

Multimedia: Instructional Strategy to Enhance Achievement of Senior Secondary School Students in Business Studies

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ABSTRACT

Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. To understand the framework in which a business operates, a detailed study of the organization and management of business processes is required. Therefore, Business Studies, as a school subject require a multifaceted and rich input to facilitate maximum learning among school students. Conventional method of teaching involves mere text based inputs where student participation is negligible; hence learning comes with a lot of hindrances. As opposed to it, new innovative instructional strategies used by teachers for teaching Business Studies offer avenues for a more comprehensive learning among those innovative strategies, Multimedia is one such strategy which provide rich input rich input by incorporating Text, Audio, Video, Animation and interactive component. In this study an attempt has been made to investigate the effect of multimedia instructional strategy on achievement of Business Studies at senior secondary level by using pre-test-post-test control group quasi experimental design. Three tools namely performance test of Intelligence by Ahuja(2012), Socio-Economic Status Scale by Kalia and Sahu, (2012) and Achievement test of Business Studies developed by the investigator were used for the collection of data. A random sample of 50 students of class 11th of Jat.H.M.A.S senior secondary school Rohtak city was taken for this study. The students in control group were taught by traditional method and experimental group were taught by multimedia instructional strategy. The findings of the study indicated that the students of the experimental group showed better performance in business studies on achievement as compared to the students of control group.

Keywords- Multimedia, Achievement, Business Studies, Senior Secondary Students

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Introduction

Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. To understand the framework in which a business operates, a detailed study of the organization and management of business processes is required. The subject Business Studies has been introduced at higher secondary level as formal commerce subject, i.e. almost after ten years of schooling. Therefore, it becomes imperating that the instruction of this subject is given in such a manner that students have a good understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society. For this purpose, teachers should try to incorporate such strategies for teaching so that expected behavioral changes take place in students. Various innovative strategies are being used. Among that multimedia is also one. This is quite different from traditional teaching using 'chalk and talk'. Teachers often continuously talk for an hour without knowing students response and feedback. The material presented is only based on lecturer notes and textbooks. The handwriting of the lecturer decides the fate of the subject. There is insufficient interaction with students in classroom. More

emphasis has been given on theory without any practical and real life time situations. Traditional teaching is a one way process in which a teacher acts as a dictator and the students are passive learners who receives the information (Sharma & Kiran 2016). On the other hand teaching through multimedia based teaching is an interactive learning process because it enables the teacher to use various elements of multimedia like audio, video, graphics, text, animation used which provides a stimulating environment for learning as compared to the traditional method. (Mayer 2001).

Multimedia

The term multimedia was coined by Singer and Artist **BOB GOLDSTEIN** (1996) to promote opening of his light works at **L'Oursin'** show at Southampton. Multimedia is a multi-faceted approach. It is the exciting combination of computer hardware and software that allows integration of multiple media elements (audio, video, graphics, text, animation etc.) into one synergetic and symbiotic whole that results in more benefits for the end user than any one of the media element can provide individually. The use of multimedia approach represents one of such strategies and approaches to improve the process and products of teaching- learning.

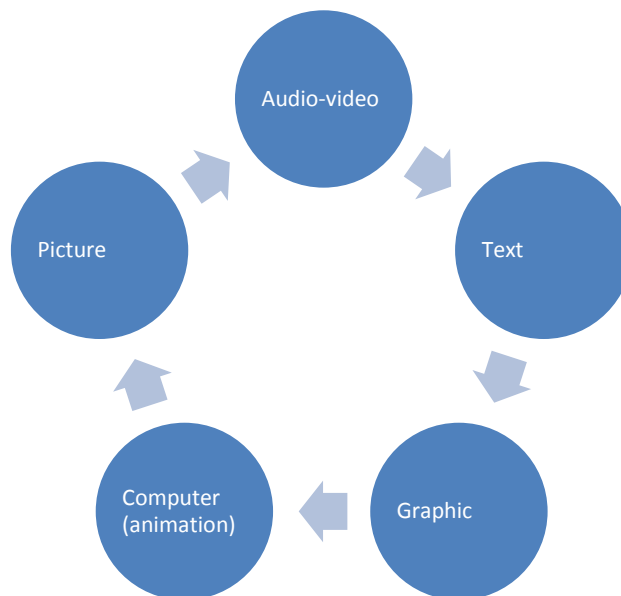


Figure-1: Elements of Multimedia

Incorporating the above mentioned elements of multimedia instructional package on business studies was prepared for grade 11th students & they were given experimental treatment through this package for fifteen days. Multimedia based instructions enhance and encourage the students understanding towards the business studies. Multimedia based instructional packages enable the teacher to present the information in various media via sound, text, animation, video and images. The combination of these various media provides a stimulating environment for making interesting and effective learning process in which student's participation is active and interactive. The multimedia based instruction is user-friendly and

through it information can be delivered in effective way.

Review of Related Studies

Most of the studies conducted in this area have found positive effect of multimedia instruction towards academic achievement. Nwaocha (2010) suggests that multimedia presentations can improve students' understanding, enthusiasm, class attendance and satisfaction. For teachers, using multimedia in the instruction of English language creates learner-centeredness and helps students become active learners. This allows them to learn language according to their abilities, needs and preferences (Lu & Liu, 2011). Bajpai (2013), Sharma and Pooja (2015) conducted a study to investigate the effect of Multimedia instruction on academic

achievement in English language of 7th class students. On the basis of the findings, it was established that subjects exposed to Computer Multimedia Instruction were higher on achievement in English in comparison to those exposed to traditional instruction. Sharma and Kiran (2016) found that, the students learning with help of the multimedia instructional based package progressed better in English Language skill than the students learning through the conventional method. On the basis of related studies it was found that very few researchers have prepared multimedia instructional package for business studies keeping in view the importance of multimedia in making teaching learning process a lively one, an attempt has been made in this paper to develop multimedia in business studies and to see its effect on the achievement of students.

Objectives of the study

Following are the objectives of the study:-

- To compare the Pre-test mean achievement scores of control and experimental group.
- To compare the Post-test mean achievement scores of control and experimental group.

- To compare the mean gain achievement scores of control and experimental group.

Hypotheses of the study

- There is no significant difference between the Pre-test mean achievement scores of control and experimental group.
- There is no significant difference between Post-test mean achievement scores of control and experimental group.
- There is no significant difference between the mean gain achievement scores of control and experimental group.

Methodology

In the present study, pre-test-post-test control group quasi experimental design was employed. A random sample of 50 student's studying 11th class in Jat.H.M.A.S senior secondary school Rohtak was selected. Two groups i.e. the control group and the experimental group was formed after matching the intelligence and socio-economic status of students. Following tools were used to carry out the study.

Tools

A). Standardized Tools

- Performance test of Intelligence developed by Ahuja (2012).
- Socio-economic Status Scale (SESS) developed by Kalia and Sahu (2012).

B). Self-Made Tools

- Achievement test on Business studies (developed and standardized by the investigator).
- Multimedia Instructional Package for class 11th students (developed by the investigator).

Experimental Procedure

The experiment comprised of two main stages:(i) Selection of the sample (ii) Conducting the experiment.50 students were selected i.e. 25 for control group and 25 for experimental group. The experiment was conducted in three stages as given in Table-1

Table-1: Stages of Experiment

Stages	Group	
	Experimental group	Control group
Pre- Testing	Measurement of Student's 1. Intelligence and SES Scale 2.Achievement in Business studies	Measurement of Student's 1. Intelligence and SES Scale 2.Achievement in Business studies
Treatment	Teaching Business studies through Multimedia Instruction Package	Teaching Business studies through Traditional Method
Post-testing	Measurement of Student's Achievement in Business studies	Measurement of Student's Achievement in Business studies

Statistical Techniques

Mean, Standard Deviation, t-ratio were used to analyze the data.

Results

To find the significant difference between the experimental and control groups, the developed null hypotheses were tested.

H₀1: There is no significant difference between the Pre-test mean achievement scores of control and experimental group.

Table 2: t-value for difference in the pre -test mean achievement scores of control and experimental group

Group	N	Mean	S.D	SEm	df	't'-ratio
Group-A (Control group)	25	26.68	3.18	0.85	48	0.18* _{NS}
Group-B (Experimental group)	25	26.84	2.77			

*NS= Not Significant

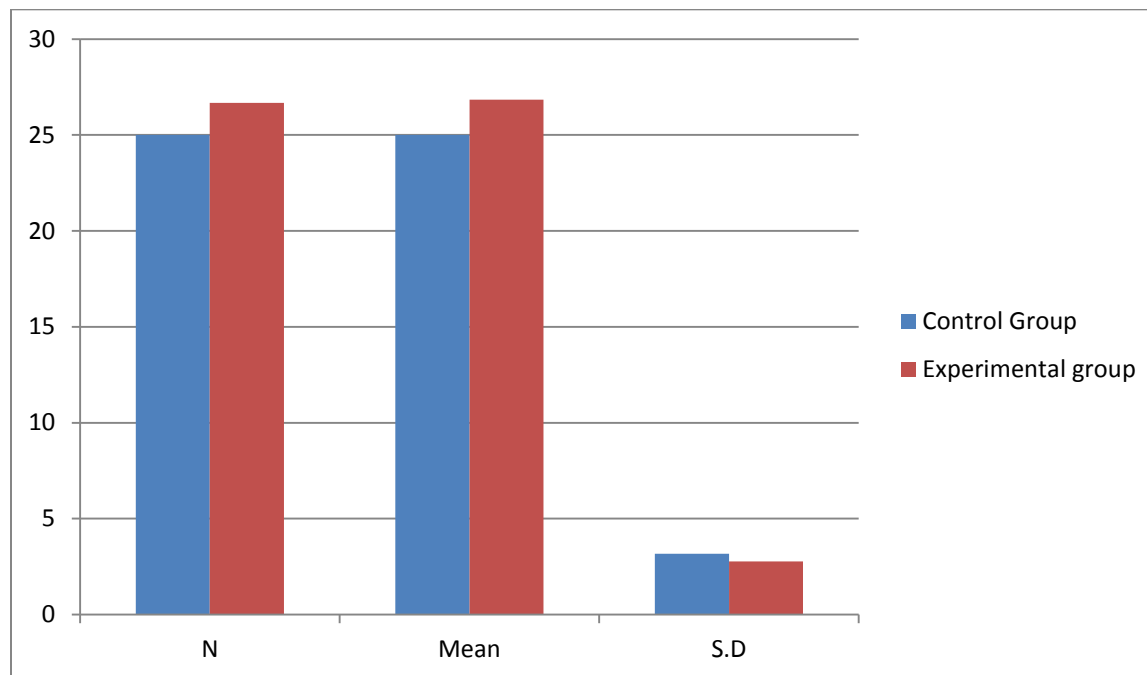


Figure-2: Pre-test mean achievement scores of Control and Experimental group

Table-2 reveals that t-value 0.18 for differences in the pre -test mean achievement scores of experimental group (Multimedia instructional strategy) and control group (Traditional method) is not significant at 0.01 and 0.05 levels of significance. It shows that there is no

significant difference between the pre -test mean achievement scores of experimental group (Multimedia instructional strategy) and control group (Traditional method) of 11th class students in business studies. When results are compared in the context of the pre- test mean achievement scores, Figure-2,

it is found that pre -test mean achievement scores of experimental group(26.84) and control group (26.68) does not differ significantly. Thus null hypothesis H_0 i.e. ‘There is no significant difference of the Pre-test mean achievement scores

of control and experimental group’ is retained.

H_0 2: There is no significant difference between Post-test mean achievement scores of control and experimental group.

Table 3: t-value for difference in the post-test mean achievement scores of control and experimental group

Group	N	Mean	S.D	SEm	df	‘t’-ratio
Group-A (Control group)	25	32.12	2.17	0.882	48	8.75**
Group-B (Experimental group)	25	39.64	3.42			

** Significant at .01 and .05 levels

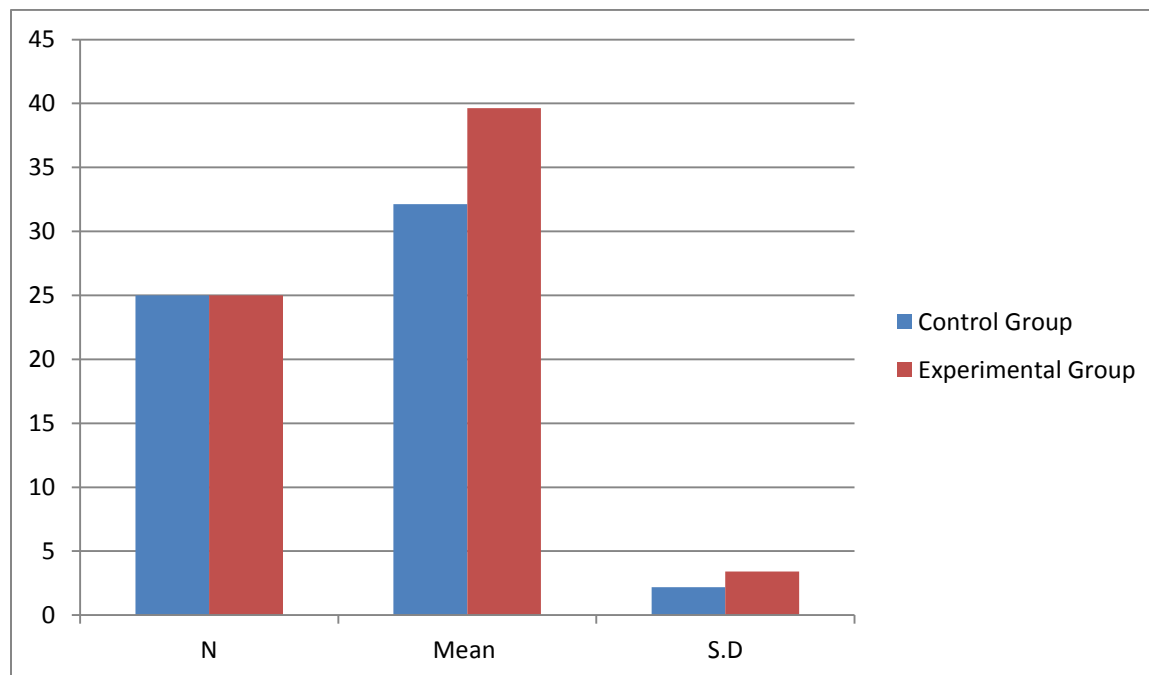


Figure-3: Post-test mean achievement scores of control and experimental group

Table 3 reveals that t-value 8.75 for differences in the pre -test mean achievement scores of experimental group (Multimedia instructional strategy) and control group (Traditional method) is significant at 0.01 and 0.05 levels of significance. It shows that there is significant difference between the post -test mean achievement scores of experimental group (Multimedia instructional strategy) and control group (Traditional method) of 11th class students in business studies. When results are compared in the context of the post- test mean achievement scores, Figure-

3, it is found that post -test mean achievement scores in business study of multimedia instructional package teaching group (39.64) is higher than traditional method teaching group (32.12). Thus null hypothesis H_{02} i.e. **‘There is no significant difference of the Post-test mean achievement scores of control and experimental group’** is rejected. It may therefore conclude that multimedia instructional package helps in enhancing the achievements of the students in business studies in comparison to the traditional teaching method.

H_{03} : There is no significant difference between the mean gain achievement scores of control and experimental group.

Table-4: t - value for difference in the mean gain achievementscores of control and experimental group.

Group	N	Mean	S.D	SEm	df	“t”-ratio
Group-A (Control group)	25	5.28	1.50	0.45	48	6.57**
Group-B (Experimental group)	25	12.56	3.60			

** Significant at .01 and .05 levels

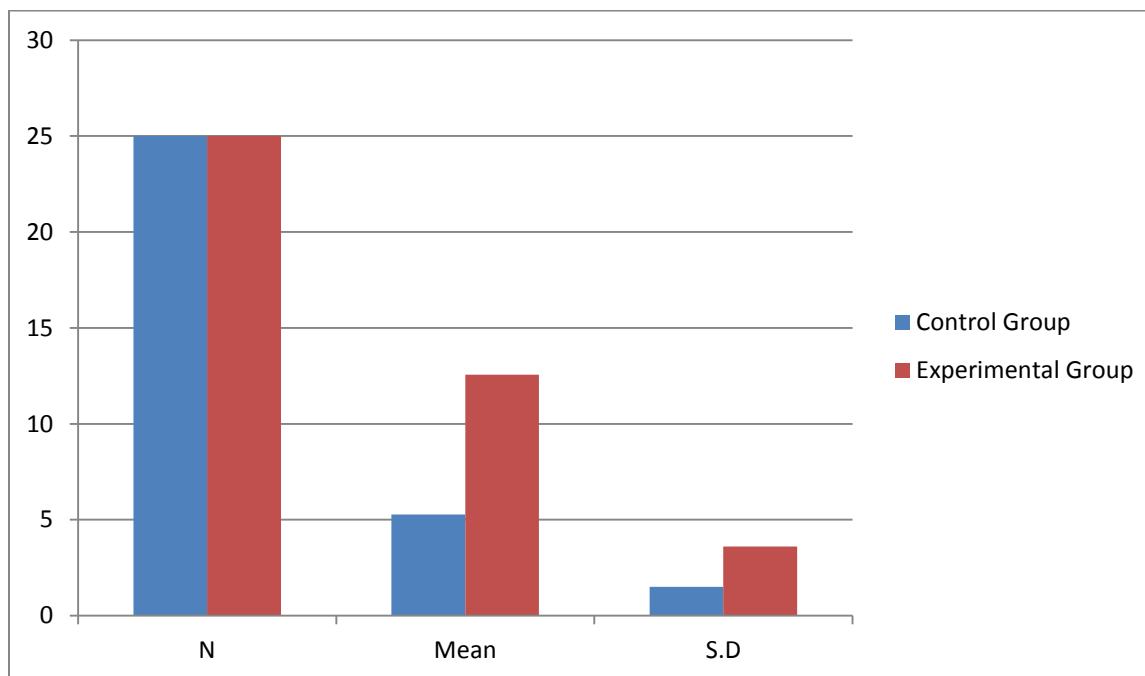


Figure-4: Mean gain achievement scores of control and experimental group

Table 4 reveals that t-value 6.57 for differences in the post -test mean gain achievement scores of experimental group (Multimedia instructional strategy) and control group (Traditional method) is significant at 0.01 and 0.05 levels of significance. It shows that there is significant difference between the post -test mean gain achievement scores of experimental group (Multimedia instructional strategy) and control group (Traditional method) of 11th class students of business studies. When results are compared in the context of the post- test mean achievement scores, Figure-4, it is found that post -test mean gain achievement scores of multimedia instructional package teaching group (12.56) is higher than

traditional method teaching group (5.28). Thus null hypothesis H_{03} i.e. ‘**There is no significant difference between the Post-test mean gain achievement scores of control and experimental group**’ is rejected. It may therefore conclude that multimedia instructional package helps in enhancing the achievements of the students in business studies in comparison to the traditional teaching method.

Discussion of the Results

The findings of the study revealed that students of Experimental group (Multimedia instructional strategy) and Control group (Traditional method) did not differ significantly on their pre-test scores. A significant difference was found between

post-test scores of Experimental group and Control group. Students of Experimental group were found to have higher score on achievement as compared to the students in control group. Significant difference was found between Mean Gain scores of the Control group and Experimental group. The Experimental group showed higher gain score as compared to their counter parts. The investigator found that students can learn a concept of Business Studies better through Multimedia instructional strategy. It was observed by the investigator that students learn more quickly when teacher taught through visual aids in interesting manner. Multimedia instructional strategy was an innovative and effective teaching and learning tool, because it helps students stay motivated and speed up their learning process and helps them understand the information presented. It helps teacher's present information in an effective way. The result is in line with the findings of Bajpai (2013), Bump (2004), Sharma and Pooja (2015), Anju (2016) who found that multimedia instructional strategy enhanced students' academic achievement.

Conclusion

The results of the study showed that multimedia instructional strategy enhanced senior secondary school students'

achievement in Business Studies. It implies that Multimedia in comparison to Traditional instructional strategy was found to have more significant impact on students' achievement in Business Studies for specially selected topic, for which Multimedia based instruction package, was prepared. Teachers may start using multimedia to teach various topics so as to have healthy and active classroom interaction, effective and efficient learning and better results. Learners become active participants in the teaching and learning process instead of being passive learners. Multimedia approach helps to develop knowledge, skills and appeal the student psyche towards learning. The use of animations, text, sound, and video and audio clips makes the lessons attractive and affective. It will bring about an improvement in the efficiency of the teachers as well.

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