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IMPACT OF MULTIMEDIA APPROACH IN TEACHING LEARNING OF SOCIAL SCIENCE AT SECONDARY SCHOOL LEVEL

Research Scholar: Sri, Aspari Shivaraja

Department of Post Graduate Studies and Research in Education, Gulbarga University, Kalaburgi. Email. Id shivarajaspari@gmail.com

Research supervisor: Prof. Hoovin Bhavi Babanna

Dean, & Chairman Department of Post Graduate Studies and Research in Education, Gulbarga University, Kalaburgi.

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Abstract

Teaching is regarded as both an art and science. As an art, it lays stress on the imaginative and artistic abilities of the teacher in creating a worthwhile situation in the classroom to enable students to learn. Teaching is not a cup of tea to drink easily; it is process where teachers role and mastery of subject matter and mastery of pedagogy of teaching. Today teaching-learning process get weakling due to lack of innovative methods of teaching and lack of usage of multimedia instructional materials in teaching learning process. The present research paper high lights about to study the significant impact of Multi-media instructional approach on the performance of Social science, it also focuses how the level of intelligence and problem solving ability impact on performance of students in social science.

***Key words**:-Multimedia, Intelligence, Problem solving ability, Impact, etc*

1.0. INTRODUCTION:

The teacher of today does not consider the student as a vessel waiting to be filled up with facts nor as a pliable plastic material, which can be transformed into any shape enabling to project his ideas on it. The modern teacher considers each student as akin to plant and helps the student to grow according to their abilities and aptitudes. Teacher can help the student to learn. Teacher realizes that 'to teach is to nourish or cultivate the growing student or to give intellectual exercise or to train in the horizontal sense of directing or guiding the growth'. The modern teacher sees education as a process of interaction between the student and his environment. Student learns by doing and learns how to learn in groups and

individually, as well.

Increase in population and explosion of knowledge are affecting the pattern of human life and inflicting its full impact on education. The explosion of population and knowledge has raised the serious question of both quantity and quality of education. Educationists are of the opinion that the educational problems relating to the quantity and quality could be tackled by applying systematic approach of instructional technology. Therefore, there has been a rapid development of communication technology in education at all levels with a purpose of extending educational facilities and upgrading instructions. Instructional technology aids to improve the process of human learning.

2.0. SIGNIFICANCE OF THE STUDY:

Multimedia is defined as any combination of text, graphic, sound, video and animation. Multimedia can be delivered to user via electronic or digital manipulated means. In order to create a good multimedia project, you need to be creative, technical, organizational and business skills. When the user is allowed to control what and when these elements are delivered, it becomes an interactive multimedia. Interactive multimedia can be called hypermedia. This happened when a user is provided with a structure of linked elements for the use of navigation.

With the advancement of technology in this world, we can see that the world that we live in is changing rapidly and the field of education are one of the field that are growing to be much better. The old day education where the learning environments are passive is long gone. We can see that the use of multimedia in education has grown a lot in this recent year and is looking to expend ever further in the future.

Teacher primarily required resources in order to help students to understand better about the topic that they are learning. By enabling teacher to have access in multimedia learning resource, which help to support constructive concept development, allowing the teacher to be more focus to teaching the subject while working to help the students to understand the topic individually. The development of multimedia also help to ease learning by enabling students not to just learn in just school but also at home. This will potentially help students to improve their learning skills. With the help of multimedia elements, which is text, graphic, video, sound and animation, it can create an interactive learning environment that can help teacher and students teaching and learning.

The purpose of the study will be in two fold, firstly the development of a multimedia learning material; and secondly to validation of multimedia learning material Comparison of

multimedia method instruction and conventional method of instruction is not only a comparison of two modes of instruction but of two theoretical paradigms. Conventional method represents a paradigm whereby knowledge is transmitted from teacher to student. Something is poured in learners mind and the learner is a passive recipient of knowledge. Teacher plays an active part in this mode of instruction.

Multimedia method of instruction represents a paradigm where knowledge is constructed and sought by the learner. Learner plays an active role in learning process. Learning is individualized, self-paced and hands on. Hence, the selected topic is very relevance for the present context in teaching learning procedure.

3.0. STATEMENT OF THE STUDY: "Impact of Multimedia Approach in teaching learning of Social Science at Secondary School level"

4. 0. DEFINITION OF THE TECHNICAL TERMS:

1. Multimedia instruction:-It consists of **instructional** messages that contain words (such as printed or spoken text) and pictures (such as illustrations, diagrams, photos, animation, or video). The rationale for **multimedia instruction** is that people can learn more deeply from words and pictures than from words alone. Or

by multimedia material investigator means, an organized learning system for auto instructional purpose which includes an interrelated use of different media from modern communication methods, and various learning and teaching strategies to create effective learning experiences. This package may have several media that uses multiple forms of information content and information processing

2. **Intelligence:-**It is the ability to think, to learn from experience, to solve problems, and to adapt to new situations. ... **Psychologists** believe that there is a construct, known as general **intelligence** (g) that accounts for the overall differences in **intelligence** among people.

3. Problem-solving ability: - It is a mental process that involves discovering, analyzing, and **solving problems**. The ultimate goal of **problem-solving** is to overcome obstacles and find a solution that best resolves the issue. The best strategy for **solving** a **problem** depends largely on the unique situation.

5. 0. **OBJECTIVES OF THE STUDY**:

I. To develop and validate a multimedia package on the selected topics: IX Standard Social Science of the Karnataka State Board Text Book.(detail procedure of construction is given third chapter of the thesis)

II. To study of impact of multimedia instructional Materials on academic performance of secondary school students in Social Science

III. To study of effectiveness of multimedia instructional learning material on academic performance of secondary school 9th standard students in Social Science with reference to intelligence.(High, Average and low).

IV. IV .To study of effectiveness of multimedia instructional learning material on academic performance of secondary school 9th standard students in Social Science with reference to Problem solving ability.(High, Average and low).

HYPOTHESES OF THE STUDY:

The following null Hypothesis will be frame

I. There is Significant impact of multimedia instructional Materials on academic performance of secondary school students in Social Science

II. There is no significant impacts of multimedia instructional learning material on academic performance of secondary school 9th standard students in Social Science with reference to intelligence.(High, Average and low).

III. There is no significant impact of multimedia instructional learning material on academic performance of secondary school 9th standard students in Social Science with reference to Problem solving ability.(High, Average and low).

DESIGN OF THE STUDY

The design found to be most useful for the purpose of this study was the pre-test and post-test, experimental and control groups design. These groups were obtained through paired matching on the basis of intellectual capacity of the students. Intelligence test and Problem solving ability test were used to measure the intelligence level and level of problem solving ability of the students.

Table No 3.1. Design of the study

Treatment → Phases ↓	**Experimental Group**	**Control Group**
Pre-Test	Measurement of 1. Intelligence 2. Problem solving ability test 3. Achievement tests in Social Science (for selected topics)	Measurement of 1. Intelligence 2. Problem solving ability test Achievement tests in Social Science (for selected topics)
Experimental Treatment	Teaching Social science through Multimedia instructional materials for 5 weeks	Teaching Social science through Conventional method of instruction for 5 weeks
Post-Test	Measurements of Achievement tests for selected topics of Social science	Measurements of Achievement tests for selected topics of Social science

VARIABLES OF STUDY

In the experimental research, the effect of independent variable on dependent variable has been studied. Independent variables are the cause while dependent ones are the effects. Besides, there are intervening variables also. All these three kinds of variables, identified for the study have been discussed below:

INDEPENDENT VARIABLE

For the present study, the independent variables were Multimedia instructional materials and Gender.

DEPENDENT VARIABLE

The dependent variable or the criterion variable used in the current study was Achievement in Social Science.

INTERVENING VARIABLES

Those variables, which have their effect on the learning outcomes are known as intervening variables, and can influence both the independent and dependent variables. Different intervening variables in the present study are type of school (English medium private schools affiliated to Karnataka State Board), grade of class (9th), subject to be taught (Social science), intelligence of students and Problem solving ability of students, which were controlled up to greatest extent to equate the sample or to form the matched group.

Detail description of the sample selection

Group	Name of the selected school	Class	Number of students selected	
Control	National	VIII	80	30HI & 20PSA,26AI&24 PSA,& 27 LI& 36PSA
Experimental	Global	VIII	80	30HI & 20PSA,26AI&24 PSA,& 27 LI& 36PSA
		Total	12	

TOOLS USED

Following tools were used for the purpose of collecting data related to different variables covered in the study:

Standardized Tests

a. Intelligence test developed by Ahuja, Research Officer, Central Institute of Indian languages in Mysore

b. Problem solving ability test developed by L.N.Dubey, (Retd) Dept of Psychology, college of Education Psychology & Guidance, Jabalpur.

Self Developed Tools

a. Achievement Tests developed by investigator himself to measure the achievement of students in Social Science

b. Preparation of Multimedia instructional material in Social science

ANALYSIS AND INTERPRETATION OF DATA

Table No 01: The mean, standard deviation and " t" Values of Achievement test in post –test of Social Science among traditional and Experimental Group of 9th standard School students.

Sr. No	Group	N	M	Sd	T values
1	Conventional Group Post-test	80	32.15	4.99	12.77
2	Experimental Group post-test	80	42.75	5.56	

From the above table, it implies the differences in mean of achievement test in Social Science using Multimedia instructional approach is 42.75 as compared to conventional learning which 32.15.The standard deviation is for Multimedia instructional approach is 4.99 and for conventional learning is 5.56. And the t-value 12.77 is significant at 0.05 levels. Hence, the hypothesis that there would be no significant difference between the achievement scores in Social Science of 9th standard students using Multimedia instructional approach and

Conventional learning is rejected. That is there is a significant difference between the means of achievement in Science by using Multimedia instructional approach and Conventional techniques. The achievement is higher for Multimedia instructional approach methods as compared to conventional teaching strategies.

Hence, the Null hypothesis no II(i) is rejected and alternative hypothesis is accepted.

Table 02 The mean, standard deviation and "t" Values of Achievement pre- test and post test in Social Science among Conventional Group of 9th standard School students.

Sr.No	Group	N	M	Sd	T values
1	Conventional Group Pre-test	80	30.45	4.77	1.06
2	Conventional Group Post test	80	32.15	4.99	N.S

N.S = Not significant

From the above table no's 4.1.2 it implies that the difference in mean of achievement test in Social Science using tradition learning in pre-test is 32.15 as compared to conventional learning in post-test which is 30.45.The standard deviation for tradition learning in pre-test is 4.77 and for the post-test is 4.99, and the t-value 1.06 is not significant at 0.05 level. Hence, the hypothesis that there is no significant difference between the achievement scores in Social-Science of 9th standard students using Conventional learning is rejected. That is there is no significant difference between the means of pre-test and post-test achievement in Science by using Conventional teaching approach. Hence, the Null hypothesis no II(ii) is accepted.

Table 03.: Mean, SD and't' ratio in pre-test achievement scores in Social Science among the different levels of Intelligence of conventional Group 9th standard school students.

Variable /Groups				Variable /Groups				't' Value
H.I.G	30	28.40	4.89	A.I.G	26	29.66	5.56	0.89. * N.S
H.I.G	30	28.40	4.89	L.I.G	24	33.29	4.33	3.89.* S
A.I.G	26	29.66	5.56	L.I.G	24	33.29	4.33	3.63.* S

From the above table serial number (1) : It implies that the calculated 't' value 0.89 is less than the tabulated 't' value, i.e. **1.96** for the degrees of freedom 54 at 5 percent levels of significance. Therefore, it implies that there is no significant influence of High and

Average level of intelligence on the achievement of 9th standard Social science in pre-test by using conventional learning approaches among conventional Group 9th standard school students.

From the above table serial number (2): It implies that the calculated 't' value 3.89 is greater than the tabulated 't' value, i.e. **1.96** for the degrees of freedom 52 at 5 percent levels of significance. Therefore, it implies that there is significant influence of High and low levels of intelligence on the achievement of 9th standard Social science in pre-test by using conventional learning approaches among conventional Group 9th standard school students.

From the above table serial number (3) : It implies that the calculated 't' value 3.63 is greater than the tabulated 't' value, i.e. **1.96** for the degrees of freedom 58 at 5 percent levels of significance. Therefore, it implies that there is significant influence of average and low levels of intelligence on the achievement of 9th standard Social science in pre-test by using conventional learning approaches among conventional Group 9th standard school students.

From the above table serial number s (1), (2) and (3) it is concluded that there is no significant influence of high & average levels of intelligence on the achievement of 9th standard Social science in pre-test by using conventional learning approach (conventional Group).But, there is significant influence of high & low and average & low levels of intelligence on the achievement of 9th standard Social science in pre-test by using conventional learning approach (conventional Group). Hence, the null hypothesis No III (1) rejected and alternate hypothesis is accepted.

Table 04.: Mean, SD and't' ratio in pre-test achievement scores in science among different levels of Problem solving ability of conventional Group 7th standard students of primary school .

Variable Groups				Variable Groups				't' Value
H.P.S.A	20	31.66	4.15	A.P.S.A	24	30.29	4.06	1.10 * N.S.
H.P.S.A	20	31.66	4.15	L.P.S.A	36	29.40	3.88	1..9 * S.
A.P.S.A	24	30.29	4.06	L.P.S.A	36	29.40	3.88	0.84 * N.S.

From the above table serial number (1) : It implies that the calculated 't' value 1.10 is less than the tabulated 't' value, i.e. **1.96** for the degrees of freedom 58 at 5 percent levels of significance. Therefore, it implies that there is no significant influence of High and Average Problem solving ability on the achievement of 7th standard science in pre-test by using conventional learning approaches among conventional Group 7th std primary school students.

From the above table serial number (2): It implies that the calculated 't' value 1.99 is greater than the tabulated 't' value, i.e. 1.96 for the degrees of freedom 58 at 5 percent levels of significance. Therefore, it implies that there is significant influence of High and low Problem solving ability on the achievement of 9th standard science in pre-test by using conventional learning approaches among conventional Group 9h std primary school students.

From the above table serial number (3) : It implies that the calculated 't' value 0.84 is less than the tabulated 't' value, i.e. 1.96 for the degrees of freedom 58 at 5 percent levels of significance. Therefore, it implies that there is significant influence of average and low Problem solving ability on the achievement of 9th standard science in pre-test by using conventional learning approaches among conventional Group 9th std primary school students.

From the above table serial number s (1), (2) and (3) it is concluded that there is significant influence of high & low Problem solving ability on the achievement of 9th standard science in pre-test by using conventional learning approach (conventional Group).But, there is no significant influence of high & average and average & low Problem solving ability on the achievement of 9th standard science in pre-test by using conventional learning approach (conventional Group).

Hence, the null hypothesis No III (1) rejected and alternate hypothesis is accepted.

Major findings of the study

The following are the few major findings of the study

1. There is a significant difference between the means of achievement in Social Science by using Multimedia instructional approach and Conventional techniques. The achievement is higher for Multimedia instructional approach methods as compared to conventional teaching strategies. Hence, the Null hypothesis no II(i) is rejected and alternative hypothesis is accepted.

2. There is no significant difference between the means of pre-test and post-test achievement in Social Science by using Conventional teaching approach. Hence, the Null hypothesis no II(ii) is accepted.
3. There is no significant influence of high & average levels of intelligence on the achievement of 9th standard Social science in pre-test by using conventional learning approach (conventional Group).But, there is significant influence of high & low and average & low levels of intelligence on the achievement of 9th standard Social science in pre-test by using conventional learning approach (conventional Group). Hence, the null hypothesis No III (1) rejected and alternate hypothesis is accepted.
4. there is significant influence of high & low Problem solving ability on the achievement of 7^{th} standard science in pre-test by using conventional learning approach (conventional Group).But, there is no significant influence of high & average and average & low Problem solving ability on the achievement of 7^{th} standard science in pre-test by using conventional learning approach (conventional Group). Hence, the null hypothesis No IV (1) rejected and alternate hypothesis is accepted.

CONCLUSION

Multi-media teaching strategy enhanced the performance of students in Social Science. Multi-media teaching strategy has the potential of enhancing low ability basic science students‟ performances. Multi-media teaching strategy is an effective teaching method in Social science since the findings of this study confirms that it leads to high achievement of the subject and also reduces gender disparities in Social science achievement.

The use of Multi-media teaching strategy in teaching results in better students‟ performance in Social Science. The use of Multimedia strategy is therefore a suitable method for teaching. Curriculum developers should encourage teachers to use this method in teaching Social Science to improve the current trend of dismal performance in Social Science especially in District schools. The teacher training colleges and universities should emphasis Multi-media teaching strategy as an effective method of teaching Social science

In conclusions, using collaborative teaching strategy for the improvement of Social Science at the secondary School students of Gulbarga City is a welcome idea, and Multi-media teaching strategy has the potentiality of enhancing low ability students‟ academic performance in Science and math’s at secondary school level.

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