Effects of Multimedia on the Academic Achievement of the Students at Secondary School Level

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Abstract:

Multimedia equipment is part of ICT facilities. The study aims to find out the effects of multimedia on the academic achievement of the students at secondary level. The main objectives of the study were (i) to find out effects of multimedia on the academic achievement of the students at secondary level. (ii) to assess the application of multimedia during the class and their effects on the student academic achievement. The investigator has used the experimental method for this study. The study is quasi-experimental wherein a pretest-posttest non-equivalent groups design was employed. The questionnaire was used as a research instrument. It was concluded that, given the lack of multimedia at school, it is recommended that the government provide multimedia services to the school.

Keywords: *Multimedia, Technology, Academic Achievement, Secondary School.*

Introduction:

Multimedia is a strong technique of education and study within the framework of social work. The five popular technologies contributing to the education process are the narrative media, interactive media, communication media, adaptive media and productive media.

There is a multiple interpretation of the idea of multimedia. All meanings agree that multimedia includes in an integrated way documents, images, animations, video and sound. Multimedia thus represents a consolidation of all the technological elements by combining, beside interactive environments, sound, images, video, drawings and texts with high quality. Reactive, proactive and reciprocal interactions exist in multimedia technology (Schulmeister, 1997; Inceday, 2018). Multimedia is effective in education because of the interactivity, versatility and integration characteristics of multiple media that can promote learning, take into account differences between learners and increase motivation (Aloraini, 2005).

Education technology is a research and ethical activity for the production, use and management of technical processes and tools suitable for learning facilitation and performance enhancement (Osu, Udosen and Akpan 2010) It is described as a number of instruments that could be useful for studentcentered learning most

simply and contentedly. The teachers are called to be 'Side Guides' instead of 'Sage on stage' (Ololube, 2007). Education technology is also known as 'learning technology'; throughout the teaching and learning cycle, it primarily includes use of technology. In this area, item technology not only requires the use of latest technologies and techniques such as tablets, interactive whiteboards and smart phones; internet, Wi-Fi, YouTube and other technologies also provide powerful and improved control of learning processes, delivery system of information, effective teaching and memory control (Fari SA, 2010). Multimedia also provides a familiar, complex, economic and realistic educational atmosphere (Yünkül, 2014).

For discussion, multimedia can be used. Tendencies in updating and developing instructional strategies are associated with the growth of interactive teaching methods, the growth of active creative teaching and the integration, according to their complementarily, of an efficient and contextual mix of the methods formal and informal, conventional and new strategies. Students will endorse the use of multimedia by highly qualified teachers.

Statement of the Problem:

The present study was focus on finding out the effects of multimedia on the academic achievement of the students at St. Aloysius higher secondary school of Theni district.

Objectives of the study:

The main objectives of the study were:

➤ To find out effects of multimedia on the academic achievement of the students at secondary level.

➤ To assess the application of multimedia during the class and their effects on the student academic achievement.

Research Questions

The research questions of the study were:

➤ How does the multimedia effects secondary school students ' academic achievement?

➤ When the application of multimedia and their effects on academic achievement of students are assessed during the course.

Methodology:

The investigator has used the experimental method for this study. The study is quasi-experimental wherein a pre test-post test non-equivalent groups design was employed. The pre test-post test non-equivalent groups design is often used in classroom experiments when experimental and control groups are such naturally assembled groups as intact classes, which may be similar. The study adopted a pre test-post test non-equivalent groups design. Pre-tests on Problem Achievement in Mathematics were administered to both the experimental and control group. Then, the experimental group was taught using the Interactive Multimedia package, whereas the control group was taught by the regular teacher using the conventional teaching method. Then post-tests were administered to both the groups.

Sample of the Study:

For the present study, the researcher selected 40 students from "St. Aloysius Higher Secondary School", Royappanpatti, Theni district.

Statistical Technique:

Statistical Techniques such as Mean, SD, t-test and ANOVA were employed for Analysis and Interpretation of the Data.

Data Analysis:

In order to test the Objectives, Hypotheses have been formulated and tested for their significance level, Appropriate Statistical Techniques i.e. Mean, Standard Deviation and t-test were computed for the gain scores of Experimental and Control group for measuring Achievement in Science.

Result and Discussion:

Table 1. Use of Multimedia on in the School Enhance the Academic Institution Achievement

Students (N)	Number of Respondent (N) Students			
	YES		**NO**	
	Number	Percentage	Number	Percentage
40	22	55	18	45

The tabulation showed that students respective 55% were in favour of the use of multimedia in the school improve the school achievement while 45% disagreed.

Table 2. Multimedia Availability

Students (N)	Number of Respondent (N) Students			
	YES		**NO**	
	Number	Percentage	Number	Percentage
40	10	25	30	75

The above table indicates that students respective 75% were respondent that multimedia facility is not provided to students while the while 25% were disagree with statement.

Table 3. Multimedia Classroom Make Me Feel More Comfortable Learning

Students (N)	Number of Respondent (N) Students			
	YES		**NO**	
	Number	Percentage	Number	Percentage
40	34	87	6	13

The above table represent that students respective 87% were respondent that Multimedia classroom make me feel more comfortable learning environment. While the while 13% did not agreed with statement.

Table 4. Indicating Whether Effects of Multimedia on Student Academic Achievement is Good or Bad.

Number of Respondent (N) Students				
Students (N)	**YES**		**NO**	
	Number	Percentage	Number	Percentage
40	32	80	8	20

The above table that student respective 80% were respondent that whether effects of multimedia on student academic achievement is good or bad. While the while 20% were not in favour with this statement.

Findings of the Study:

➢ It was found that majority of students favoured the use of multimedia in their schools to improve the school performance.

➢ It was found that majority of students shared that multimedia facility is not provided to students

➢ Majority respondents were agreed that that multimedia is beneficial to students for their knowledge, skills and ability.

➢ The majority of students, 87% respectively, responded that multimedia classrooms made me feel more comfortable learning. While 13% were not in agreement with the statement.

➢ It was also found that government do not take interest in providing multimedia to schools.

➢ It was also found that there is a dearth of IT teachers at government secondary schools.

Discussions:

The study suggested the following according to the results which showed that multimedia was successful compared to conventional teaching methods: Multimedia's rapid development provides unprecedented incentives for students to participate. In the learning process, multimedia tools should be used carefully. For debate, multimedia can be used. Trends to upgrade the teaching approaches and expand them are subscribed to the enhancement of the multi-media teaching approach, the development of active and innovative teaching, the combination of formal and informal approaches in a multitude of educational strategies, modern and new approaches focused on complementarily, benefits and mutual benefit requirements. Students should be assisted by highly qualified teachers in the use of multimedia. They need to direct and build relevant and successful learning approaches for students during the education process. The use of educational multimedia, like the use of textbooks, fosters educational teaching techniques, where the role of teachers is not just a provider of knowledge but a guide.

Conclusion:

➢ Most of the students have been found to be in support of enhancing school performance using multimedia in the classroom.

➢ Most of the students were affected by a shortage of multimedia facilities.

- Most of the respondents accepted that students benefit from multimedia due to their knowledge, abilities and skills.

- Most of the students used to make me more confident learning with digital lessons. But they did not comply with the declaration.

- Mostly the students were told that it would be good if the students had a multimedia class.

- It was also found that the government is not interested in providing multimedia to schools.

- The Effects of Multimedia on the achievement in mathematics among secondary school students appeared to be positive. The use of multimedia, such as videos, animations and simulations, can enhance students understanding of mathematics concepts with an increase in their motivation and their engagement in mathematics learning.

- Overall, the use of multimedia in mathematics education can have a positive impact on the development of achievement in mathematics among secondary school students, but it should be used in conjunction with other teaching strategies and implemented carefully and thoughtfully.

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