards environmental protection	Motivating the student Responding to right and wrong behaviors Valuable perception of the environment
Skills in environmental protection	Participating in environmental clean-up Saving Skills Training Teaching how to properly recycle materials

**1. The main theme: Ethics education in environmental protection.** The first theme that was extracted from teachers' experiences was ethics education in environmental protection. Teachers believe that moral education is the

most important part of environmental protection, and by teaching it, students can create and strengthen moral commitments to nature and the environment. This can encourage them to identify and address environmental

issues and problems. This theme includes three sub-themes: creating a sense of responsibility, creating a sense of interaction with the environment, and creating a sense of cooperation and helping nature.

**1-1. Sub-theme: Creating a sense of responsibility in education.** In examining the experience of teachers, the majority of them emphasized their sense of responsibility towards the environment. *Interviewee 1: "The teacher must be committed and sensitive to the environment." For example, whenever I see trash in the classroom, I quickly gather in front of the children so that they realize how important this issue is to me. Every time before the bell rings, I emphasize that they must turn off the classroom lights and the air conditione".*

*Interviewee 19: "The encouragement from the school for the clean class of the week was also very effective in creating a sense of responsibility in them, so much so that there was competition between the school class and the children, and this is one of my concerns. I do".*

**1-2. Sub-theme: Creating a sense of cooperation and helping nature,** in examining the experience of the majority of teachers, emphasized the role of cooperation and assistance in solving environmental problems. *Interviewer 27: "I tell the students that if each of us dumps only one garbage in a river or sea, there will be no river or sea, and we will have no place for aquatic life. Unfortunately, there are people who pollute the environment and create problems for it, and if we do not want the situation to get worse and even help to improve it, it is necessary not to throw garbage in these environments and to warn others and try to keep it clean. Do."*

*Interviewee 19: "I talk a lot in class about dealing with trees and forests, and I explain that the earth's respiration depends a lot on the trees, and it's the forests that purify the earth's air. We would have had better weather if we had not damaged the forests so much in the past. Even the warming of the earth and the creation of dust are all due to the destruction of the earth's vegetation and trees. "So we have to work together to solve environmental problems."*

**1-3. Sub-theme: Creating a sense of**

**interaction with the environment.** When expressing their lived experience, teachers emphasized the interaction and close relationship between humans and nature. *Interviewee 27: "I tell students that the environment outside our home is also part of our living environment. It is our duty to keep the outdoor environment clean and tidy. "We have no right to harm trees or animals, otherwise we will have problems in our lives."*

*Interviewer 16: "I tell students that if you want clean air, we have to have more trees on the ground and use public transportation. The kinder we are to nature, the kinder nature will be to us."*

*Interviewee 24: "I talk to students about saving water and renewable and non-renewable resources. I tell them that if we consume a lot, these resources will not reach the next generation, and even this extravagance of ours during our lifetime may lead to our own destruction." "As much as we respect nature, it is as if we have respected ourselves."*

**2. The main theme: Elements of education in environmental protection.** Teachers believed that in order to recognize the importance of environmental issues and to express ways to preserve and care for natural resources, it is necessary to make efforts in the field of education to raise awareness and raise the level of knowledge of students. In interviews with teachers and the codes obtained from them, the main theme of the elements of environmental protection education and three sub-themes of course content, teaching aids, and various educational methods were extracted.

**2-1. Sub-theme: Course content.** Most of the interviewees referred to the content of courses that can directly and indirectly help to protect the environment. *Interviewee 11: I introduce students to environmental issues in the form of science lessons on water, air, and soil. Interviewee No. 30 believes: "The concept of saving, extravagance, human communication and interaction with the environment and peaceful coexistence with it can be taught in the content of the lessons. "That means course planners and policymakers need to pay more attention to these issues."*

*Interviewee 19: "In the science class on*

*paper mills, I introduce students to how paper is produced and recycled.” “I also address the need to use resources properly to protect the environment.”*

**2-2. Sub-theme: Educational aids.** The interviewees stated that educational aids can directly and indirectly help to protect the environment. Interviewee 17: *“I use documentaries and photographs to teach students because they are very effective in learning.” “Especially if these films are about the topics discussed in class, it will make students think and reflect more.”* Interviewee 20: *“Because in elementary school, students learn more through observation, I try to use more visual aids to teach a concept.”*

**2-3. Sub-theme: Diverse training methods.** Most of the interviewees believed that various training methods should be used in environmental protection training. Methods such as questions and answers, problem-solving, field trips, the use of play and group work, and, in general, methods that engage students' senses at the same time and further contribute to environmental education. Interviewee 12: *“I usually start my education by asking students, for example, what happens if we dump garbage in nature, over-consume water, or consume a lot of electricity at peak times?” “And this is how I get the students' minds involved.”*

Interviewee 7: *“I try to teach environmental concepts by showing documentaries and educational films, performing the show by the students themselves, telling stories, and asking questions. Sometimes, I ask them to make handicrafts with disposable items or prepare wall newspapers about various environmental issues and problems. I also take the students to the flower and plant exhibition, and sometimes I take the students to the camp and give them the necessary training, which I think is very effective.” “When several different methods are used to teach a concept, children become more aware of the importance and value of the issue, and when these teachings are continuous throughout the year, they are institutionalized in them.”*

Interviewee 23: *“When we go to the park, I warn the children in advance that the trees should not be damaged and that you must remove the nylon for your own rubbish. See what happens if you all leave your waste in*

*nature.” “If all those who came to this park before us dumped garbage on the ground, we would no longer have the environment and the park and the beautiful nature to enjoy and have fun with, so we should respect it.”*

**3. The main theme: Cognition in environmental protection.** Interviewees believed that if students became aware of environmental issues and understood how their behavior and actions in relation to the environment affect animals and plants while paying attention to their actions towards the environment. They acted more cautiously. They need to know what issues and factors cause damage to the environment and what destructive consequences these factors will have for it. In interviews with teachers and the codes obtained from them, the main content of environmental knowledge, three sub-themes of environmental components, knowledge of harmful environmental factors, and knowledge of the consequences of environmental pollution were extracted.

**3-1. Sub-theme: Understanding the components of the environment.** Interviewees stated that many children do not know the components of the environment. For example, they do not know that cutting down trees can reduce air oxygen and increase carbon dioxide or that pollution from the use of personal vehicles can damage the environment. Interviewee 1: *“Some elementary school students do not consider animals to be part of the environment at all and are unaware that destructive environmental behaviors include animal abuse.” “They also do not know that the classroom and school environment are part of their environment, and they need to be diligent in keeping it clean.”*

Interviewee 20: *“Some students do not know about the components of the environment, so I always talk to them about what the environment involves and make them think and ask questions. And then give the reason for their guess. For example, in the classroom, when sound was introduced as an environmental component, loud noises were mentioned as one of the environmental pollutants. Some students said they did not know this until now.”*

**3-2. Sub-theme: Recognition of environmental harmful factors,** interviewees stated that it is necessary to increase students'

awareness of natural harmful factors. Interviewee 11: *"Many students, especially in elementary school, are unaware that unmanned vehicles cause air pollution, and this has adversely affected the breathing of animals and us humans."* Interviewee 9: *"Sometimes while teaching, I ask students to name everything that is harmful to nature, or I want them to write it on paper, and this creates a sense of competition in the classroom, and thus, They know the harmful factors better."*

**3-3. Sub-theme: Recognizing the consequences of environmental pollution,** almost all interviewees believed that it was necessary for the student to know the consequences of anti-environmental behaviors with nature on animals and plants. Interviewee 7: *"I tell students that the environment must be clean for life."* *"For example, if we dump garbage in the sea or river and pollute all the water, the environment will no longer be clean, and the fish will not be able to live in the water."* Interviewee 4: *"For example, in the camp, when we are looking for a suitable tree shade to spread the carpet, if the space under the garbage tree has been dumped or the uprooted branches of the tree have been dumped there, I explain to them that this tree was a place for birds to live". "It was no longer a place for dogs and cats to rest, but the people who came here before us polluted the environment and made it possible for us as humans and other living things to use it."*

**4. The main theme: Attitudes towards environmental protection.** Interviewees stated that it is important to develop a good attitude and relationship between students and nature in elementary school. With their direct experiences of the environment, students can empathize with nature, living things, and the environment, and feel good and positive about protecting the environment. Based on the codes obtained from the interviews, the main themes of creating an attitude toward environmental protection and three sub-themes of motivating students, reacting to right and wrong behaviors, and the value of the environment were extracted.

**4-1. Sub-theme: Motivating the student.** According to some interviewees, by implementing different methods and motivating

students, they can be taught to protect the environment. Interviewee 6: *"To motivate students, I have dedicated a box in the classroom to save paper. Papers that are white in part are collected and used for written class exams."*

Interviewee 19: *"I try to motivate students in different ways and also draw their attention to environmental issues". "Like using different methods to give information to students, interacting with them, individual or group exercises with students, etc".*

**4-2. Sub-theme: Responding to right and wrong behaviors,** most of the interviewees stated that giving feedback to the students helps them to understand how right and moral their work is or what is wrong. Positive feedback can help them make progress in their work or try to reduce their negative behavior if they receive negative feedback. Interviewee 28: *"When I see positive environmental behavior from children, I quickly show them positive feedback at the same time. In some cases, I encourage them in class and at school in front of other students or give them responsibilities in the classroom that reinforce their sense of responsibility with encouragement". "I also give prizes when the other children see them, and they are encouraged"*.

**4-3. Sub-theme: Valuable perception of the environment.** Students must understand that the environment is inherently valuable and must work to preserve it. Therefore, both the school and the family should emphasize the value of the environment and its preservation and provide the necessary education to children. Interviewee 13: *"We ask families in the parent-teacher meeting to encourage their children to be in line with the school if they take action to protect the environment."* *"For example, a student reminding others not to dump garbage in nature should not receive negative feedback."* Interviewer 27 said: *"In class, I talk about nature having a life and we have a duty not to harm it, and through the plays that are often performed by children about the right to life of plants, animals, and other creatures". "I speak for the students."*

**5. The main theme: Skills in environmental protection.** The interviewees believed that children are the most victims of



environmental anomalies, and at the same time, they are the best and most effective group for environmental protection that needs to acquire the necessary skills to do so. The early years of a child's life are a very sensitive and special period in which the attitudes, values, and skills needed to preserve and support the child's environment are formed. For example, students should be taught how to properly recycle waste, as well as the skills to protect the environment from pollutants such as air, water, and soil pollution. The codes obtained from the interviews include the main theme of skills in environmental protection and three sub-themes of participation in environmental clean-up, creating saving skills, and teaching how to properly recycle materials.

**5-1. Sub-theme: Participating in environmental clean-up.** Many interviewees stated that after mentioning environmental points and teaching them, students gradually become sensitive to environmental cleanliness and try to participate in doing so. Interviewee 21: "When we went camping after the camp was over, the children would hold plastic bags and collect all the garbage that had been produced, even the garbage that was already in the environment, and hand over a clean space, and we would leave." Interviewee 17: "We planned to leave the cleaning of the school to the students. Therefore, students from different classes took turns cleaning the school on a daily basis." "The children loved to participate in this project, and it was constantly added to the volunteers."

**5-2. Sub-theme: Saving Skills Training,** many interviewees emphasized saving skills. Interviewee 6: "In class, I point out tips for saving electricity and that you should not use high-consumption electrical appliances during peak power consumption. "I also recommend that students remind these other family members of these points and create a collective sense of savings."

Interviewee 3: "I give students creative and skillful assignments to teach economics and to instill this behavior in the student." "Like things that can be made with disposable items."

**5-3. Sub-theme: Teaching how to properly recycle materials.** Interviewees stated that students should be given sufficient information about the proper recycling of materials. Most of them referred to paper

recycling being placed in recycling bins in schools. Students should also be given the necessary information about the use of these buckets, which is usually done by the health educator and assistants. Interviewee 26: "I tell students that saving and recycling starts with your homework". "Then I'll talk about recycling other things." Interviewee 4: "At school, we collect soda or mineral water bottle caps and give them to wheelchairs". "The children were so excited that they even collected and brought bottle caps from their homes."

## Conclusion

The increase in environmental problems and crises due to human mismanagement to control nature and gain power and wealth is a solid, justified, and reliable reason for designing and implementing environmental programs. In this study, we examined the experience of teachers in teaching environmental protection to elementary students. According to teachers, the education system plays an important role in teaching environmentally friendly behaviors to reduce environmental problems and change the attitudes and skills of future generations. Raising people who are aware of, responsible for, and active in the environment is the most important and effective way to deal with environmental challenges. Teachers believed that it was necessary to promote and increase students' sense of responsibility for the environment and to teach environmental ethics. It is also necessary to pay attention to human interaction and two-way relationships with the environment and teach students that there is a kind of trade between us and nature, and if humans do not fulfill their obligations to nature, they face dangerous and unsolvable consequences. The teachers believed that in order to increase students' understanding of how to preserve the environment, its harmful factors, and the consequences of polluting it, some lessons should mention environmental issues and problems and their solutions. Also, teaching aids should be prepared and used for environmental protection education.

Improving students' attitudes toward the environment can motivate them to react to right and wrong environmental behaviors, make them aware of the value of nature, and

ultimately lead to environmental protection. Training skills such as saving, properly recycling materials, and participating in environmental clean-up can help preserve nature's valuable assets and how to use them properly. Some of the interviewees mentioned the teaching of ethics to solve environmental problems and the need to interact and communicate with nature, which is in line with the views of Abedi Sarvestani et al. (2007) and Parishani et al. (2016). The interviewees also believed that one of the important elements in teaching environmental protection is paying attention to the content of textbooks. This view of teachers is consistent with the research of Keramati and Ahmadabadi (2018) and Kiraca et al. (2012). Interviewees referred to the themes of knowledge, attitude, and skills in environmental protection, which is consistent with the research of Zafari (2013), Shabiri et al. (2014), and Strang (2020). Interviewees emphasized cooperation and assistance to nature and the environment, which is in line with Callicott's (2018) research.

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## Recommendations

- Schools and families must work together in environmental protection education. Therefore, in joint meetings of parents and educators, activities can be identified to educate and preserve the environment for students.
- Since active teaching methods are associated with group participation of students, group work in which most students participate can be used to teach environmental concepts.
- Due to the importance of environmental protection education and in order to increase the sense of responsibility in students, it is recommended to use environmental experts in schools to teach environmental protection

## Limitation

This research has been done in relation to primary school teachers in Ahvaz and its results can not be extended to teachers in other cities as well as secondary schools.

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