Impact of Multimedia Teaching Strategies on Environmental Awareness

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The present study is conducted to study the level of awareness regarding environment of secondary school students and the impact of multimedia teaching strategies on environmental awareness. The design of the study is experimental in which 47 students of class IX of school in Patiala has been selected by purposive sampling technique. The sample is further divided into two groups: Group A and Group B of 23 and 24 students respectively equating them on the basis of their academic achievements in the previous class. Group A is taught about the environment by the previous method of teaching, i.e., by using the black board and lecture method, whereas Group B is taught with the use of multimedia. One point is to be noted that the subject matter is the same which is taught to both of the group. The subject matter is already designed by the researcher. Whatever is taught to both of the groups, it is taught for one month. After one month, a questionnaire is given to each student and collected from each one. This questionnaire was prepared by the investigator and it was personally collected by the investigator through interview. EAAM (Environment awareness ability measure) test by Dr. Parveen Kumar Jha is used to check the environmental awareness of the students. This test is taken from all the students twice: before and after the treatment, just to find that to what extent Group A and Group B is improved. The ultimate finding of this research is that multimedia teaching strategies have improved the environmental awareness level of the students.

Introduction

Modern era is full of techniques but in danger of global warming as well. Our beautiful planet is going to be a history in the books soon if present condition is ignored. Urgent cure is needed by our very sick planet. Unless some serious step is taken it would become uninhabitable. Advancement of technology in teaching can be the best help to train young minds for the awareness about environment. The present study is conducted to check the level of awareness of secondary school students regarding environment and the impact of multimedia teaching strategies on environmental awareness.

Operational Definitions

impact

Word ‘Impact’ refers to the force exerted by a new idea, concept, technology, or ideology.
Multimedia

Multi-media mean the use of more than two media of communication in a learning package or instructional procedure. The term multi-media for teaching-learning may be referred to the use of appropriate and carefully selected varieties for learning experiences which, when presented to the learner through selected teaching strategies, will reinforce and strengthen one another in such a way that the learner will achieve predetermined objectives in an effective way.

Environmental Awareness

It refers to the awareness in students’ about pollution-their causes, effects and their remedies, natural resources, global warming, green house effect, food adulteration, etc.

Emergence of the Problem

It is felt by the researcher that education can play a vital role if the students in the classroom are made actively responsible for maintaining and preserving the environment. Whatever is taught by the teacher about the environment, students can understand more if they are given knowledge by the use of multimedia. This created the interest of the researcher in the chosen topic.

Statement of The Problem

Impact of Multimedia Teaching Strategies on Environmental Awareness.

Objectives

1. To study the level of awareness regarding environment of secondary school students.
2. To study the impact of multimedia teaching strategies on environmental awareness of the students.

Hypothesis

Multimedia teaching strategies will improve the environmental awareness of secondary school students.

Deliminations of the Study

1. The area of the study will be restricted to Patiala only.
2. Only students of secondary class will be selected for the study.

Review of Related Literature

Gong et al (2007) has been used Multimedia English teaching method among colleges in China to set up a harmonious and high effective teaching atmosphere in the English class to make students take part in the practice. The study focused on multimedia teaching method and can fulfill the target of college English teaching by utilizing modern education technology. Because of the powerful functions of the computer, multimedia teaching method has modularisation, intelligence and interaction, students can talk with the virtual characters set by the computer. Students can correct their own mistakes,’ interest of self-study in English will be strengthened, and their ability of speaking and listening to English will be also heightened.

Kannan and Husain (2008) conducted a study of effectiveness of use of computer technology in teaching the concepts of physics at senior secondary level. The objective of the study was to
study how far the computers help the children in their intellectual development like critical thinking and problem solving. The study was based on a sample of 50 students and found that the computer helped the children in their intellectual development like critical thinking and problem solving.

Singh and Mishra (2009) conducted a study on effectiveness of e-learning: an experimental study. The objective of the study was to compare performance in theory courses, namely, essentials of educational technology and management of B.Ed. students provided interest facility along traditional teaching and B.Ed. students taught through simple traditional method. They found that e-learning may be effective in developing cognitive ability of pupil teachers.

Rafeedali (2009) conducted a study on computer-based technology and its pedagogical utility. The objective of the study was to find out the extent of use of computer resources in the teaching-learning process among the higher secondary school teachers. The sample selected for the study was 300 teachers of higher secondary schools from the Malappuram district of Kerala and found that computer is very helpful device for evaluation but only a small percentage of higher secondary school teachers are using computers for evaluation.

Nimavathi (2009) conducted a study on developing study habits through multimedia program. The objective of the study was to prepare multimedia program for the teaching of science at secondary level. The sample of the study consisted of 180 students studying ninth standard in three different schools under state board syllabus in Thiruvannmalai district of Tamil Nadu. The study revealed that there is no significant difference between the experimental group and control group in their study habits at the posttest. The students of the experimental group fared better in their study habits than the students of the control group. This shows that the students learning through multimedia fared better in their study habits than the students learning through the conventional method.

Hema (2014) conducted a study on effectiveness of multimedia strategies in learning botany at higher secondary level. She found that the learning of the students is better with the use of multimedia teaching strategies than that of old traditional methods of teaching biology.

**Methods and Procedures**

**Design**

The design of the study is experimental.

**Population**

The present study has been confined to Patiala district.

**Sample**

A sample of 47 students studying in IX class of secondary school in Patiala has been selected by purposive sampling technique. The sample will be further divided into two groups: Group A and Group B of 23 and 24 students respectively equating them on the basis of their academic achievements in the previous class.
Tools and Techniques

EAAM (Environment awareness ability measure) test by Dr. Parveen Kumar Jha was used to check the environmental awareness of the students. This test has 51 items. It has 43 positive and 8 negative items. Items are available in English and Hindi both. The responses were scored by using “Agree/Disagree” categories.

Scoring

There are 51 items in Environment Awareness Ability Measure (EAAM). Each agreed item carried the value of “1” mark and each disagree item of “zero” mark but the negative items were scored inversely. Thus, on the total scale the scores ranged between 0 to 51, these scores are further converted into the percentages. The scale gives a composite score of Environmental Ability of the subject. Negative items were indicated by star mark.

Statistical Techniques

After all the necessary data for each of the test is used in the study was collected and scrutinized, scores were tabulated for finding out the nature of the test scores of all the variables under consideration. The measures of central tendency, mean percent scores and standard deviation were measured. To determine the significance of difference between the Control and Experimental group, “t” test was applied. To test the significance of “t” value the following levels of significance was established.

a. 0.05 level of significance,
b. 0.01 level of significance.

Analysis, Interpretation of Data and Discussion of Results

The present research work aims to find out the impact of multimedia teaching strategies on environmental awareness of secondary school students. The data analyzed statistically is given in the subsequent pages related to environment awareness.
The hypothesis formulated for the investigation was as under:
“Multimedia teaching strategies will improve the environmental awareness of secondary school students.”

The data is analyzed, interpreted and discussed to test the above hypothesis.

**Description of Data**

The description and distribution of scores have been presented in terms of mean percent scores, Standard deviations, “t” test etc.

Table in this page present the mean percent scores of subjects belonging to different groups. Based on the mean percent scores of subjects, corresponding figure has been prepared. This table and figure provide analytical statistics concerning the impact of multimedia instructions on environmental awareness in a convenient manner in order to ensure better understanding of the results.

**Analysis and Interpretation of Data**

On the following pages, all the data is analyzed and interpreted in form of table and figures. So that we can get analytic statistics concerning the impact of multimedia instructions on the environment awareness level. This will lead to better results.

<table>
<thead>
<tr>
<th>Group Variables</th>
<th>N</th>
<th>Cont Gp (N=23)</th>
<th>Expt Gp (N=24)</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ± S.D.</td>
<td>47</td>
<td>83.86 ± 5.39</td>
<td>89.72 ± 4.97</td>
<td>4.07*</td>
</tr>
</tbody>
</table>

Values indicate Mean ± S.D.
N = Total number of subjects
n = Sub number
* = Significant difference (at 0.01 level)

Table shows the mean percent scores of all subjects belonging to control and experimental groups. As evident from the table that the difference between the mean percent scores of two groups i.e. control group and experimental group was significant.

Figure also shows the same picture i.e., the mean percent scores of subjects of Experimental groups are higher as compared to control group.

The obvious reason for the difference in mean percent scores of the two groups is that multimedia teaching strategies improve the environmental awareness of the students as compared to the classical method of teaching. Use of multimedia teaching-learning process has psychological basis. In it variety and newness of multi-media motivates the students for learning.
Conclusion

It is concluded that all students of control and experimental group have environmental awareness. But the mean percent scores of all the subjects of experimental groups are found to be higher as compared to control group. The obvious reason for the difference in mean percent scores of the two groups is that multimedia teaching strategies improve the environmental level of the students. Use of multimedia in teaching-learning process provides better learning environment. Variety and newness of multi-media motivate the students for learning.

Suggestions for the Better Environmental Awareness

The suggestions for promoting better environment awareness are:

1. Education should play a positive role in protecting our environment.
2. Environmental education should be given due importance in curriculum. There is a dire need to educate our masses through environmental education.
3. Effective teacher participation is highly essential for the promotion of environmental education.
4. Teacher training programmes should include the necessary knowledge, skill, values & commitment among the teacher so that they become effective environmental educators.
5. In this computer era, rural environmental problems can be well analyzed through satellite system etc. and the desertified villages can be transformed into greener ‘Oasis’.
6. Role of multimedia in promoting environmental awareness should be emphasized i.e., Radio, Television, Internet and press should disseminate environmental information.
7. We need to approach through formal and non-formal levels of environmental education. A lifelong education is needed as a response to changes in a rapidly changing world.
8. Several NGO’s should adopt a political approach and their activities should be confined to opposing certain developmental projects which are likely to lead to deforestation, degradation, displacement of people etc.
9. The participatory approach to environmental protection can be strengthened through decentralized planning which provide opportunity for the rural communities to effectively participate in the development process, provided the environmental issues are made a part of local plans.

10. The steps necessary for managing common property resources of the area in the equitable & sustainable manner need to be emphasized. The local community should maintain biodiversity register to monitor the impact of development as well as safeguard their individual property rights.

11. Environmental protection should actually become a people’s movement. Village communities can play a very useful role. Village communities can do a lot in their own way in many areas of environmental protection such as protection of common property resources, restoration of tanks and population control and can be also play an important role in popularization of ecotechnologies.

12. Water harvesting, water shed management and the efficient and economic use of water should receive over-riding priority.

13. Waste management and sustainable lifestyles are needed because of their implication for achieving the ecological balance of the rural areas.

14. Local bodies need to incorporate in their plans the mechanism to prevent loss of top soil, depletion of ground water, pollution of lakes and rivers, deforestation, loss of grazing lands, conversion of forest into agricultural land & prevention of air and water pollution.

15. Environmental, ecology and development have to be integrated to meet the needs of society. Non government organizations have an important role in environmental protection and have, infect, to become quite influential in developing countries. They can play a very useful role in creating environmental awareness, planning safe environment strategies, monitoring environmental regulations and accounting for legal liability enforcements.

**Suggestions for Further Study**

The present study was conducted with certain limitations. It is therefore, suggested that the further investigation in the direction may be taken up with the following suggestions:

1. This investigation was restricted to school students only, the some study can be extended to college and University levels also.

2. The same study can be extended on teachers, in service & pre-service.

3. It is suggested that similar investigation may be extended to different age groups, which may reveal different results.

4. The study can also be extended to private schools.

5. A similar study can be replicated on a wider sample.

6. Many factors may be studied which may have impact on Environmental awareness of high school students.

7. Influence of other media like social & commercial school also be studied.
Impact of Changing Environment on Mental Health

References


