
The Impact of Environmental Education on The Environmental Behavior of Elementary School Students (Case Study: Students in Tehran)

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Abstract: The aim of this study is to evaluate the impact of environmental education on environmental behavior of students in elementary schools. The study was conducted in Tehran. It is a cross-sectional study and to achieve the aim of the study a questionnaire consisting of 15 questions was used. This is based on knowledge, attitudes and environmental behavior of students available to the study and was presented to two groups of students; ordinary and green schools (8 schools) which constitute about 100 students from each school. After checking the students' responses, the results of the analysis were analyzed using SPSS software. The helpful results obtained from comparison test to two independent groups (T) and test comparing several independent groups (F). The result revealed that between the two groups of green school students and ordinary ones, there is no significant difference ($P > .05$). This means that environmental education on behavior modified schools had little impact.

Keywords: Green Schools, Normal Schools, Elementary Students, Environmental Education, Tehran.

1. Introduction

The importance of the environment and its vital role in the development and advancement of various countries, including developing countries, is undeniable. Optimal use of the environment in the country can guarantee the survival and sustainable development, and lack of attention to issues that set it would ensure economic development, social, cultural and political risk faced by the country. By understanding the barriers and reducing them to strengthen incentives would lead to success in the field of environmental protection (Hui, 1995). Today,

environmental education as a solution to various social groups' issues is key term and improving the quality of the environment is considered an important component to achieve sustainable development and human factor is the most influential change agents living conditions. In our country the highest percentage of the population are young people which constitute a significant impact on training to strengthen the environmental culture and to achieve the objectives of sustainable development. Young people with various levels of education in the basic sciences, environmental compatibility and protection

of natural resources in their spirit can strengthen, increase their sense of responsibility and reasonable in such a situation, the optimal choice of various educational methods with access to the knowledge of encouraging students to study and learn can achieve the goals of environmental management. Green Management Success in the execution context, depends mostly on the development and use of training patterns as management tool. Countries should use environmental management executive strategies and appropriate use of environmental education and training facilities, changes in attitudes, desires, knowledge, skills and vision to motivate young people to create and provide the field of project environmental in the future. (Moharamnejad, 85)

The young generations of our country, which constitute the highest percentage of the population, have a significant impact in strengthening environmental education in achieving sustainable development goals and environmental culture. In this regard, environmental education starting from primary schools to improve and speed up the turning point for a sustainable future environmental protection and deformation behavior of people in society. Green School, a comprehensive educational institution which provide environmental learning at all levels of society that is going to be as basic principles and applied as needed to teach the way of living to the citizens so that they can be manifested as lifestyle skills. The green school planning and developing a comprehensive plan for environmental education in schools of 22 districts in Tehran with the participation of education offices in Tehran, took into account a series of factors, including air pollution, water, waste and energy to build a firm foundation in the urban environment for environmentally-friendly buildings of Tehran.

2. Problem Statement

Training in standards and targeted manner to reduce the environmental impact of human activities with an emphasis on sustainable development as one of the requirements of modern societies, the general policy to do so is the mentioned plan. In recent years, education in a formal sense has prevailed in the country and the number of students increased. The growth of broad transformation at all levels and quality at all levels of education also need to evolve to be more obvious. School after the family - the cultural foundation - will form the scientific and social institution. It is obvious that education started from scratches when we decide; need to focus on the family and the school as well. The school is an example of society, that children attending and completing different stages, to deal with the problems

of society are prepared. They learn to understand the facts, to acknowledge and resolve problems and realize its shortcomings and sharing responsibility. The school due to organizational training and systematic structure is suitable to build an environmental culture as long as these programs in the form of cultural and social values in different levels of society prevailed. Many experts believed that elementary school and pre-school age is the best stage to train and this procedure comprises most importantly (environmental) for educational activities in schools with a three characteristics as follow:

First, mental and cognitive development of children in that age would mentally prepare enough to learn something new and to judge each issue, and intrinsic curiosity; they are very attentive to their surroundings. Secondly, in terms of uniform curriculum across the country incorporating content in order to develop children's awareness and attention to the environment around them is an attractive job, and may be varied. Thirdly, this age group, in comparison to the total population of country are high and their collective training at the national level through school education, certainly would include the effectiveness. Although the long-term interests are public education and the environment, the time has come to attract most of the teachers' enthusiasm to this issue as a solution for the lack of basic environmental protection organizations, to think more seriously and to fix it. Because on the one hand, teachers are unfamiliar with organizations in charge of educational measures to protect the environment and environmental groups, Non-Governmental Organization (NGO) and on the other hand, they do not have any short and long term plans to train these people. If the cooperation and participation of teachers in improving the state of our environment is one of the basic strategies, then in this way people can be taught the basic concepts of environment. Thus an increase in interest would result in participation of students.

School environmental project planning, is a comprehensive plan for environmental education offices in Tehran. It started with the participation of all regions such as institutions responsible for the training and education of related organizations with different parts of the environment, to build a firm foundation for building environment metropolitan of Tehran. Usually the effectiveness of educational programs and culture in terms of short term, mid-term and long term is determined. So the author intended the performance of the process of training in a time span as short as of 201. It was evaluated and based on the results of other sectors and analysis of the preferred way to achieve generalization.

3- Importance and necessity of research

There are a lot of environmental problems and the increase is due to the inappropriate behavior of citizens and misguided policies which they have on the environment. All with the aim of improving environmental education and changes in behavior to reach citizens and the environment, because our basic problem, is lack of information and unawareness of the people and the weakness of environmental information. Most important and the best location for the education of environmental are environmental schools, because this age group make up a great deal of population that their collective training at the national level through school education will certainly have productive results. Therefore, regarding the disastrous effects of pollution and environmental degradation and human life, then the environmental education is necessary considering the impacts it would have, first to measure the level of the impact of the fluctuation on students behavior and secondly, to emphasize the importance of education because educated students placed appropriately in this regard that would address the future educated generations and promote awareness of family and society. Also individuals should be aware of the human survival and the ways to improve quality of life and understand the environmental and social justice values and approaches to protect and develop the environment on their own or in a group of anomalies in order to prevent them. This research has been done to understand this necessity.

Every education requires studies that reveal its effect and the results which are positive. An environmental education program in schools by different institutions has been carried out so far, has not been comprehensive and lacks accurate assessment and experts. Therefore, no comprehensive and independent study about the impact of this training has done. This study intended to carry out the impact of these projects that have been carried out for years. United Nations Conference on the Human Environment and Development in 1972, as Sweden is first collective efforts of 113 countries to emphasize the role of education and making people aware of environmental issues. After holding the first International Workshop on Environmental Education in 1975 in Belgrade, Yugoslavia to develop doctrine and global program for environmental education and the formation of the International Covenant on environmental education in 1977 in Georgia, as supplement the actions of the world, the effort is committed to conduct training programs for their social contacts. (Dibai, 2008: 13).

Looking at the objectives, policies and activities of the project implementation of public education and sensitization of the Environmental Protection Agency

revealed that changes in attitudes and behavior at the national and provincial authorities and community groups would results in promoting awareness and public education and empowerment of human resources. One of the main goals of the organization itself is to design and implement the policies, including the formulation of the action plan to promote awareness of planners and policy makers, to develop cooperation and coordination with agencies and environmental groups, the views of the public and to determine the priorities of different groups according to the environmental sensitive areas pervasive influencing the social groups and promotion of staff has been predicted for it. In this regard, the preparation of the plan priority is to find ways to cover a wide range of contacts. Using mass media, to influence formal and informal education, development of publications, conference and training courses, including the methods. We also offer training, raising knowledge of the environment, to be sensitive to it and change behaviors regarding environmental issues that have been considered as a priority. Audience education in priority is young people (students), officials and policy makers, trade unions, voluntary groups and women. But unfortunately, despite all the objectives and policies that have been predicted in the design, implementation is still, perhaps they should not work and get good results at the community level.

Lack of using scientific methods and collaborative environment which uses general inquiry, satisfaction with the information to spend and lack of attention to behavior change process, regardless of the views of non-functional training and educational needs of different audiences. Among other factors is the lack of successful and sustainable development education environment. Sustained engagement between organizations and institutions that are directly or indirectly involved in the field of environmental education and culture and lack of priority environmental problems in thinking and attitude of some officials and policy makers that led to the implementation of supreme programs.

Seyed Mohammad Shobeiri and Najibeh Shah Hosseini in a paper entitled "Promoting environmental education in elementary schools on the basis of a comparative study - an analysis of elementary Britain and Germany" achieved these results:

The results revealed that the UK except for countries that primary education is not considered a specific program and other academic subject taught environmental education at the margin. German environmental education as an interdisciplinary headline in your lesson planning and classroom is considered to be environmental education and Iran is

in the list of countries that make dispersal courses to teach about the environment.

4. Research Methodology

According to the study, to assess the environmental performance of schools to develop a green management program which focuses on the ideal school environment has been considered as a control sample. At the beginning of the study, field visits and monitoring of buildings and educational environment, Eco-Schools environmental education workshops in schools, questionnaires compiled based on knowledge and attitude and behavior of students is based environmental, the two groups of students were green schools and normal schools. The results of this process were analyzed using the SPSS software and test analysis to compare the two independent groups (T) and independent groups (F).

4-1- Statistical Society

The Statistical society in this study is composed of environmental and normal elementary school students in Tehran.

4.2 The sample size and sampling method

A sample of 8 schools at the primary level was selected with normal environment. Random sampling method and Cochran formula were taken into use. On the basis of the following formula, sample volume is determined to complete the questionnaire. The total number of samples was 400 students.

In this study elementary schools in Tehran were divided into four zones according to the social and cultural conditions to statistical results that are more consistent with the population. Selected zones were in the North, South, East and West, with Tehran. In each zone, a green school and a normal school were selected (the number of students considered in school choice). Following the establishment of schools, a questionnaire was prepared and distributed in the same manner between green and non-green school students. So that each grade in each school in green and normal school in every area of the same questionnaire is divided in Tehran. Based on project objectives questionnaires were distributed to evaluate the environmental management system in Green schools in Tehran. Then, based on independent variables, defined evaluation methods chosen to revise questionnaire. In order to standardize the questions of environment, the researchers benefitted from the experts and green school teachers.

Questionnaire contained 15 questions. The four option (test) is provided. According to the principles of the questions, we have tried a number of questions to be considered in such a way that on the one hand

does not cause fatigue and consequently reduce the quality of response, assessments, and on the other hand, to obtain the necessary information. Questions are designed to measures the students' knowledge and change environmental behavior (Eco-Schools and Normal).

4.3 Measuring instruments and methods of data collection

In this research we used the library studies and the survey method. The documentary approach to develop a theoretical framework is used. The main tool, a questionnaire was prepared by the professors and experts. A questionnaire to changes in behavior and the level of knowledge and attitude of students are described using statistical methods.

4.4 Data analysis method

In this study the collected data were analyzed using SPSS software and the results are presented in two parts: descriptive and inferential statistics. In descriptive statistics, parameters such as average, minimum, maximum, standard deviation has been considered. And in inferential statistical test to compare two independent groups (T) and test comparing several independent groups (F), is used.

5. Results

5.1 Information on green and normal schools students studied

In this study, 400 elementary school students from 4 green schools including Kherad, Tehrani Moghaddam, Kosar and Farhang schools and 400 elementary school students from 4 Normal School including Roshangar, Ali Asghar, Seyyed Razi and Taleghani is investigated as the population (100 N per school).

5-2- The results of environmental education on environmental behavior change of green and normal school students studied

Then the obtained information of the final analysis was analyzed using SPSS. Below is a sample response letter related to green schools and regular students.

5-3 Analysis of data to assess the environmental education on environmental behavior change of green and normal school students studied

Evaluation of graduate education is mostly out of the system as inputs to other social systems, political and economic community are considered to be indicative of this problem is that they have the necessary skills and capabilities and expected suc as environmental thought, environmental behavior, problem solving,

initiative and innovation environment, environmental responsibility and energy cooperation, etc. We can say that education has failed to meet the necessary capabilities in the knowledge society students create more problems and shortcomings of the country's other social systems stems from the shortcomings of this institution (Jahaniyan, 2008). The goal of environmental education is to change people's attitudes towards the environment upon which sustainable development plans be pursued with vigor (Tilbury.2010).

Table 1. Sample response form of students

Row	Question	Correct answer	Incorrect answer
1	A food chain is composed of what?	98	2
2	What are the living natural resources?	87	13
3	Which of the following are not recycled?	68	32
4	Which of the contamination is most evident in the big city?	89	11
5	What are natural factors causing deforestation?	85	15
6	What is the definition of environment?	75	25
7	Which of the following is the definition of the natural environment?	94	6
8	What type garbage of glass?	51	49
9	Which is not a part renewable material?	81	19
10	What is the strategy of reducing water consumption?	88	12
11	Which of these animals are not harmful for the city?	5	95
12	Which is a component of water pollution?	96	4
13	What is recycling?	95	5
14	What special waste?	51	49
15	The best way to reduce pollution of the environment and a healthy environment mean?	71	29

Environmental education can begin at a very early stage of childhood. At this stage, the child thinks the parent; the closest members of the family, community and neighborhood are familiar with the natural and man-made environments. Often in some cultures, everyone is trying to get a common philosophy, belief, value systems, and patterns of perception and to share responsibilities. The cultural patterns as individual variables are not considered in the environmental viewpoint, but are mainly trying to establish harmony between people and nature (Elshinta, 2012).

In this study, results based on information gathered from questionnaires related to green school students and ordinary have been achieved, and analyzed in SPSS software. The obtained results show that there is no significant difference between two groups. (0 / 05 <p). The results of analysis software SPSS are given in Table 2.

Table 2. The results of analysis

F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
.018	.893	-1.557	118	.122	-6.71667	4.31440	-15.26034	1.82701
		-1.557	117.606	.122	-6.71667	4.31440	-15.26064	1.82731

6. Conclusions and Recommendations

6-1- Reviews of environmental education on the change of environmental behavior of green and normal school students

In the first development plan (1989-1993), the environment was discussed in terms of quality targets that can improve and enhance the provision of quality of life and prevent irreversible damage to the environment, and restoration of past negative effects on the environment is biological, so that it fits with the fifth principle of the constitution, economic and cultural programs and projects aimed at environmental protection policies and strategies are consistent and coordinated. In order to do this, the goal was set forth in the section on environmental education and was projected as follows (MPO, 1982):

1. Institution and development of environmental libraries and centers of documentation across the country.
2. Engaging people in environmental protection programs.
3. Preparation and publication of magazines, books and brochures and regional identity and environment encyclopedias.
4. Preparation, translation, procurement and environmental education films.
5. Training of human resources at various levels of education and different periods of time.

Paired t test results indicated that the number (0.893) is higher than the level of confidence which is 0.05 (0/05 <p). This means that environmental education in schools on behavior modification and regular green has not had much impact. The 20 years perspective plan, comprehensive scientific map and

document the fundamental transformation of education on the basic concept of traditional teaching methods cannot stress that graduates will be prepared for future life. So in order to achieve this, it not only requires changes in all spheres of education, but we also need to redefine the concept of school and transformation.

Schools can play an important role in delivering environmental education to students and raise their environmental awareness. Of these, identifying and explaining the current status of environmental awareness, green and traditional school students as future generation of the country, is the first step in educating and training human resources specialist with the approach of the environment.

The results showed that the average frequency of green schools' students in comparison to ordinary schools is responding to environmental questions. These results are consistent with findings of (mahony and fitzgerad.2001-cincera2008) which state that the difference between knowledge, attitudes and environmental behavior Green and ordinary school students can be seen, due to the lack of significant differences

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Our results do not match with results such as Dunlop and his scholars as well as Watson. For the study, the researchers showed that there are the positive relationship between attitude and behavior of students (Danlop 1978, Watson 2005).

Recommendations:

1. Increasing student participation in environmental projects in schools
2. Creating green thinking among students in schools with the aim of creating more environmental protection
3. Cooperating with relevant organizations, including environmental organizations and municipalities in environmental investment to build modern schools
4. Training school students in the greater environmental protection as well as environmental interests in students's mind through proper training and planning
5. Creating competition among school children by holding competitions with environmental issues
6. Environmental education to the students in the areas of recycling, reducing energy consumption, reduction of waste production and type of pollution