STUDY HABITS AND MATHEMATICS LEARNING IN TECHNOLOGY ENHANCED CLASSROOMS

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Abstract

The present study envisages the development of study habits and learning of Mathematics among students when multimedia are used in technology enhanced classrooms for teaching. Experimental method of investigation is designed on the basis of the problem, assumption and hypotheses formulated and it also warrants a psychometrically sound design, procedure, tools and execution. This experimental study is conducted in two classes of standard IX for a period of 30 days. One section of students, called control group is taught by traditional method and the other section of students, called experimental group is taught with the help of multimedia in the technology enhanced classroom. The results of the statistical analyses show a significant difference between experimental and control group students pertaining to the study habits and academic achievement in Mathematics. The gain scores pertaining to study habits and academic achievement in Mathematics of students in experimental group are found to be significantly higher than the scores of students in control group.

Keywords: ***Study Habits, Academic Achievement in Mathematics, Enhanced Technology***

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1. Introduction

Mathematics plays a fundamental role in the scientific and technology progress of any nation, and as such, Mathematics is taught at all levels of education. Greater demand for economic, scientific, and technological knowledge has brought about the securing of an excellent mathematical knowledge at all levels of education. Thus, increasing knowledge in Mathematics of the future engineers, physicists, chemists, sociologists, industrial and medical personnel, as well as other Sciences, including historians cannot be over emphasized (Ali, 2013). Educators in the modern world are still expressing a strong need for face-to-face interaction and lack in sufficient usage of electronic media to support their teaching. Policymakers and development experts seeking to improve the quality of education are interested in the role technology can play. Not only do they want to use technology to directly aid learning, but they also want to ensure that students in developing countries and poor communities everywhere get the same exposure, and same education benefit, from technology as do their counterparts in wealthier parts of the world.

According to Rogers (2003), technology is one of the factors that can be effectively used to adapt a technological innovation in an organization. Interestingly, it has been suggested that technology be utilized in science classrooms as a means of increasing the levels of achievement of students in Mathematics classes (AAAS, 1989; Bennet and King, 1991). Now, the integration of technology in teaching is common in classrooms as computer technology has moved beyond computer assisted instruction in the form of tutorials or drill or practice. According to Rodgers (2010), today's technology can provide teachers and students with the opportunities for teaching for developing better study habits and academic performance in Mathematics.

Generally, as an instructional tool, technology helps all students-including poor students and students with disabilities-master basic and advanced skills required for the world of work (Ogunkola, 2011). As an assessment tool, technology yields meaningful information, on demand, about students' progress and accomplishments and provides a medium for its storage. As a motivational tool, technology positively impacts student

attitudes toward learning, self-confidence, and self esteem. Therefore, the impact of technology on the current and future lives of society's youth makes it important to understand technology and professional practice of using it to teach from the students' perspective (Frantom et al., 2002). An investigation of students' conceptions has been a major feature of educational research to inform curriculum change and developments in Science, Technology and Technology education (Osborne et al., 2003). However, Jones (1996) noted that the interaction between the use of technology and learning may be complex and depends on a number of factors.

One such factor is study habits. According to Crede and Kuncel (2008), study habits are study routines, including but not restricted to, frequency of studying sessions, review of material, self-testing, rehearsal of learned material and studying in a conductive environment. Study habits is the plan a student charts to his private readings after classroom learning so as to attain mastery of the subject (Azikiwe, 1998). Study habits play a very important role in the academic achievement of students. Studies like Okpala and Onocha (1988) and Olatoye and Ogunkola (2008) indicated that study habits make a significant contribution to the prediction of achievement. This implies that if a student exhibits negative study habits (e.g. lacks concentration, feels bored, tired and sleepy while studying, spends little time in studying and does not map out immediate goals to attain), it is likely that the student may lack the impetus to engage adequately in productive learning during allocated school time and during his personal study time. Nouhi, Shakoori and Nakhei (2008) added that mastering skills by students makes study more enjoyable and effective which in turn strengthen the students' interest so that he or she spends more time studying. Moreover, some other studies (Josemon, 2006) revealed that in order to maximize students' academic achievement, approaches to study and study habit of the students are as important as classroom environment and that inability of a school system to develop useful study habits in its learners leads to wastage and stagnation.

Thus, a need is felt to investigate the impact of use of multimedia for teaching Mathematics in technology enhanced classrooms for developing better study habits and learning of Mathematics among students at the secondary level.

2. Review of related Literature

The purpose of the investigation is to study the effect of enhanced technologies in classrooms for developing better study habits and academic achievement in Mathematics among students. The studies reviewed pertaining to technology enhanced classrooms, study habits; and academic achievement in Mathematics are compiled and presented hereunder under appropriate headings.

2.1 Technology Enhanced Classrooms and Study Habits

According to Simmon (2003) teachers should attempt to equip students by developing in them high level of analytical skills, critical reasoning, self-reflection and conceptual grasp and ability to learn autonomously and exercise flexibility of mind. The exponential growth of digital information is expected to change the way students perceive study and the way printed materials are used to facilitate study (Ramirez, 2003; Liu, 2005; Igun, 2005; Karim and Hassan, 2006). The studies reviewed pertaining to technology enhanced classrooms and study habits of students have been compiled and presented hereunder.

Jhonson (2008) conducted a Classroom Assessment Study with 126 students in Business Planning and Telecommunications during 2006-2008. Classroom Assessment is a concept in higher education that uses feedback from students about how they learn from different teaching methods to help them learn skills more effectively. The study deconstructs the classroom experience using student surveys to validate or refute common theories on the quality, nature, organization and effectiveness of student learning when technology is used for instruction. The investigator used pre-term, mid-term and post-term student surveys on study habits, student attitudes, and learning outcomes using methods of instruction that were technology enhanced. The results concluded that technology can be effective to supplement classroom instruction enabling better study habits, student attitudes and learning outcomes.

Mbah (2010) aimed at investigating the impact of information and communication technology on students' study habits. The research was conducted with two main

purposes; Firstly, to investigate students' familiarity and attitude towards information and communication technology and secondly, to examine the possible relationship between students' use of information and communication technology and study habits. The results revealed that students have a positive attitude towards information and communication technology, and as such use them to facilitate learning. Male students were found to be more favourable toward usage of information and communication technology and likely to find that information and communication technology help them at their studies. As such students constantly change their study habits based on the type of information and communication technology they use to ease studies.

Joshi (2012) used a qualitative method giving a deep description of using multimedia in the classroom. The difference between a traditional classroom and multimedia classroom was well established, looking into the advantages in teaching English using multimedia as a technique in teaching process in the classroom. It was found that through media the teacher could give more opportunity to students to express their opinions and enjoy during the course. The presence and use of technology in classrooms was found to bring positive aspects to students so that they can improve their study skills and habits skills.

2.2 Technology Enhanced Classrooms and Academic Achievement in Mathematics

In this era of globalization and technological revolution, education is considered as a first step for every human activity. It plays a vital role in the development of human capital and is linked with an individual's well-being and opportunities for better living (Battle and Lewis, 2002). It ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life. This increase in productivity also leads towards new sources of earning which enhances the economic growth of a country (Saxton, 2000). The quality of performance of students remains at top priority for educators. It is meant for making a difference locally, regionally, nationally and globally. Educators, trainers, and researchers have long been interested in exploring variables contributing effectively for quality of performance of learners and

in the present days use of technology in classrooms. The studies reviewed pertaining to technology enhanced classrooms and academic achievement have been compiled and presented hereunder.

Wenglinsky (1998) reported the findings from a national study of the relationship between different uses of educational technology and student achievement in Mathematics. The data were drawn from the 1996 National Assessment of Educational Progress (NAEP) in Mathematics by the National Center for Education Statistics (NCES), U.S. Department of Education, consisting of national samples of 6,227 fourth graders and 7,146 eighth graders. The study found computers when used properly, can serve as important tools for improving students' Mathematics proficiency and overall learning.

Bielefeldt (2005) studied the relationship between technology use and student achievement using year 2000 data from the Program for International Student Assessment (PISA) by the National Center for Education Statistics (NCES), U.S. Department of Education. The findings showed no significant effect on Mathematics and computer access in school, and a negative effect on achievement and computer access at home. Although a positive effect was found for internet use and educational software at home, people who used computers at home were found to have a disadvantage at reading and Mathematics skills. The study concluded that the use of computers in school does not really have any effect on students' learning. Similar results were obtained from studies conducted by Trotter (2007) and Dynarski and others (2007).

Ogunkola (2011) designed a study to determine if there were statistically significant differences in the selected students' performance linked to their attitude towards use of technology in Science teaching, interest in Science and study habit as well as to determine the effects of the three selected variables on students' achievement in Science. A sample of 300 4th Form students participated in the study. Four instruments were used for data collection. Data analysis involved t-test and regression analysis. The results showed significant differences in students' Science achievement based on their attitude to use of technology in Science teaching, interest in

Science and study habits. Moreover, the combination of the three variables significantly contributed to Science achievement accounting for 47.6% of the total variance. Also, all the variables except study habit individually contributed significantly to Science achievement with attitude to use of technology in Science teaching contributing the most and study habit, the least.

Scott et al. (2014) conducted a action research using mixed methods design to gather data on the academic performance and perceptions of elementary students regarding the use of clickers. Participants in the study consisted of 22 second grade students from a large, suburban elementary school in the Midwest. Four consecutive health units were taught using the multimedia presentation software, PowerPoint. In addition to academic performance, a student survey was administered and a focus group conducted to determine student perceptions regarding the use of clickers. Initial results indicated an increase from pre to post test scores for both response methods. However, the group using clickers showed a greater mean score gain than the group without the clickers.

2.3 Critique

Studies on the relationship between using technology in the classroom and improved test scores and study habits in developing countries give mixed results. A review of Israel's Tomorrow-98 program in the mid-1990s, which put computers in schools across the country, did not find any impact on Mathematics and Hebrew language scores (Angrist and Lavy, 2002). But in India, a study of a computer-assisted learning program showed a significant positive impact on Mathematics scores (Linden et al., 2003). One thing researchers agree on, more work is needed in this field, necessitating further investigation into study habits and learning of Mathematics in technology enhanced classrooms among students.

3. Statement of the Problem

The present study aims to investigate study habit and learning of Mathematics using multimedia in technology enhanced classrooms and the study is organized around the following questions:

(i) Does the use of multimedia significantly improve study habit and learning of Mathematics among students?

(ii) If so to what extent will students in experimental group show enhancement in study habit and learning of Mathematics?

Based on the review of related literature and the research questions, the study is undertaken keeping in mind the following objectives:

(i) To prepare a plan of action to teach through the enhanced technology, by using multimedia in technology enhanced classrooms;
(ii) To investigate the possible significant difference between the pre-test and post-test scores of study habits among standard IX students in experimental and control groups;
(iii) To investigate the possible significant difference between the pre-test and post-test scores of academic achievement in Mathematics among standard IX students in experimental and control groups;
(iv) To investigate the possible significant difference between the gain scores of study habits among standard IX boys and girls in experimental and control groups and
(v) To investigate the possible significant difference between the gain scores of academic achievement in Mathematics among standard IX boys and girls in experimental and control groups.

4. Hypotheses

For the present study the hypothesis are as follows:

(i) There is no significant difference between the pre-test and post-test scores of study habits among standard IX students in experimental and control groups.

(ii) There is no significant difference between the pre-test and post-test scores of academic achievement in Mathematics among standard IX students in experimental and control groups.

(iii) There is no significant difference between the gain scores of study habits among standard IX students in experimental and control groups.

(iv) There is no significant difference between the gain scores of academic achievement in Mathematics among standard IX students in experimental and control groups.

5. Research Design

The present study envisages the effect of use of multimedia in technology enhanced classrooms on study habits and academic achievement in Mathematics among standard IX students using a pre and post experimental design. The design has been drawn as follows:

Groups	Sample	Pre-test Measures	Teaching	Post-test Measures
Experimental Group	32 students	Study Habits and Academic Achievement in Mathematics	Using Multimedia	Study Habits and Academic Achievement in Mathematics
Control Group	30 students	Study Habits and Academic Achievement in Mathematics	Traditional Instructional Strategy	Study Habits and Academic Achievement in Mathematics

This design was tested with the following experimental procedure.

E = A ---------- M ----------B

C = A ---------- T ----------B

Where E = Sample chosen for the Experimental Group

C = Sample chosen for the Control Group

A = Pre-test measures of Study Habit and Academic Achievement in Mathematics

B = Post-test measures of Study Habit and Academic Achievement in Mathematics

M = Using Multimedia

T = Traditional Method of Instructional Strategy

This instructional treatment was conducted over four weeks in a select Matriculation Higher Secondary School. Two sections of standard IX were enrolled in the study. The classes were selected randomly.

First, topics in standard IX Mathematics text book were selected and a pre-test was conducted to estimate the study habits and academic achievement in Mathematics among these students and to check if there is any significant difference between the two groups with regard to study habits and academic achievement in Mathematics.

Next, drawing on relevant research, all activities were developed by the researcher. Lesson plans for the procedure were based on Gardner's (1993, 1999) suggestions on teaching for a deep learning.

In the next step, the students in the control group were instructed only with traditionally designed learning material. Most of the time, the teacher presented the topics and the students listened to their teacher and answered the questions asked by their teacher. At the same time they carried out activities in their text-books.

However, the instructions for the experimental group varied. Lesson plans were prepared with various activities based on enhanced technology programme.

6. Analyses and Discussion

The data collected from the students were subjected to analyses of variance. The results are presented in appropriate tables and discussed hereunder.

6.1 Analysis of Variance with regard to the Pre and Post-test Scores of Study Habits and Academic Achievement in Mathematics among Students

The analysis of variance commonly referred to by the acronym ANOVA, at its lowest level is essentially an extension of the logic of t-tests to those situations where comparison of means of three or more samples, called independent groups concurrently becomes essential.

The following set of tables (Table-1a and Table-1b) exhibits the analysis of variance among standard IX students experimental and control groups with regard to pre-test scores of study habits and academic achievement in Mathematics. **Table-1a: Statistical Analysis of Means of Pre-test Scores of Study Habits among Standard IX Students in Experimental and Control Groups**

Variable	Sample Size	Mean	SD	SEM	SED	CR
Experimental Group	32	131.78	18.41	3.26	4.60	0.24^{NS}
Control Group	30	132.90	17.75	3.24		

NS – Not Significant
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-1a, the mean and standard deviation of pre-test scores of study habits are 131.78 and 18.41 respectively among standard IX students in the experimental group and 132.90 and 17.75 respectively among standard IX students in the control group. The critical ratio value is 0.24, which is not significant. It is evident that there is

no significant difference in pre-test scores of study habits among students in control and experimental groups.

Table-1b: Statistical Analysis of Means of Pre-test Scores of Academic Achievement in Mathematics among Standard IX Students in Experimental and Control Groups

Variable	Sample Size	Mean	SD	SEM	SED	CR
Experimental Group	32	28.88	5.53	0.98	1.31	0.36^{NS}
Control Group	30	28.40	4.78	0.87		

NS – Not Significant
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-1b, the mean and standard deviation of pre-test scores of achievement in Mathematics are 28.88 and 5.53 respectively among standard IX students in the experimental group and 28.40 and 4.78 respectively among standard IX students in the control group. The critical ratio value is 0.36, which is not significant. It is evident that there is no significant difference in pre-test scores of academic achievement in Mathematics among students in control and experimental groups.

The analysis of variance between the pre and post test scores of study habits and academic achievement in Mathematics among standard IX students in experimental and control groups are presented hereunder (Table-2a to Table-2d).

Table-2a: Statistical Analysis of Means of Pre and Post-test Scores of Study Habits among Standard IX Students in the Experimental Group

Variable	Sample Size	Mean	SD	SEM	SED	CR
Pre-test	32	131.78	18.41	3.26	4.20	3.62**
Post-test	32	147.00	15.01	2.65		

**Significant at 0.01 level
SD-Standard Deviation
SEM-Standard Error of Mean

SED-Standard Error of Difference
CR-Critical Ratio

In Table-2a, the mean and standard deviation are 131.78 and 18.41 respectively of pre-test and 147.00 and 15.01 respectively of post-test scores of study habits among standard IX students in the experimental group. The critical ratio value is 3.62, which is significant at 0.01 level. It is evident that the post-test scores of study habits among students in the experimental group are significantly better than their pre-test scores.

Table-2b: Statistical Analysis of Means of Pre and Post-test Scores of Study Habits among Standard IX Students in the Control Group

Variable	Sample Size	Mean	SD	SEM	SED	CR
Pre-test	30	132.90	17.75	3.24	4.43	0.08^{NS}
Post-test	30	133.27	16.52	3.02		

NS – Not Significant
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-2b, the mean and standard deviation are 132.90 and 17.75 respectively of pre-test and 133.27 and 16.52 respectively of post-test scores of study habits among standard IX students in the control group. The critical ratio value is 0.08, which is not significant. It is evident that there is no significant difference between pre and post-test scores of study habits among standard IX students in the control group.

Table-2c: Statistical Analysis of Means of Pre and Post-test Scores of Academic Achievement in Mathematics among Standard IX Students in the Experimental Group

Variable	Sample Size	Mean	SD	SEM	SED	CR
Pre-test	32	28.88	5.53	0.98	1.30	3.34^{**}
Post-test	32	33.22	4.84	0.86		

**Significant at 0.01 level
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-2c, the mean and standard deviation are 28.88 and 5.53 respectively of pre-test and 33.22 and 4.84 respectively post-test scores of academic achievement in Mathematics among standard IX students in the experimental group. The critical ratio value is 3.34, which is significant at 0.01 level. It is evident that the standard IX students in the experimental group are significantly better in their post-test scores of academic achievement in Mathematics compared to their pre-test scores.

Table-2d: Statistical Analysis of Means of Pre and Post-test Scores of Academic Achievement in Mathematics among Standard IX Students in the Control Group

Variable	Sample Size	Mean	SD	SEM	SED	CR
Pre-test	30	28.40	4.78	0.87	1.35	0.62^{NS}
Post-test	30	29.23	5.65	1.03		

NS – Not Significant
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-2d, the mean and standard deviation are 28.40 and 4.78 respectively of pre-test and 29.23 and 5.65 respectively of post-test scores of academic achievement in Mathematics among standard IX students in the control group. The critical ratio value is 0.62, which is not significant. It is evident that the there is no significant difference in pre and post-test scores of academic achievement in Mathematics among students in the control group.

The next set of analyses that investigated the variances among the post-test scores of study habits and academic achievement in Mathematics among standard IX

students in experimental and control groups are presented in tables below (Table-3a and Table-3b).

Table-3a: Statistical Analysis of Means of Post-test Scores of Study Habits among Standard IX Students in Experimental and Control Groups

Variable	Sample Size	Mean	SD	SEM	SED	CR
Experimental Group	32	147.00	15.01	2.65	4.01	3.43**
Control Group	30	133.27	16.52	3.02		

**Significant at 0.01 level
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-3a, the mean and standard deviation of post-test scores of study habits are 147.00 and 15.01 respectively among standard IX students in the experimental group and 133.27 and 16.52 respectively among standard IX students in the control group. The critical ratio value is 3.43, which is significant at 0.01 level. It is evident that the experimental group students are significantly better compared to control group students in their post-test scores of study habits.

Table-3b: Statistical Analysis of Means of Post-test Scores of Academic Achievement in Mathematics among Standard IX Students in Experimental and Control Groups

Variable	Sample Size	Mean	SD	SEM	SED	CR
Experimental Group	32	33.22	4.84	0.86	1.34	2.99**
Control Group	30	29.23	5.65	1.03		

**Significant at 0.01 level
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-3b, the mean and standard deviation of post-test scores of academic achievement in Mathematics are 33.22 and 4.84 respectively among standard IX students in the experimental group and 29.23 and 5.65 respectively among standard IX students in the control group. The critical ratio value is 2.99, which is significant at 0.01 level. It is evident that the experimental group students are significantly better compared to control group students in their post-test scores of academic achievement in Mathematics.

The results of the analysis of gain scores of experimental and control groups are presented below in Table-4a and Table-4b.

Table-4a: Statistical Analysis of Means of Gain Scores of Study Habits among Standard IX in Experimental and Control Groups

Variable	Sample Size	Mean	SD	SEM	SED	CR
Experimental Group	32	15.22	7.08	1.25	3.29	4.40**
Control Group	30	0.37	17.15	3.13		

**Significant at 0.01 level
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-4a, the mean and standard deviation of gain scores of study habits are 15.22 and 7.08 respectively among standard IX students in the experimental group and 0.37 and 17.15 respectively among standard IX students in the control group. The critical ratio value is 4.40, which is significant at 0.01 level. It is evident that the students in the experimental group are significantly better in their gain scores of study habits compared to students in the control group.

Table-4b: Statistical Analysis of Means of Gain Scores of Academic Achievement in Mathematics among Standard IX in Experimental and Control Groups

Variable	Sample Size	Mean	SD	SEM	SED	CR
Experimental Group	32	4.34	3.94	0.70	1.26	2.79**
Control Group	30	0.83	5.83	1.07		

**Significant at 0.01 level
SD-Standard Deviation
SEM-Standard Error of Mean
SED-Standard Error of Difference
CR-Critical Ratio

In Table-4b, the mean and standard deviation of gain scores of academic achievement in Mathematics are 4.34 and 3.94 respectively among standard IX students in the experimental group and 0.83 and 5.83 respectively among standard IX students in the control group. The critical ratio value is 2.79, which is significant at 0.01 level. It is evident that the students in the experimental group are significantly better in their gain scores of academic achievement in Mathematics compared to students in the control group.

6.2 Discussion on the Analysis of Variance with regard to the Pre and Post-test Scores of Study Habits and Academic Achievement in Mathematics among Students

Today, a great number of experiences with educational technology in higher education exist worldwide, especially in the developed world. This has resulted in new opportunities in the integration of pedagogical and technological resources, which has enlarged flexibility across the learning process. It has equally improved the communication between lecturers and students and the interaction between different educational resources. According to Oliver (2002) use of technology in higher education enhances student-cantered learning. Further, study habits and skills are particularly important for school students, whose needs include time management, note taking, Internet skill, the elimination of distractions, and assigning a high priority to study. Fielden (2004) found that good study habits help students in critical reflection in skills outcomes such as selecting, analyzing, critiquing, and synthesizing.

In the present investigation it is found that there is a difference between pre and post-test scores of study habits of students in the experimental group. A significant improvement in study habits is observed among students in the experimental group, which is the effect of students being exposed to teaching using multimedia, in technology enhanced classrooms. On the other hand it is found that there is no significant difference between pre and post-test scores of study habits among students in the control group. Since there is no improvement in pre and post-test scores of study habits, as they are not exposed to teaching using multimedia in technology enhanced classrooms. Similar is in the case of academic achievement in Mathematics. A significant difference between pre and post-test scores of academic achievement in Mathematics is observed among students in the experimental group and not so in the case of students in the control group.

Further, a significant difference between the gain scores of study habits and academic achievement in Mathematics of students is observed. The students in the experimental group are found to be significantly better in their gain scores pertaining to both study habits and academic achievement in Mathematics, compared to students in the control group. The significant improvement in study habits and academic achievement in Mathematics is due to the effect of use of multimedia in technology enhanced classroom. Enhanced technologies help students to develop better study habits and to involve more in their learning process. In technology enhanced classrooms students are involved in various activities, that keep them engaged throughout the class without getting bored as in the case of traditional classrooms.

7. Conclusion

Technology has greatly improved methods and educational opportunities available in classrooms by providing new approaches that will optimize the teaching-learning process. It enables teachers to provide students with experiences of varied difficulty, randomness and simulating nature. In a traditional classrooms teachers stand in front of the students, giving explanations, informing, and instructing. They usually use chalk to write something on the blackboard. These technique needs slightly to be modified

keeping in par with the development of the technology. The using of multimedia in classroom cannot be denied anymore. That will make possible for teachers giving more opportunity to students being happier and more enjoy during the course. Traditional classrooms have different settings from the multimedia classrooms. Students are seated in rows and a chalkboard in the front. The teacher stands in front of the class giving a lecture. Compared with traditional classrooms, multimedia classrooms setting differ greatly. In the multimedia classrooms, students' seat can be modified according to the situation needed. Inside the classrooms, all the equipment is available and makes the students feel comfortable to study. They sit at wide tables in comfortable chairs and have plenty of room to spread work. Furthermore, they also have the opportunity to move the furniture around for group discussions. A large teaching station is located at the front and to one side of the room. Multimedia makes use of print texts, film, computers and Internet to develop and enhance study habits and knowledge. Through their interactions with multimedia texts on topic of interest, students become increasingly familiar with academic knowledge and study habits (Joshi, 2012).

Technology can be useful in disseminating Mathematics to encourage active learning, develop cooperation and study habits among students, respecting their diverse talents and ways of teaming. The results of this study revealed that technology enhancement has an impact on teaching Mathematics to standard IX students with multimedia for developing better study habits and better academic performance in Mathematics. Technology should be provided to schools and be incorporated in teaching methods, especially for teaching of abstract subjects like Mathematics, to facilitate better understanding and comprehension of the subject content, leading to improved study habits and academic performance.

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