



**EFFECTS OF VIDEOS ON ENVIRONMENTAL KNOWLEDGE AND
AWARENESS OF PRIMARY SCHOOL STUDENTS**

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Abstract

Over many centuries, the issue of environmental preservation has been on the top of the agenda of global and international concerns as one of the most important issues at both the national and international levels. As we look around at the area in which we live, we see that our surroundings were originally a natural landscape such as a forest, a river, a mountain, a desert, or a combination of these elements. Most of us live in landscapes that have been heavily modified by human beings, in villages, towns or cities. But even those of us who live in cities get our food supply from surrounding villages and these in turn are dependent on natural landscapes such as forests, grasslands, rivers, seashores, for resources such as water for agriculture, fuel, wood and fish. Thus our daily lives are linked with our surroundings and inevitably affects them. Because of this problem all living and Non – living things are affected and demolished day – by – day. So, it is the need of present scenario to create knowledge and Awareness about the environment. As we know that childhood stage is the base of a human person. If our early stage is safe and perfect then our future will also automatically safe and perfect. We never forget the things which we learn in our childhood stage. In this study investigators have made an attempt to study the knowledge and awareness about the Environment of Primary level students and also find out the effect of videos on the knowledge and awareness of students. The Environmental Knowledge and Awareness Scale (EKAS) was administered on 120 primary school students. Results indicate that videos play a significant role to enhance the environmental knowledge and awareness of primary school students.

Key Words: Environmental Knowledge and Awareness, Videos, Primary Level Students



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Introduction

Over many centuries, the issue of environmental preservation has been on the top of the agenda of global and international concerns as one of the most important issues at both the national and international levels. As we look around at the area in which we live, we see that our surroundings were originally a natural landscape such as a forest, a river, a mountain, a desert, or a combination of these elements. Most of us live in landscapes that have been heavily modified by human beings, in villages, towns or cities. But even those of us who live in cities get our food supply from surrounding villages and these in turn are dependent on natural landscapes such as forests, grasslands, rivers, seashores, for resources such as water for agriculture, fuel, wood and fish. Thus our daily lives are linked with our surroundings and inevitably affects them. We use water to drink and for other day – to – day activities. We breathe air, we use resources from which food is made and we depend on the community of living plants and animals which form a web of life, of which we are also a part. Everything around us forms our environment and our lives depend on keeping its vital systems as intact as possible.

We all know that our Planet is in great danger. The people of the Earth have wasted and misused natural resources of Earth. Our Government has made many plans for stopping this distortedness of the earth. Because of this problem all living and Non – living things are affected and demolished day – by – day. So, it is the need of present scenario to create knowledge and Awareness about the Environment.

Almost everything that children learn is provided in different ways by the outside world. The natural environment is a significant component in this learning process. Kids learn better when they focus first on local issues and globalize after. In this technological era ICT has great impact on all aspects of life. ICT and specially video combines many kinds of data (images, motion, sounds, text) in a complementary fashion; learning can be adjusted more easily than with other tools to the diverse learning styles and individual learning pace of students. With video, the learner has opportunity for deeper learning by being able to stop,

rewind, fast – forward, and replay content as many times as needed.

The use of video is only beginning to meet the needs of today's and tomorrow learners. Videos can help educators address the challenge of different learning styles and enhance the way in which children and youth access, absorb, interpret, process and use information. While not a panacea for good teaching, video is clearly an essential tool that can have a powerful impact on student retention of information as well as on student engagement. As 21st century learners need to learn to be global citizens and to collaborate with others, learner generated video will be a powerful tool in the hands of students (Greenberg and Zanetis, 2012).

s. As we know that childhood stage is the base of a human person. If our early stage is safe and perfect then our future will also automatically safe and perfect. Because the things which we learn in our childhood stage, never forget in our whole life.

Various studies have been conducted in this direction like Peal (1995) found in his study that the experience of teachers did not play an important role on the environmental awareness.

Attir (2003) conducted a study to compare the environmental awareness of male and female, science and art and rural and urban prospective teachers of Himanchal Pradesh. Dey, Gihar and Saxena (2004) observed no difference between the two genders on overall environmental consciousness. Kukreti and Gihar (2004) study result showed a positive effect of video – intervention on the environmental awareness of science, arts and commerce students. Chuang and Chen (2009), Devi and Singaravelu (2010), Pearson, Dorrian and Litchfield (2011) , Astalin (2011), Jadal (2012) Xu, et. al. (2013) also worked in this direction.

On the basis of above studies it can be said that maximum studies have been conducted on teacher environmental awareness while some on secondary school students. Only few studies have been conducted to know the environmental knowledge and awareness of primary level students. Therefore, to fill the gap in the knowledge there is a great need to conduct further studies in this area especially on primary level students.

Objectives

The present study is based on the following objectives:

1. To know the level of Environmental knowledge and awareness of primary level students in respect to their gender (male/female).
2. To know the effect of videos on Environmental knowledge and awareness of primary level students in respect to their gender (male/female).

Hypotheses

The present study is based on the following hypotheses:

1. There is no significant difference between Environmental knowledge and awareness of primary level students in respect to their gender (male/female).
2. There is no significant effect of videos on Environmental knowledge and awareness of Male and Female primary level students.

Research Methodology

For present research work, the researchers were used Experimental Method (One group pre-test and post – test Design) type of study.

Sample and Sampling Technique

For the present study, the sample was selected from different Primary level schools. To collect the meaningful data, the researcher has used stratified random sampling technique. In the first phase of sample selection, Ambala district of Haryana State was selected. In the second phase 10 primary level schools were selected out of all primary schools of Ambala district. Then in the third phase, total 120 primary schools students were chosen as a sample on the basis of their gender (male/female).

Tool Used

To collect the data investigators were used **Environmental Knowledge and Awareness Scale (EKAS) developed and standardized by Gihar & Sharma (2012)**. The final draft of Environmental Knowledge and Awareness Scale has 44 items spread over 10 dimensions. These dimensions are:

Part – A: Environmental Knowledge about Pollution

Knowledge about Environment, Knowledge about Air Pollution and its Effect, Knowledge about Water Pollution and its Effect, Knowledge about Land Pollution and its Effect, Knowledge about Noise Pollution and its Effect

Part – B: Awareness about Remedial Measures of Environmental Protection

Remedial Measures of Air Pollution, Remedial Measures of Water Pollution, Remedial Measures of Land Pollution, Remedial Measures of Noise Pollution, Remedial Measures of other Environmental Problems

Besides of above tool following video films were used by the investigator.

Table-1: Details of the Video films on Environmental Component Treated as Video Packages in the Study

S.No	Title of Video Film	Producing Agency	Duration	Language
1.	Environment Protection www.youtube.com/watch?v=MEn0oIL3uo0	Environment Production: Gabriella Keresxies	7min 24sec	English
2.	Environmental Awareness www.youtube.com/watch?v=dOJstdm1iOU	L'Education Environment	7min 47sec	English
3.	Science - Environment – Pollution https://www.youtube.com/watch?v=9j56H0YrQIA	Bodha Guru	10min 48sec	Hindi
4.	Save Trees www.youtube.com/watch?v=gN6w6mGDmPQ	Varun Metha Production	1min 58 sec	English
5.	Wild Animals https://www.youtube.com/watch?v=yBWp9hc_eYjE	Appu Series	2min 30 sec	Hindi

Table-2: Details of the Coverage of Content Related to Different Aspects of Environmental in the Video films treated as Video in the Study

S.No	Different Aspects	Environmental	Video Films and Coverage of Different Environmental Aspects
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		Film1	Film2	Film3	Film4	Film5
1.	Knowledge about Environment	√	√	√	√	—
2.	Knowledge about Air Pollution and its Effect	√	—	√	—	—
3.	Knowledge about Water Pollution and its Effect	√	—	√	—	√
4.	Knowledge about Land Pollution and its Effect	√	—	√	—	—
5.	Knowledge about Noise Pollution and its Effect	√	√	√	—	—
6.	Remedial Measures of Air Pollution	√	—	√	√	—
7.	Remedial Measures of Water Pollution	√	√	√	—	—
8.	Remedial Measures of Land Pollution	√	√	√	—	—
9.	Remedial Measures of Noise Pollution	√	—	√	√	—
10.	Remedial Measures of other Environmental	√	—	√	√	—

Problems

Statistical Treatment

In order to make the inquiry exact, precise and scientific the collected data were analyzed with the help of Mean, S.D, and ‘t’ test.

Table – 3: Pre – test Mean and S.D Scores of Primary Level Boys and Girls Students on Different Dimensions of Environmental Knowledge and Awareness Scale (Part – A)

S.N.	Dimensions	Primary Boys Students (N=59) Mean	Level SD	Primary Girls Students (N=59) Mean	Level SD	‘t’ value (df 118)
1.	Environment	3.54	0.81	3.47	0.86	0.43 NS
2.	Air Pollution and its Effect	2.54	0.75	2.68	0.76	1.05 NS
3.	Water Pollution and its Effect	3.05	0.87	2.85	1.03	1.13 NS
4.	Land Pollution and its Effect	2.91	0.65	3.01	0.76	0.78 NS
5.	Noise Pollution and its Effect	3.20	0.78	3.24	0.76	0.30
6.	Overall Environmental Knowledge about Pollution	15.25	2.29	15.27	2.58	0.05 NS

Table-3, depicts that primary level boys and girls students scored more or less similar mean values on the different dimensions of Environmental Knowledge and Awareness Scale (Part – A) like air pollution and its effects, water pollution and its effects, land pollution and its effects and noise pollution and its effects as well as on overall environmental knowledge about pollution. It means sex has no influence on the environmental knowledge of primary level students.

Table –4: Pre – test Mean and S. D Scores of Primary Level Boys and Girls Students on Different Dimensions of Environmental Knowledge and Awareness Scale (Part – B)

S.N.	Dimensions	Primary	Level	Primary	Level	Girls	't' value (df 118)
		Boys Students (N=59)	Students	Students	Students		
		Mean	SD	Mean	SD		
1.	Remedial Measures of Air Pollution	3.20	0.86	2.98	1.13	1.19	NS
2.	Remedial Measures of Water Pollution	3.32	0.68	3.39	0.66	0.58	NS
3.	Remedial Measures of Land Pollution	3.38	0.78	3.19	0.83	1.30	NS
4.	Remedial Measures of Noise Pollution	3.47	0.65	3.57	0.71	0.79	NS
5.	Remedial Measures of other Environmental Problems	5.84	1.17	6.04	1.21	0.92	NS
6.	Overall Awareness about Environmental Protection	19.23	2.48	19.19	2.49	0.08	NS

NS: Not Significant

Table 4, reveals that no significant variation exists between the boys and girls primary level students environmental awareness on remedial measures of air pollution, water pollution, land pollution, noise pollution and other environmental problems dimensions as well as overall awareness about environmental protection of Environmental Knowledge and Awareness Scale(EKAS). Table 4.5, further reveals that boys and girls primary level students had scored almost similar mean values on all the dimensions. It means boys and girls are equally aware about their environment.

Table – 5: Pre- test and Post – test Mean and S.D Scores of Primary Level Boys Students on Different Dimensions of Environmental Knowledge and Awareness Scale (Part – A)

S.N.	Dimensions	Pre-test Scores of		Post-test Scores of		't' value (df 116)
		Boys Level Students (N=59)	Primary Students	Boys Level Students (N=59)	Primary Students	
		Mean	SD	Mean	SD	
1.	Environment	3.54	0.81	3.93	0.25	3.53*
2.	Air Pollution and its	2.54	0.75	3.00	0.45	4.04*

3.	Effect Water Pollution and its Effect	3.05	0.87	3.27	1.04	1.25 NS
4.	Land Pollution and its Effect	2.91	0.65	3.61	0.58	6.17*
5.	Noise Pollution and its Effect	3.20	0.78	3.86	0.34	5.96*
6.	Overall Environmental Knowledge about Pollution	11.67	1.45	15.25	2.29	5.38*

**Significant at .01 Level of Significance*

An examination of the table-5, infers that the post-test scores of primary level boys students were significantly higher than their pre-test mean scores, except water pollution and its effects dimension. In case of all dimensions i.e. knowledge about air, land, noise pollution and their effects and overall knowledge about environment the post -test mean values of primary level boys' students were found significantly higher mean values than their pre-test mean values. It means video is an effective determinant of knowledge about environment. Same results are observed in Karpudewan, et.al.(2014) study.

Table –6: Pre – test and Post – test Mean and S.D Scores of Primary Level Girls Students on Different Dimensions of Environmental Knowledge and Awareness Scale

(Part – A)

S.N.	Dimensions	Pre-test Scores of Girls Primary Level Students (N=61)		Post-test Scores of Girls Primary Level Students (N=61)		't' value (df 118)
		Mean	SD	Mean	SD	
1.	Environment	3.47	0.86	3.85	0.51	2.96*
2.	Air Pollution and its Effect	2.68	0.76	3.03	0.54	2.93*
3.	Water Pollution and its Effect	2.85	1.03	3.57	0.69	4.53*
4.	Land Pollution and its Effect	3.01	0.76	3.65	0.51	5.46*
5.	Noise Pollution and its Effect	3.24	0.76	3.91	0.27	6.48*
6.	Overall Environmental	15.27	2.58	18.03	1.26	7.50*

Knowledge about
Pollution

**Significant at .01 Level of Significance*

In table-6, the comparison between the data of pre – test(before seeing videos) and post-test (after videos) of primary level girls students on knowledge about air, water, land and noise pollution and their effects as well as overall knowledge about environmental pollution reveals a significant variation at .01 level of significance (t=2.96, 2.93, 4.53, 5.46, 6.48, 7.50 respectively p=.01). In all the dimensions like knowledge about air, water, land, noise pollution and their effects and overall knowledge about environmental pollution girls’ students had scored higher mean values after getting videos.

Table –7: Pre – test and Post – test Mean and S.D Scores of Primary Level Boys Students on Different Dimensions of Environmental Knowledge and Awareness Scale

(Part – B)

S.N.	Dimensions	Pre-test Scores of Primary Level Boys Students (N=59)		Post- test Scores Primary Level Boys Students (N=59)		‘t’ value (df 116)
		Mean	SD	Mean	SD	
1.	Remedial Measures of Air Pollution	3.20	0.86	3.96	1.82	2.90*
2.	Remedial Measures of Water Pollution	3.32	0.68	3.89	0.35	5.72*
3.	Remedial Measures of Land Pollution	3.38	0.78	3.88	0.32	4.55*
4.	Remedial Measures of Noise Pollution	3.47	0.65	4.00	0.00	6.26*
5.	Remedial Measures of other Environmental Problems	5.84	1.17	7.74	0.54	11.32*
6.	Overall Awareness about Environmental Protection	19.23	2.48	23.49	0.75	12.62*

**Significant at .01 level of Significance*

Table-7, depicts the data of pre-test and post-test of primary level boys students on awareness about remedial measures of air, water, land, noise pollution, and others

environmental problems and as well as overall awareness about environmental protection a significant variation was found at .01 level of significance ($t = 2.90, 5.72, 4.55, 5.46, 6.26, 11.32$ respectively $p=.01$). In all the dimensions i.e. awareness about remedial measures of air, water, land, noise pollution and others environmental problems as well as overall awareness about environmental protection boys students had scored higher mean values after getting videos than their pre – test mean scores.

Table – 8: Pre – test and Post – test Mean and S.D Scores of Primary Level Girls Students on Different Dimensions of Environmental Knowledge and Awareness Scale (Part – B)

S.N.	Dimensions	Pre-test Scores of Primary Level Girls Students (N=61)		Post-test Scores of Primary Level Girls Students (N=61)		't' value (df 119)
		Mean	SD	Mean	SD	
1.	Remedial Measures of Air Pollution	2.98	1.13	3.90	0.30	6.14*
2.	Remedial Measures of Water Pollution	3.39	0.66	3.95	0.21	6.31*
3.	Remedial Measures of Land Pollution	3.19	0.83	3.86	0.38	5.73*
4.	Remedial Measures of Noise Pollution	3.57	0.71	3.98	0.12	4.44*
5.	Remedial Measures of other Environmental Problems	6.04	1.21	7.91	0.27	11.78*
6.	Overall Awareness about Environmental Protection	19.19	2.49	23.62	0.71	13.36*

**Significant at .01 level of Significance*

A perusal of table-8 reveals that in respect of the pre- test and post-test mean scores of primary level girls students on awareness about remedial measures of air, water, land, noise pollution and other environmental problems as well as overall awareness about environmental protection a significant variation was found at .01 level of significance. In all the dimensions of environmental knowledge and awareness scale girls students had scored higher mean values on the post- test after getting videos. It means videos play a significant

role to enhance the environmental awareness of girls' students.

Figure – 1: Bar Graph Showing Pre – test and Post – test Mean Scores of Primary Level Boys Students on Environmental Knowledge and Awareness

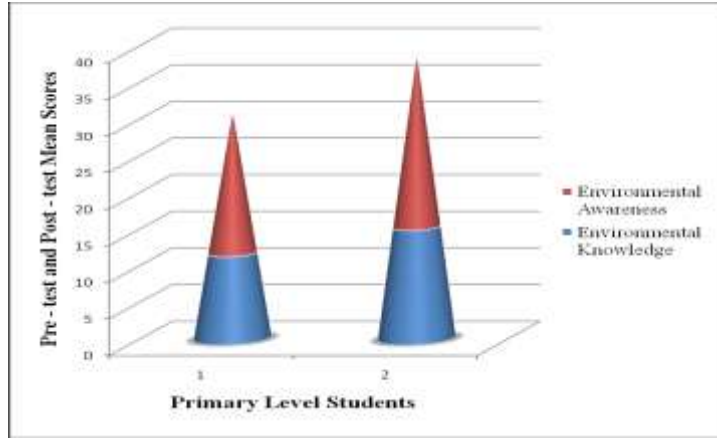
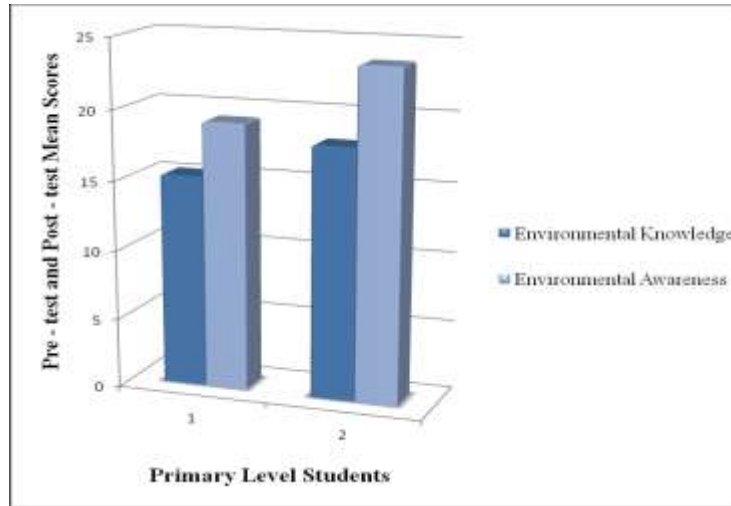


Figure -2: Bar Showing Pre – test and Post – test Mean Scores of Primary Level Girls Students on Environmental Knowledge and Awareness



Main Findings

The first null hypothesis is that “there is no significant difference between Environmental knowledge and awareness of primary level students in respect to their gender (male/female)” partially accepted and partially rejected. The findings related to above hypothesis are as follows:

- No significant difference was found between primary level boys and girls students on all the dimensions of Environmental Knowledge and Awareness Scale (Part – A).

It means sex has no influence on the environmental knowledge of primary level

students.

The second null hypothesis is that “there is no significant effect of videos on Environmental knowledge and awareness of male and female primary level students” is partially accepted and partially rejected. The findings related to above hypothesis are as follows:

- A significant effect of videos was observed on the environmental awareness of male and female primary level students. After watching the videos all male and female primary level students environmental knowledge was increased on all the dimensions of Environmental Knowledge and Awareness Scale (Part – A) except only one dimension i.e. knowledge about environment.

Educational Implication

Our society is becoming environment conscious. Environment education is one of the steps being taken for the sustainable development of environment. Teaching the children about the possible dangers of environmental degradation threats globally faced with help of modern techniques will serve as the launching pad in this field. Moreover industries too are stepping ahead nobly for environment conservation. Green IT is a persuasive step taken by the industry to make it environment friendly. It will help in reduction of generation of electronic products to a much larger extent. There is no difference in retaining the concepts among male and females which can make us also to conclude to a other fact that society has created the concepts of difference in retention among male and female and given created the gender biasness. In human life a person has maximum retention power during his childhood stage. Moreover human memory thinks and constructs ideas and thoughts into images not figural context leading to behavioral changes. The environmental awareness of primary school children increases after watching the videos and film strips. This is a result of better understanding due to use of ICT rather than theoretical way of teaching. The introduction of ICT at primary level for increasing environmental awareness is a basic step to improve teaching methodology. In a nutshell it can be said that when schools follow two way process of instruction i.e. theory and practical, in practical part along with the activities of the school should use video packages based on different aspects of environmental education. Researchers have proved that when more than one sense organs is involved in learning, the learning becomes easy and that visual apprehension of any object or theme is fixed

permanently in the memory and such topics or themes can be retained for a larger period.

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