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PROMOTING SCIENCE COMPREHENSION THROUGH EDUTAINMENT STRATEGIES – AN EFFICACY

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Abstract

Apart from the knowledge and attitudes, there is one more part of science i.e. science process skills. Children should not learn mere the concepts, should learn how to learn the science concepts by examining critically and carrying the information creatively. Once the mind is administered in those processes, in turn it yields automatically the good by product. In this context, it has been verified that instead of inculcating science concepts through school curricula in the form of knowledge, it must be imparted through the compulsory activities as supplementary to the science subject, especially by means of the edutainment strategies which is a blending nature of the education and entertainment as per the level of the students. The sample of 50 students of VIII standard from govt. higher secondary school, Red hills was subjected to the present study by purposive sampling technique. The single group design was employed to conduct an experiment with the above science process skills. The performance scale, questionnaire for science comprehension and reaction scales were used as the tool for the present study. Through which the data had also been collected. The results from analyzed data revealed that there was an improvement in the science comprehension of the students. The edutainment strategies have become an evident that it would help us to inculcate the science concepts with better understanding and retain the concepts longer.

***Key words**: Edutainment, Science comprehension and Advance Organizer.*

Introduction

Science is an enterprise which has the individual, social and institutional dimensions. It is fundamentally a means of understanding that why things happen as they do. Man has found science as a process by which his/her search for answers to his ultimate questions can be approached systematically. The study of science is also an intellectual and social endeavour. The application of human intelligence in figuring out how the world works should have a prominent place in any curriculum that has science literacy as one of its aims. Ganguly (1978) identified the process approach as one of the core element of the course and in order to fulfil the objectives of the course. A process approach can influence brain, heart and hand of the learners. (Bhargave, P.M.1977).

From this point of view, it is understood that the science is to be approached as a process than the product. In a broad sense, science pave the ways for processing information, such processing grows more complex as the individual develops from early childhood on ward. The individual capabilities that are developed may reasonably be called “Intellectual Skills”, or “Process”.

The process of science includes scientific attitudes and methods of enquiry. The scientific attitude may be in the mode of emotional attitude and intellectual attitude. The methods of enquiry nothing but the process skills evolve in science learning. The learner's scientific attitudes develop simultaneously with science process skill development. They all together constitute the level of comprehension of any content in general and science in particular.

Cram for the Study

When learner is asked to do something compulsorily within their capacity, it would be conditioned in him/her in future. The compulsory edutainment strategies on science comprehension could be brought a sea change in the capabilities of the students. The Rainwater harvesting scheme made a great impact on every citizens of Tamilnadu because of its compulsory programme nature. The NSS and NCC programmes enrolment by the students is for the sake of their marks or credits mainly rather than other purpose. Thus, the compulsory edutainment strategies also may help them to improve the science comprehension to the optimum level.

Objective of the Study

The major objective of the study is to promote Science comprehension through Edutainment strategies.

Methodology

Method of the Study

The single group pre-test and post-test design was adapted to the present study.

Sample

A sample of 50 VIII standard students of Govt. Higher Secondary School, Redhills was selected by adopting random sampling technique. The sample includes both boys and girls.

Tools

Performance scale, Reaction scale and questionnaire of science comprehension were the tools that administered in the present study to scale the science comprehension and willingness of the students respectively.

Procedure

The experimentation has been conducted for three weeks. The first week begins with the presentation of Graphic Organiser. The performance of the students and values are assessed at the end of Graphic Organiser programme.

Based on the Process skills that embedded in the science concepts, number of activities which triggers science comprehension is developed. These activities may incorporate one or more science process skills. During the second phase the above developed activities are administered. For instance, filter the cigarette smoke, rubber (tyre) burning smoke and vehicle smoke on the white cotton cloth for observing and analysing. Collecting and comparing the soil from industrial and non-industrial (Agricultural) areas, and dry land and wet land, etc. Thus, the number of activities were recorded and projected as an entertainment. The performance of the students and their comprehension were assessed and compared.

Results and Findings

Hypothesis -1

There exists significant difference between the mean scores of students' reaction to the Graphic Organiser and edutainment strategies. The table 1 shows the difference between the mean scores of Graphic Organiser and process skill based activities in reaction scale of the total sample.

Table 1 Mean score of Reaction Scale of the Advance Organizer and Edutainment Strategies

S. No.	Programme	N	Mean	S.D	't' - Value	Level of Significance
1	Graphic Organiser	50	14.42	3.88	14.63	Significant
2	Edutainment strategies	50	29.24	6.02		

Significant at 0.05 level.

Since the 't'-value is higher than the table value, it is inferred that there is significant difference between the reactions of the students to the advance organizer and edutainment strategies. Hence, the hypothesis framed by the investigators is accepted.

Hypothesis -2

There exist significant difference between the performance of students in Graphic Organiser and edutainment strategies. The table 2 shows the difference between the mean scores of students' values & performance in Graphic Organiser and edutainment strategies.

Table 2

Dimension of the performance	Stage	N	Mean	SD	't' - Value	Level for significance
Objectivity	Graphic Organiser	50	13.64	0.96	3.83	Significant
	Edutainment strategies		20.31	2.47		
Curiosity	Graphic Organiser	50	10.86	1.31	3.03	Significant
	Edutainment strategies		19.17	2.81		

Examining Critically	Graphic Organiser	50	19.81	1.88	0.69	Not Significant
	Edutainment strategies		20.03	0.22		
Rationality	Graphic Organiser	50	18.99	1.70	7.36	Significant
	Edutainment strategies		21.97	2.30		
Carrying the information	Graphic Organiser	50	12.39	1.30	5.48	Significant
	Edutainment strategies		24.75	3.91		
Willingness to suspend judgement	Graphic Organiser	50	19.97	2.89	8.32	Significant
	Edutainment strategies		24.09	1.97		
Perseverance	Graphic Organiser	50	18.77	2.69	6.99	Significant
	Edutainment strategies		22.09	2.01		

Significant at 0.05 level.

The performance of the students is higher through edutainment strategies than Graphic Organiser in all the dimensions of performance except open mindedness. Hence, it is inferred that the edutainment strategies helped students to improve their performance in realising science comprehension. Since there exist significant difference between Graphic Organiser and edutainment strategies, the hypothesis framed by the investigator is accepted in all the dimensions except open mindedness.

Hypothesis -3

There exist significant difference between the science comprehension obtained by the students through Graphic Organiser and edutainment strategies.

The table 3 shows the difference between the values of students in the I phase test and II phase test.

Table 3

S. No.	Test	N	Mean	SD	't' - Value	Level for significance
1	I phase Test (from Advance organizer)	50	19.77	3.69	3.44	Significant
2	II phase test (from edutainment strategies)	50	22.09	3.01		

Significant at 0.05 level.

Since there exists difference between the mean scores of Graphic Organiser and Edutainment strategies in the science comprehension of the students, it is inferred that the edutainment strategies enhanced environment values better than the Graphic Organiser.

Educational Implications

The results of the present investigation have very significant value in the field of science education and potential value furthering our understanding of learning behaviour in

science. Process approach in science education can be applied for the vitalization and improvement. This also has an implication on the curriculum development standard setting, vitalising instruction, class room teaching, development of resource materials, etc.

Findings

Moreover, the finding indicates that the edutainment strategies excel than the Graphic Organiser in promoting science comprehension of the students. In each dimension, the values and performance of the students are more in the edutainment strategies except the dimension (i.e.) open-minded. The internalizing of the values among students was also easier through edutainment strategies than Graphic Organiser. Since, the values are inculcated through process skill based activities there may be possibilities to retain the values longer, even permanently.

Conclusions

In the Pavlo's classical conditioning experiment, he has stated the importance of the activities in retaining the things that learnt. The activity based learning help for any habitual formation results into the values. Thus, the edutainment strategies also can be used to promote the science comprehension of the students.

References

1. E.Van Glaser feld, "An introduction to Radical Constructivism", Watzlanick (Ed) Newyork, 1984, pp.173-177.
2. UNESCO, "Handbook of science Teachers", U.K.Page Bros, 1980, pp.81-86.
3. N.Vidhya, "Science Teaching for 21st Century", Deep & Deep publications, New Delhi, 1996.
4. W.D.Roney, "Inquiry Techniques for Science teaching", Prentice Hall", New Delhi, 1968.
5. K.Sri Devi, "Constructivism in science Education", DPH, New Delhi, 2008, pp.9-12.
6. P.Sivakumar and R.Krishnaraj, "Information Processing Models of teaching theory & Research", Neelkamal Publication, Hydrabad, 2005, p.79.
7. P.M.Bhargave, 1977, John R. Mayar, 1962-68, Gagne (1966)are quoted by P.C.Bhatt, "Science Process skills in Teaching and Learning", Common Wealth Publication, New Delhi, 2005. pp.7-8.
8. R.Ramnath and P.Sivakumar, "Constructivism based learning strategy in enhancing the science process skills of the students of secondary schooling", Research and Reflections of Education, vol: 09, No:02, pp.8-21, June 2011.
9. P.Sivakumar and R.Ramnath, "Science process skills of the IX standard students: An evaluative study", Endeavours in Education, 2(2) pp.70-76, June 2011.
10. R.Ramnath and P.Sivakumar, "Constructivism and skill based pedagogy in the Higher educational context", Indian journal of Applied research, Vol: 1, issue:3, pp.61-62, Dec. 2011.
11. B.B.Ganguly, "Experience in developing instructional materials for integrated science curriculum", UNESCO Regional Office for Education in Asia and Ocenta Publication, Bangkok, 1978.