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Effectiveness of Video Clips Presentation in Teaching Mathematics for Grade Five Pupils

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I. INTRODUCTION

Education is a lifelong process that makes an individual's transformation in order to become competitive and survive life's challenges. It is a process in which an individual acquires the skills, knowledge and competencies necessary in life. In its broadest sense it is a form of learning in which knowledge, skills and habits of learners are transferred from one generation to another. Through education, people become equipped with the essential knowledge, usable skills, rightful attitudes, and moral values. Furthermore education plays a huge and vital role in the development of every individual.

As stated in the1987 Philippine Constitution Article XIV, Section 1:

"The State shall protect and promote the right of all citizens to quality education at all levels and shall take appropriate steps to make such education accessible to all."

The cited provision that the delivery of quality education is a priority of the government .Hence, educational sector initiate programs and projects to achieve quality education and to help the learners attain the necessary skills and competencies in the different learning areas. One of the subjects in the elementary curriculum is Mathematics. Teaching of mathematics is viewed as unappealing to the majority of students, as outdated and unconnected with their interests and experiences. Thus, many students find learning mathematics difficult, and do not like studying mathematics. Teachers find ways and means on how the teaching-learning process in Mathematics be improved in order to cope with the challenges in one's daily lives. With this challenge in the educational system in general and in the schools in particular, teachers need to play a very important role to this consideration where most make a wise decision in selecting various kind of instructional materials which will contribute to the improvement of the teaching learning process and the level of performance of the students particularly in Mathematics.

At this juncture, DepEd has introduced several strategic options and conducted various trainings for teachers on the new methods of teaching, adjustment of curriculum as well as preparation of instructional materials to effect the implementation of K to 12 in pursuant to its mandate. Learning is the acquisition of knowledge and skills possible through systematic interaction between teachers and learners. It happens every day and involves teacher, learner, and methodology and materials interaction. Parts of these materials are known as instructional resources .Using videos in teaching is not new. Video as a change instrument in the classroom has undertaken a unique cycle of adoption over time. Video based materials boost student creativity and cooperation. Access to video can help motivate students and create a distinctive context for their learning experience. The outcomes of using supplementary videos are increasing student activity and efficiency of the teaching process. An important issue is establishing a methodology of embedding video clips in multimedia teaching material in order to improve the learning process.

The main motivation for testing the effects of video clip integration into multimedia presentation is that visual stimulation with a media application familiar to the student population can increase their engagement. The selection of appropriate video clips and methodology for their display within the teaching materials represents an important issue for curriculum design, leading to positive learning outcomes. For these reasons, the researcher being a school head was motivated to conduct a study in determining the effectiveness of video clip presentation in teaching Mathematics for grade five pupils in Mahabang Parang Elementary School. This is one of the public elementary Schools in the District of Binangonan I, Division of Rizal.

II. LITERATURE REVIEW

According to Kramsch (2010), technological tools include those that are both content specific and content neutral. In mathematics education, content-specific technologies include computer algebra systems; dynamic geometry environments; interactive applets; handheld computation, data collection, and analysis devices; and computer-based applications. These technologies support students in exploring and identifying mathematical concepts and relationships. Content-neutral technologies include communication and collaboration tools and Web-based digital media, and these technologies increase students' access to information, ideas, and interactions that can support and enhance sense making, which is central to the process of taking ownership of knowledge.

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Findings from a number of studies have shown that the strategic use of technological tools can support both the learning of mathematical procedures and skills as well as the development of advanced mathematical proficiencies, such as problem solving, reasoning, and justifying.

Greenberg (2012) stated that combination of video and text makes sense, as it was believed that video is effective for more than simply showing dynamic processes. Video itself is a tool for learning that when properly applied obtains extensive benefits. It's also a medium for collaboration, and a language unto itself that is of universal appeal. The American Public Broadcasting System's (PBS) annual teacher survey on media and technology, the percentages of teachers finding value in multimedia and video content has increased each year since 2007. Result for 2010 shows that 68 percent believe that video content stimulates discussions. 66 percent believe video increases student motivation. 61 percent believe video is preferred by students. 42 percent believe video directly increases student achievement. Generally, it implies that video usage increases and enhances students' learning. The effects of using supplementary videos are increasing student activity. An important issue is establishing a methodology of embedding video clips in multimedia teaching material in order to improve the learning process. The selection of appropriate video clips and methodology for their display within the teaching materials represents an important issue for curriculum design, leading to positive learning outcomes. Using appropriate teaching media and methods to organize and present only relevant information may also increase the efficiency of the self-learning process.

Soliman (2009) said that Mathematics in its purest sense is an abstraction. Whether it was discovered by or has been created by mankind is perhaps a philosophical point and need not concern us here; but the fact is that it exists, and it is extremely useful in describing and predicting events in the world around. How then is it so useful if it exists "independent of human beings personally and of the world outside?" The answer lies in the ability of mathematics to model effectively numerous aspects of the real world. It does this by creating abstract structures that have properties or attributes similar to its real-world counterpart. If the model behaves in a manner that truly parallels the original, then it becomes possible to manipulate and use the model to make conclusions and/or predictions about its counterpart in the real world. It can be done because teachers know the two systems "behave" in the same manner and because they know that an operation in one system will have its counterpart in the other.

Salandanan (2009) stated that computers could be used in presenting the days' lesson, solving problems and providing educational games. Schools should aim for achieving "computer literacy" and providing experience in operating unit. Students will eagerly attempt to become familiar with the components such as the computer hardware (equipment) and the software (program) and how it functions. In recent years computer literacy has been included as part of the curriculum of many schools.

Some schools could afford to use of computer-assisted instructional applications such as drill and practice programs, tutorials, simulations and game programs. Other schools are able to have the computers because of sponsors who are willing to donate laptops, computers and other forms of technology based materials.

Celestino (2009) added that computer enables to display the multi-media presentation to inquire into and gain access to textual as well as animated displays of information from store computer-based reference system.

As a teaching tool, it is the fastest, the most powerful and the most efficient device. As such one can work with an enormous amount of data generated from actual life situation. It will help us in an actual teaching-learning session. It is a great aid for an effective educative process because the students need not to repeat writing or designing the illustrations which serve as activities of a specific lesson. They could save their exercises in a file name and retrieve them when needed.

The different places in the world are connected. Globalization has bridged the gap and computer is the key instrument. Facebook and Twitter are just two social networking sites that pioneered the phenomenon. These facts are most observable in the developed and some developing countries. He said that thought the Philippine government has initiated several programs and projects for the use of ICT in education; real implementation on the day-to-day learning is still limited.

Based on the study of Martin (2009), today's student has unprecedented access to media, information, and even global interaction that was unheard of only a few years ago. With all of the various media our students are exposed to daily, engaging student learning in a traditional classroom might prove challenging. The purpose of this study was to determine whether or not a highly interactive, 3-D video game, Dimension-M, can achieve the goal of not only positively influencing middle school student achievement in mathematics, but also positively influencing their attitude. In addition, this study examined whether or not gender interacts to influence this hypothesized impact on achievement and attitude. Cape Fear Middle School created a mathematics remediation course called Virtual Math for students who achieved below proficient levels on their state end-of-grade mathematics exams. The Virtual Math class provided a setting for the study. Achievement and attitude data was collected for 21 girls and 8 boys in grades six through eight prior to their exposure to the video game environment. Following a pre-test and pre-attitude survey, students played the game.

Tutorial mission and the Xeno Island mission, which addressed the concepts of prime numbers, even and odd patterns, and perfect squares. Students received no direct mathematics instruction during the treatment period in order to test the impact of the game alone. Following the treatment, a post-test and post-attitude survey were administered. Students displayed a significant gain in achievement ($t(27) = -3.96$, $p < .05$), but no significant differences were detected between their pre- and post-attitude surveys. An interview with the tutor assigned to the students, the school's math coach, and the principal of the school, indicated a positive impact on students ' mathematics performance in their regular math classes as well as a positive impact on students' self-efficacy in mathematics. The results of the study imply that Dimension-M can potentially have a positive impact on student achievement and that students respond enthusiastically to the Dimension-M environment.

The mentioned study has similarity to the present study since both studies focused on the use of video lessons in teaching.

The study of Dollente (2015) determined the effectiveness of multimedia strategies in teaching Mathematics for grade one pupils in Isaias S. Elementary School, District II-A, Division of Antipolo City during the School Year 2014-2015.

The study revealed that Grade one pupils have Moderately Satisfactory performance in the pretest and obtained Very satisfactory performance in the post test. Performance in mathematics of the experimental group in the pretest and posttest differ significantly. Likewise, there is a significant difference between the performance of the control group in the pretest and posttest. Performance in Mathematics of the two groups of respondents differ significantly as revealed in the posttest. Performance in Mathematics of the grade one pupils differ significantly when they are grouped according to monthly family income and academic performance. On the other hand, sex is not significant on the performance of pupils. The study concluded that pupil's performance in Mathematics improved after exposure to different methods of teaching. Pupils exposed to multimedia strategies have better performance in Mathematics than those pupils exposed to traditional method of teaching. Monthly family income and academic performance are determinants of performance of pupils in Mathematics. The study recommended that teachers should continuously utilize multimedia approaches in teaching Mathematics for better performance. Pupils should be exposed to more challenging activities in Mathematics utilizing multimedia approaches.

The cited study has similarity with the present study since both studies focused on Mathematics. However, the former study is on the use of multimedia strategies while the present study considered video clips presentation.

The study of Villaflores (2014) aimed to determine the effectiveness of utilization of electronic-based instructional materials in teaching Mathematics for grade six pupils in Buhangin Elementary School and Malakaban Elementary School. The respondents of the study were the two sections of the grade six pupils of the said schools. They were described in terms of sex, monthly family income and academic performance. Pretest and posttest were used as the main instrument in determining the level of performance in Mathematics of the two groups of respondents, the experimental and control groups. This was administered to the respondents before and after using the electronic-based instructional materials and the traditional method in teaching Mathematics. The experimental group was exposed to electronic-based instructional materials while the control group was exposed to traditional method. Likewise, experimental research design was utilized in this study to determine the effectiveness of utilizing electronic-based instructional materials in teaching Mathematics.

The study revealed that grade six pupils obtained a fair performance in the pretest and a good performance in the posttest. Performance in Mathematics of the experimental group in the pretest and posttest differ significantly. There is a significant difference between the performance in Mathematics of the experimental group in the pretest and posttest. Performance in Mathematics of the two groups of respondents differ significantly as revealed in the posttest. Performance in Mathematics of the grade six pupils differ significantly when they are grouped according to monthly family income and academic performance. On the other hand, sex is not significant on the performance of pupils. The study concluded that pupil's performance in Mathematics improved after exposure to different methods of teaching. Pupils exposed to electronic-based instructional materials have better performance in mathematics than those pupils exposed to traditional method of teaching. Monthly family income and academic performance are determinants of performance of pupils in Mathematics. The study recommended that Teachers should continuously utilize electronic based instructional materials in teaching Mathematics for better performance. Pupils should be exposed to more challenging activities in Mathematics utilizing electronic-based instructional materials.

The reviewed study is parallel to the present study since both studies focused on the teaching of Mathematics. However, the reviewed study considered electronic based materials while the present study considered video clips presentation.

Mendoza (2015) determined the effectiveness of video presentation to students' learning. This was derived due to the changes and updates the world has to offer on enhancing student's wisdom. Instructors and even students rely or use educative videos to learn, compare and understand concepts. The use of video is only beginning to meet the needs of today's and tomorrow's learners. Using videos in teaching is not new.

It was proposed that videos are effective when used to develop information literacy, using a student survey to measure the effectiveness of video lectures. Video based materials boost students' creativity and cooperation. Access to video can help motivate students and create a distinctive context for their learning experience. Questionnaires were administered to 224 students of Benguet State University to measure effectiveness of video presentation to student's learning. From the outcomes, it was found out that there is no significant difference on students' perceptions of the effectiveness of video presentation to students' learning when grouped according to sex. Moreover, results revealed that a significant difference exists among students' perceptions of the effectiveness of video presentation when grouped according to their academic level. Furthermore, it is revealed that the level of effectiveness of video presentation to students learning is highly effective.

The reviewed study is parallel to the present study since both studies focused on the use of video clips presentation in teaching.

The study of Barasi (2015) determine the effectiveness of video clips presentation on the performance in Science and Health of grade four pupils in Mayamot Elementary School in Antipolo City during the School Year 2014-2015. Eighty three (83) grade four pupils were considered in the study. They were the two groups who were chosen for the experimental and the control groups. The control group was exposed to traditional method of teaching while the experimental group was exposed to video clips presentation. Pretest and posttest were used as instrument to analyse the performance of pupils. The researcher focused on the skills and competencies reflected in the Philippine Elementary Learning Competencies (PELC) for the second grading period. These competencies correspond with the content areas in the video clips presentation.

The study revealed that Grade four pupils have fair performance in the pretest and obtained Very satisfactory performance in the posttest. Performance in Science and Health of the experimental group in the pretest and posttest differ significantly. Likewise, there is a significant difference between the performance in the pretest and posttest of the control group. Performance in Science and Health of the two groups of respondents differ significantly as revealed in the posttest. Performance in Science and Health of the grade four pupils differ significantly when they are grouped according to monthly family income and academic performance. On the other hand, sex is not significant on the performance of pupils. The study concluded that pupil's performance in Science and Health improved after exposure to different methods of teaching. Pupils exposed to video clips presentation have better performance in Science and Health than those pupils exposed to traditional method of teaching. Monthly family income and academic performance are determinants of performance of pupils in Science and Health. The study recommended that teachers should continuously utilize multimedia-based lessons in teaching Science and Health for better performance. Pupils should be exposed to more challenging activities in Science and Health utilizing multimedia approaches.

The mentioned study is parallel to the present study since both studies focused on the use of video clips presentation. However, the previous study is on the teaching of Science while the present study is on the teaching of mathematics.

The study of Avellaneda (2014) focused on the level of effectiveness of utilization of video clips on the development of reading comprehension skills of grade III pupils in Mayamot Elementary School during the School Year 2013-2014.

The study found out that in the pretest the experimental and control group obtained fair performance in the pretest in all lessons with overall mean scores of 3.46 and 3.32 respectively. In the posttest, the experimental group obtained a mean score of 8.24 interpreted Very Good while the control group obtained a mean score of 6.80 interpreted Good. Reading comprehension skills of the experimental group and control group in the pretest and posttest differ significantly. Reading comprehension skills of the experimental and control group in the posttest differ significantly. Sex is not significant on the reading comprehension skills while monthly family income and academic performance are significant. The study concluded that utilization of video clips and traditional method of teaching improved the reading comprehension skills of pupils in English. Pupils exposed to the utilization of video clips have better reading comprehension skills than those pupils who were taught utilizing the traditional method of teaching. Reading comprehension skills of pupils differ significantly when they are grouped together according to monthly family income and academic performance. The study recommended that pupils should be exposed to more technology-based instructional materials to enhance their reading comprehension skills. Teachers should employ varied approaches and strategies to improve the pupils' performance.

The mentioned study and the present study are similar since both dealt with the utilization of video clips. Both studies applied experimental method of research. However, the cited study is on reading while the present study is on Mathematics.

Alejo (2015) determined the level of effectiveness of video lessons on the reading comprehension skills of grade five pupils in Macamot Elementary School during the School Year 2015-2015. The study considered two groups of respondents. The first group (V-Mahogany) was considered as the control group exposed to the traditional approach in teaching Reading while the experimental group (V-Molave) was exposed to video lessons in teaching Reading. The pupil-respondents were described in terms of sex, monthly family income and academic performance.

Experimental research method utilizing matched grouped design was employed. Pretest and posttest were used as instrument in determining the reading comprehension skills of the pupils with respect to noting details, predicting outcomes, cause and effect relationship and sequencing events.

The study revealed that the experimental and control group obtained fair performance in the pretest in all tested skills while in the posttest, the experimental group obtained Very Good performance in all skills after exposure to video lessons. On the other hand, the pupils taught using the traditional method obtained good performance. There is a significant difference between the reading comprehension skills of the pupils in the pretest and posttest. Similarly, significant difference exists between the reading comprehension skills of the control group. Reading comprehension skills of the pupils exposed and unexposed to video lessons differ significantly. Sex is not significant on the reading comprehension skills of pupils exposed to video lessons while monthly family income and academic performance are significant.

The study concluded that utilization of video lessons and traditional method of teaching improved the reading comprehension skills of pupils in English. Pupils exposed to the utilization of video lessons have better reading comprehension skills than those pupils who were taught utilizing the traditional method of teaching. Reading comprehension skills of pupils differ significantly when they are grouped according to monthly family income and academic performance. On the other hand, sex is not a determinant of pupils' reading comprehension skills.

The study recommended that pupils should be exposed to more technology based instructional materials to enhance their reading comprehension skills. Teachers should employ varied approaches and strategies to improve the pupils' reading comprehension skills.

The reviewed study and the present study are parallel since both dealt with the utilization of video clips. Both studies applied experimental method of research. However, the cited study is on reading while the present study is on Mathematics.

The reviewed literature and studies are deemed significant to the present study since related ideas on the utilization of instructional materials, technology resources and teaching of Mathematics are discussed which contributed in the development of the different phases of the study. Furthermore, the ideas and findings of the reviewed literature and studies will be used in strengthening the findings and implications of the present study.

III. STATEMENT OF THE PROBLEM

The study aimed to determine the effectiveness of video clips presentation in teaching Mathematics for grade five pupils in Mahabang Parang Elementary School during the School Year 2022-2023.

Specifically, it sought answers to the following questions:

1) What is the profile of the pupil-respondents in terms of:
a) Sex;
b) Sibling position;
c) Monthly family income; and
d) Parents' educational attainment?
2) What is the level of performance in Mathematics of the two groups of respondents as revealed in the pretest and posttest results?
3) Is there a significant difference on the level of performance in Mathematics of the two groups of respondents as revealed in the pretest and posttest results?
4) Is there a significant difference on the level of performance in Mathematics of the students exposed and unexposed to video clips presentation as revealed in the posttest results?
5) How does the performance in Mathematics of the pupils exposed to video clips presentation as revealed in the posttest results differ in terms of their profile?

IV. SCOPE AND LIMITATION OF THE STUDY

The study aimed to determine the effectiveness of video clips presentation in teaching Mathematics for grade five pupils in Mahabang Parang Elementary School during the School Year 2022-2023.

Two sections of grade five pupils in the said school were considered as respondents divided into two groups, the experimental group and the control group respectively. Each group consists of 48 pupils. They were described in terms of sex, sibling position, monthly family income and parents' educational attainment. The experimental group was exposed to video clips presentation while the control group was taught using the traditional method of teaching. Experimental method of research utilizing parallel group design was used utilizing pretest and posttest as instrument in determining the performance of pupils in Mathematics.

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V. RESEARCH METHODOLOGY

A. Participants and/or Sources of Data

The experimental method of research was used in the study. According to Calmorin (2016), it is a problem solving approach that the study described in the future on what will be when certain variables are carefully controlled or manipulated. It is expected to reveal cause and effect relationship. The problem is to know the conditions under which an event occurs and to observe the whole transaction closely so that one can be reasonably sure causation is present. Experimental design is a research wherein the researcher manipulates and controls one or more independent variables for variation concomitant to the manipulation of the dependent variable.

Experimental research utilizing parallel group design was applied. Parallel group design includes two or more groups which are used at the same time where only one single variable is manipulated or changed. The experimental group is valued while the parallel group serves as the control for comparative purposes. This is an experimental study involving two groups of respondents. There are two comparable group employed as experimental and control group.

Two groups of grade five pupils in Mahabang Parang Elementary School were considered as respondents of the study which are the experimental group and the control group respectively. They were described in terms of sex, sibling position, monthly family income and parents' educational attainment. The experimental group was exposed to video clips presentation in teaching Mathematics while the control group will be taught using the traditional method of teaching.

B. Data Collection and Data Analysis

The main instrument used to gather the needed data is a researcher-made test composed of two sets of 50 items based on the table of specification. The test served as the pretest and posttest. The pretest is parallel to the posttest which contained items on lessons in Mathematics for grade five pupils in the fourth grading period. For the interpretation of the mean performance, the following scale was used:

Range		Verbal Interpretation
50	-	Outstanding
37-49	-	Very Satisfactory
25-36	-	Satisfactory
13-24	-	Fairly Satisfactory
1-12	-	Did Not Meet Expectations

The pretest was prepared and administered to 20 grade five pupils not included in the study. The test papers were collated, scored and subjected to split half method for validation. After the validation of the instrument, the researcher sought permission from the concerned authorities for the conduct of the study.

After choosing the respondents, the researcher administered the pretest to the respondents. The researcher determined the lessons reflected in Mathematics for grade five pupils for the video clips presentation.. The prepared materials were used in presenting lessons for the experimental group. On the other hand, the control group was taught using the traditional method. Administration of the posttest was done after completing all the lessons in the fourth grading period. Data were tallied, and computed utilizing appropriate statistical tools. Analysis and interpretation of data were done with the help of the statistician. Summary of findings, conclusions and recommendations were formulated. After considering all the comments and suggestions in the final oral defense, hardbound copies were submitted to the Office of the Dean of the Graduate Studies Program and other offices.

To determine the profile of the respondents in terms of sex, sibling position, monthly family income and parents' educational attainment, frequency and percentage distribution were utilized.

To determine the performance in Mathematics of the two groups of respondents as revealed in the pretest and posttest results, mean and standard deviation were used.

To find out the significant difference on the performance in Mathematics of the two groups of respondents as revealed in the pretest and posttest results, dependent t-test was applied.

To find out if significant difference exists on the performance in Mathematics of the pupils s exposed and unexposed to video clips presentation as revealed in the posttest results, independent t-test was used.

To determine the significant difference on the performance in mathematics of the pupils exposed to video clips presentation as revealed in the posttest results, in terms of their profile, one-way analysis of variance was applied.

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VI. DISCUSSION OF RESULTS AND RECOMMENDATION

A. Profile of the Pupil-Respondents

Table 1 presents the frequency and percentage distribution of the pupil-respondents in terms of the selected variables.

Table 1
Frequency and Percentage Distribution of the Pupil–Respondents in Terms of the Selected Variables

Sex	f		%	
Male	52		54	
Female	44		46	
Total	96		100	
Sibling Position				
First	42		44	
Second	23		24	
Third	12		13	
Fourth	5		6	
Fifth	3		3	
Total	96		100	
Monthly Family Income				
₱20,000 and above	13		13	
₱15,000 - ₱19,999	41		43	
₱10,000 - ₱14,999	40		42	
below ₱10,000	2		2	
Total	96		100	
Parents' Educational Attainment	Father		Mother	
	f	%	f	%
College Graduate	12	13	13	14
College Undergraduate	33	34	22	23
High School Graduate	46	48	27	28
High School Undergraduate	5	5	34	35
Total	96	100	96	100

As reflected from the table, in terms of sex, there are more male respondents than males with 54 percent boys and 46 percent girls. In terms of sibling position, most of the respondents are first, second and third child in the family while few of them are fourth and fifth child in the family. With regard to their monthly family income, majority belongs to families with monthly income ₱15,000 - ₱19,999 and ₱10,000 - ₱14,999. However, only 13 percent and 2 percent respectively belongs to family with monthly income of ₱20,000 and above and below ₱10,000. As regard to their parents' educational attainment, most of ther fathers are high school graduates and college undergraduate, whereas, their mothers are high school undergraduates and high school graduates.

B. Level of Performance in Mathematics of the Two Groups of Respondents as Revealed in the Pretest and Posttest Results

Table 2 presents the level of performance in Mathematics of the two groups of respondents as revealed in the pretest results.

Table 2
Level of Performance in Mathematics of the Two Groups of Respondents as Revealed in the Pretest Results

Respondents	Mean	VI	SD	MPS
Experimental (Video Clips Presentation)	20.40	Fairly Satisfactory	3.607	40.80
Control (Traditional)	17.31	Fairly Satisfactory	5.672	34.62

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The table reflects that the experimental group obtained a mean score of 20.40 in the pretest with a verbal interpretation of Fairly Satisfactory. In the same manner, the mean score of 17.31 was obtained by the control group is also interpreted Fairly Satisfactory. The computed standard deviation of 3.607 and 5.672 respectively revealed that there is homogeneity among the pretest scores of each group. The mean percentage scores of 40.80 and 34.62 respectively indicate that the pupils have below level of mastery of the concepts given in the pretest.

Results reveal that the two groups of respondents have the same access knowledge in Mathematics before the conduct of the experiment. This implies that they are not yet prepared to learn the competencies needed for the next lesson.

This is related with the ideas of Dollente (2015)that pupil's performance in Mathematics improved after exposure to different methods of teaching. Pupils exposed to multimedia strategies have better performance in Mathematics than those pupils exposed to traditional method of teaching.

Table 3 presents the level of performance in Mathematics of the two groups of respondents as revealed in the posttest results.

Table 3
Level of Performance in Mathematics of the Two Groups of Respondents as Revealed in the Posttest Results

Respondents	Mean	VI	SD	MPS
Experimental (Video Clips Presentation)	41.44	Very Satisfactory	2.315	82.88
Control (Traditional)	37.08	Very Satisfactory	3.853	75.60

The table depicts that in the posttest, the experimental group obtained a mean score of 41.44 verbally interpreted Very Satisfactory. On the other hand, the control group also obtained a Very Satisfactory performance with a mean score of 37.08. The computed standard deviation of 2.315 and 3.853 indicate that the scores of both groups have less variability. The mean percentage scores of 82.88 and 75.60 respectively indicate that the learners have mastered the necessary competencies on the mathematical concepts presented.

The results reveal that learners who were exposed to video clips presentation have higher scores than those learners exposed to traditional method of teaching. This implies that pupils are motivate and interested to learn Mathematics integrating the use of video clips presentation.

This coincides with the statements of Villaflores (2014) that pupil's performance in Mathematics improved after exposure to different methods of teaching. Pupils exposed to electronic-based instructional materials have better performance in mathematics than those pupils exposed to traditional method of teaching. Monthly family income and academic performance are determinants of performance of pupils in Mathematics.

C. Significant Difference on the Level of Performance in Mathematics of the Two Groups of Respondents as Revealed in the Pretest and Posttest Results

Table 4 presents the computed t-values on the performance in Mathematics of the experimental group as revealed in the pretest and posttest results.

Table 4
Computed t-values on the Performance in Mathematics of the Experimental Group as Revealed in the Pretest and Posttest Results

Test	Mean	Mean diff	df	tcomp	p-value	Ho	VI
Pretest	20.40	21.04	47	18.613	.000	Rejected	Significant
Posttest	41.44						

The table shows that with respect to the performance of the experimental group in the pretest and posttest results, the computed means obtained a mean difference of 21.04 which yields a t-value of 18.613 and a probability value of .000 at .05 level of significance with 47 degrees of freedom. This rejects the null hypothesis stating that there is no significant difference on the performance in Mathematics of the pupils before and after exposure to video clips presentation.

Findings reveal that there is a significant improvement on the performance in Mathematics of the pupils after they were exposed to video clips presentation. This implies that the learners develop interest to the subject utilizing such strategy.

This is supported by the findings Mendoza (2015) which revealed that there is no significant difference on students' perceptions of the effectiveness of video presentation to students' learning when grouped according to sex. Moreover, results revealed that a significant difference exists among students' perceptions of the effectiveness of video presentation.

Table 5 presents the computed t-values on the performance in Mathematics of the control group as revealed in the pretest and posttest results.

Table 5
Computed t-values on the Performance in Mathematics of the Control Group as Revealed in the Pretest and Posttest Results

Test	Mean	Mean diff	df	tcomp	p-value	Ho	VI
Pretest	17.31	19.77	47	3.134	.003	Rejected	Significant
Posttest	37.08						

Based on the results of the pretest and posttest of the control group, the computed means obtained a mean difference of 19.77 and resulted to a t-value of 3.134 and a probability value of .003. The null hypothesis stating that there is no significant difference on the performance in Mathematics of the control group before and after exposure to traditional method of teaching in Mathematics is therefore rejected.

It could be deduced from the results that the performance of the pupils in Mathematics improved after they were exposed to the traditional method of teaching. This implies that the use of repletion and memorization of information to education pupils is still effective in teaching Mathematics.

This related with the findings of the study of Barasi (2015) that Grade four pupils have fair performance in the pretest and obtained Very satisfactory performance in the posttest. Performance in Science and Health of the experimental group in the pretest and posttest differ significantly. Likewise, there is a significant difference between the performance in the pretest and posttest of the control group. Performance in Science and Health of the two groups of respondents differ significantly as revealed in the posttest.

D. Significant Difference on the Performance in Mathematics of the Pupils Exposed and Unexposed to Video Clips Presentation as Revealed in the Posttest Results

Table 6 presents the computed t-values on the performance in Mathematics of the pupils exposed and unexposed to video clips presentation as revealed in the posttest results.

Table 6
Computed t-values on the Performance in Mathematics of the Pupils Exposed and Unexposed to Video Clips Presentation as Revealed in the Posttest Results

Respondents	Mean	Mean diff	df	tcomp	p-value	Ho	VI
Experimental	41.44	4.36	94	5.52	.014	Rejected	Significant
Control	37.08						

As shown in the table, the obtained mean difference on the posttest results of the two groups of respondent is 4.36 with a computed t-value of 5.52 and a probability value of .014. This rejects the null hypothesis stating that there is no significant difference on the performance in Mathematics of the pupils exposed and unexposed to video clips presentation as revealed in the posttest results.

Findings indicate that pupils exposed to video clips presentation perform much better that those learners taught using the traditional method of teaching. Findings imply that the use of video clips presentation in teaching Mathematics motivate pupils to enjoy learning. This is similar with the study of Avellaneda (2014) that in the pretest the experimental and control group obtained fair performance in the pretest in all lessons with overall mean scores of 3.46 and 3.32 respectively. In the posttest, the experimental group obtained a mean score of 8.24 interpreted Very Good while the control group obtained a mean score of 6.80 interpreted Good. Reading comprehension skills of the experimental group and control group in the pretest and posttest differ significantly.

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E. Significant Difference on the Performance in Mathematics of the Pupils Exposed to Video Clips Presentation as Revealed in the Posttest Results in Terms of Their Profile

Table 7 presents the computed F-values on the performance in Mathematics of the pupils exposed to video clips presentation as revealed in the posttest results in terms of their profile.

Table 7
Computed F-values on the Performance in Mathematics of the Pupils Exposed to Video Clips presentation as Revealed in the Posttest Results in Terms of Their Profile

Variables	Fcomp	p-values	Ho	VI
Sex	4.332	.001	Rejected	Significant
Monthly Family Income	3.456	.021	Rejected	Significant
Sibling Position	.337	.859	Accepted	Not Significant
Fathers' Educational Attainment	1.212	.258	Accepted	Not Significant
Mothers' Educational Attainment	.512	.544	Accepted	Not Significant

It could be gleaned from the table that in terms of sex and monthly family income, the computed F-values obtained probability values less than .05. This rejects the null hypothesis stating that there is no significant difference on the performance of the pupils in Mathematics exposed to video clips presentation.

On the other hand, in terms of sibling position, fathers' educational attainment and mothers' educational attainment, the null hypothesis is accepted having p-values greater than .05 probability value.

It could be deduced from the results that sex and monthly family income are significant on the performance of pupils in Mathematics, while sibling position, fathers' educational attainment and mothers' educational attainment are not significant. This implies that pupils who belong to families with higher income may have better performance.

This is in conformity with the findings of Alejo (2015) that utilization of video lessons and traditional method of teaching improved the reading comprehension skills of pupils in English. Pupils exposed to the utilization of video lessons have better reading comprehension skills than those pupils who were taught utilizing the traditional method of teaching. Reading comprehension skills of pupils differ significantly when they are grouped according to monthly family income and academic performance. On the other hand, sex is not a determinant of pupils' reading comprehension skills.

VII. CONCLUSIONS

Based on the findings of the study, the following conclusions are drawn:

1) Performance in Mathematics of the pupils enhanced after exposure to the video clip presentation. Similarly, performance of pupils taught using the traditional method of teaching also improved in the posttest.
2) The two groups of respondents have the same level of performance in Mathematics before the start of the experiment. The pupils exposed to the video clips presentation performed better than those pupils exposed to traditional method of teaching.
3) Performance in Mathematics of pupils exposed to the video clips presentation differ significantly when they are grouped according to sex and monthly family income while sibling position, fathers' educational attainment and mothers' educational attainment do not differ.

VIII. RECOMMENDATIONS

In the light of the findings, the following recommendations are hereby offered:

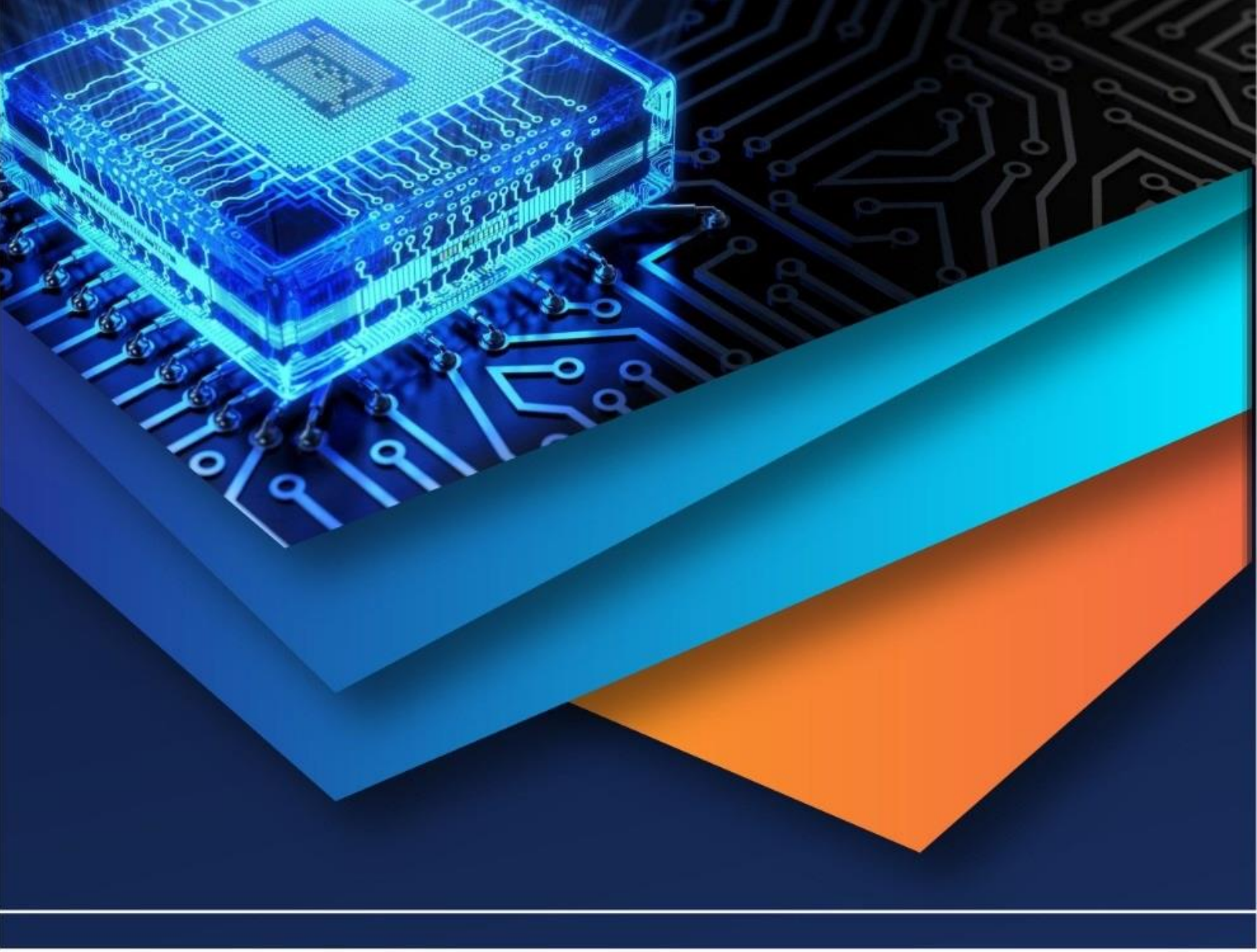
1) Administrators may invest significant effort and funding in lab equipment, course preparation and their continuous updating.
2) Teachers may be provided with adequate support in their field throughout the process of designing and developing materials in interdisciplinary studies.
3) Pupils may be exposed to more collaborative learning activities to enhance their reading comprehension.
4) The proposed action plan is recommended for implementation.
5) Parallel studies may be conducted considering other variables.

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