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**Effect of Environmental Education to School Children Through  
Animation Based Educational Video**

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**Abstract**

The researchers have developed an animation based educational video on Global Warming and Climate Change. It was screened and elaborately discussed with selected school children in Coimbatore. Experimental method was used in this study to study the effect between control and experimental group of students. For this study, forty samples were taken from fourth and fifth standard students of the selected schools in Coimbatore city.

The primary data, results and analysis of the study clearly shows that the school curriculum, teaching methodology and exam system provide theoretical knowledge rather than demanding productive actions.

The video, with its content, preparation and presentation, eliminated the regular routine teaching system and made them react and respond towards the environment. Its reach was greater than the conventional method of delivering content. It influenced the school students to react towards global warming.

The conventional system of education in India reduces the intensity and essence of the subject with its major concentration on theoretical aspects and examination. At the grass root level, technology-oriented education like animated video effectively influences the students to act.

The results clearly show that at knowledge level there is no significant difference between the experiment and controlled group of students. But at the application level there is a significant difference between the experiment and controlled group of students because communication with new technology-based education and application-based curriculum motivate the students to respond to the burning issues of global warming and climate change.

## **Introduction**

Media plays the role of a facilitator of development, disseminator of information and an agent of change in the society. It plays a key role in spreading the true message of issues of environmental awareness and presenting it consciously.

In order to bring about environmental awareness and promote environmental education among all sections of the society, a scheme was launched in 1983-'84.

The aim of this study is to measure the effect of media in creating environmental awareness among school students. It is common practice that any social change to be introduced to the society is incorporated in the school curriculum with an assumption that it will lead to generational change.

## **The Focus of This Study**

In the present scenario of school education, however, teachers, parents and students are more focused on high scores and results. So, the purpose of the curriculum has failed in many aspects. Curriculum in the current classroom setup is highly rigid, having very little or no scope for experimentation, firsthand experience, divergent thinking and tactic knowledge and is devoid of creativity, decision-making and problem solving ability. In the same manner environmental subject is incorporated in the school curriculum from 1980's.

Previous researches about environmental issues among school students clearly showed that at the knowledge level, the scores obtained by school students were above average. At the same time questions arose as to how much students applied their knowledge to meet practical ends, and what they have really learned and fully comprehended about environment in their day today life. Through this preliminary study the researchers have tried to understand the fact behind the innovative approach of teaching in comparison with conventional teaching - learning process. The goal was to measure how much the animation-based educational video could effectively motivate the students to act on environmental issues. The facts were measured.

Here we have employed certain technical terms and researchable concepts. These have to be defined delimiting their shades of operational meaning which will, in turn, improve the readability of the present work.

### **Explanation of Terms Used**

The term “Educational Video” refers to the video which was purposefully designed and developed to educate the school children between the age group 7 and 11 years, which comes under Piaget’s third stage of cognitive development called as concrete operational stage (Piaget and Inhelder 1969). During this stage, children begin to think logically but are unable to think in abstract forms. Their thought processes are limited to concrete objects and events. However, they are able to understand the cognitive concepts such as number, classification and conservation. During the concrete operational stage children deal with “concrete objects” rather than abstractions when they consider change (Forman & Kushner, 1977). They must either see or imagine objects. The assumptions of Piaget’s theory, instructional design method and animation technology are used to create environmental awareness and enable them to act on the information they received.

Another word used is “Environmental Awareness.” Here environmental awareness does not simply mean knowing or acquiring knowledge about environmental issues. Instead it lays emphasis on to what extent students act to reduce and solve the environmental problems as individuals.

### **Review of Literature**

Dr. I. Arul Aram (2009) has made a study on “Creating climate change awareness at grassroots. His study is based on an exposure visit to Puri district of Orissa about the super cyclone of ’99. His study is based on observation and in-depth interviews on climate change awareness in the coastal villages of Orissa affected by climate change.

A comparative study of Environmental coverage in Indian Newspapers has been made by Dr. A. Santha, et al. (2009). In this study, news coverage pertaining to environment in two Tamil newspapers and two English newspapers were collected, categorized and quantified. During the study period of one month, it was found out that the environmental procedure followed by the Government and the environmental problem per se were the subjects of higher emphasis than all other subject matters in most of the newspapers.

According to the Department for International Development, WWF for Nature India has carried out a project during the period of 1994-97 in India on “Environmental awareness and education through mass media communication programme” ([www.wwfindia.org/](http://www.wwfindia.org/) fund reference 149-680-111).

One of the most effective ways of getting the message across to the largest possible audience in a country as vast and diverse as India is through the mass media, including television and the English and vernacular press. Both these media have the potential of being extremely effective tools for environmental communication, but have not been sufficiently exploited for this purpose so far.

In comparison with the above studies, the present study is unique in its way as it concentrates on the school curriculum, children and environment.

## **Methodology**

Coimbatore is one of the largest cities in the state of Tamilnadu and is located along the Western Ghats. Coimbatore district has 3277 schools. Among them we identified one school to represent the major domain of Matriculation school system, the R.V.S. Matriculation Higher Secondary School. There, we identified Fourth and Fifth standard students as subjects for the study. Out of 320 students in these classes, we identified 40 students by simple random sampling. 20 from each standard. Among them boys and girls were in equal numbers. Out of 40 students, 20 of them have been considered as control group and 20 as experimental group. At this level also both the sex are in equal numbers.

The curriculum of these standards includes environment and related issues.

Prior to collection of primary data through a questionnaire, we screened the well-designed educational video documentary on environmental awareness to the experimental group.

The questionnaire was developed with 30 items. It has 3 sections, each dealing with knowledge, understanding and application. The questionnaire was employed and the primary data were collected from both experimental and controlled groups for the study. The data obtained through the questionnaire by administering the tool was been classified, processed and analysed quantitatively and qualitatively by applying statistics.

The statistical tool applied for this analysis is “t” test. It has been applied in the study in order to understand whether there is any significant difference between the control group, those who acquire knowledge by regular curriculum, and the experimental group who have come across well designed educational video film as well as regular curriculum about environmental issues.

The following are the results of the generated primary data from control and experimental groups.

Based on the data collection followed by analysis, the table shows the output of analysis.

**Table 1** Average score between control group and experimental group of the selected school students.

DIFFERENT GROUPS	DIEFFERENT DOMAIN	DOMAIN AVERAGE SCORE (%)	OVERAL AVERAGE SCORE (%)
CONTROL GROUP	KNOWLEDGE	86	83
	UNDERSTANDING	<b>83</b>	
	APPLICATION	<b>80</b>	
EXPERIMENTAL GROUP	KNOWLEDGE	87	89
	UNDERSTANDING	<b>84</b>	
	APPLICATION	<b>96</b>	

The collected data were coded, analysed and scored separately .The average score of the control group is 83% and that of experimental group is 89%. There is a difference in the score of both groups only at the application level. However, at the knowledge level and understanding level both have scored almost equally.

**Table 2 Means Score Difference Between Control Group and Experimental Group of the Selected School Students.**

DIFFERENT GROUPS	NUMBER	MEAN DIFFERENCE	STANDARD DEVIATION	T VALUE	LEVEL OF SIGNIFICANCE AT 0.05
CONTROL GROUP	<b>20</b>	<b>18.48</b>	<b>4.368</b>	<b>1.521</b>	<b>SIGNIFI CANT</b>
EXPERIMENTAL GROUP	<b>20</b>	<b>16.41</b>	<b>4.078</b>		

Table 2 shows the mean score difference in environmental awareness between the groups based on the application among the selected school students. The difference mean score between the Language in India [www.languageinindia.com](http://www.languageinindia.com) 14  
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groups (“t” value – 1.521) is statistically significant at 0.05 levels. So, it can be concluded that the educational video does influence the students on the application side of environmental issues.

## **Conclusion**

The innovative delivery system in teaching at schools is effective. It creates significant a difference comparative to our own conventional teaching learning method about environmental issues.

This is a preliminary study and also it is a pioneering attempt to study the effect of educational video on environmental issues among school students of concrete operational stage of thinking in Coimbatore. It is evident that there is a significant difference between control group and experimental group. Even though students of both the groups have studied the same curriculum, have acquired knowledge about environmental issues, secured and good marks in exams, the day to day application was missing in one group. The educational video has influenced the other group to act upon environmental issues, to adapt things in day to day life and also enabled them to speak to others about environmental issues.

So, the study clearly shows that:

1. There is a significant difference between control group and experimental group towards environmental issues at the school level. So, the animated educational video on climate change and global warming is effective.
2. School curriculum should focus more on knowledge and application about environmental issues.
3. Existing Curriculum deals more about facts and figures of environmental issues than on day today applications.
4. Using new media for teaching significantly influence the selected students .

A reconfiguration of the learning environment using technologies such as animation-based video at several stages of schooling may provide better scope for the expression of student’s understanding and application of the phenomenon he or she learns.

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