USING INSTRUCTIONAL MULTIMEDIA TO AROUSE THE INTEREST OF HIGH SCHOOL STUDENTS' IN TEACHING AND LEARNING AT ANTOA SENIOR HIGH SCHOOL

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ABSTRACT

The purpose of the study is to arouse the interest of High School students of Antoa Senior High School in the teaching and learning. The instruments used for the collection of such data in this research were observation, interview, and class exercises. These interventional designs and mechanisms were implemented to solve the research problem. The use of PowerPoint to present lessons and various subjects in high school education curriculum. The research was conducted to follow the descriptive research design. The study was conducted at Antoa Senior High School. The entire high school students of about 700 were used as the population for this research work. A non random purposive sampling method was used to select eighty (80) students. The researcher employed various techniques and instruments to gather data in aid of rectifying the situation at hand. The instruments used for data collection were questionnaire, interview, observation, and teacher-made test. Descriptive approach was used to analyze the data. The data was converted into tables for easy analysis and presentation. These tables were converted into bar graphs for visual presentation and interpretation. In all, the study brought to light these findings: Students no longer capitulate but rather show great interest in class when PowerPoint is used to present lessons and various subjects significantly improved students' performance. Also, the use of Activity method to teach lessons increases participation and greatly improves the academic performance of students.

Keywords: Instructional Multimedia, Teaching and Learning, Senior High School (SHS).

1. Introduction

The usage of technology in education became considerably popular in recent years (Connor and Wong, 2004). Nowadays, there are perceptions regarding the education technologies as "necessity" (Thomas, 2002). Introduction of technology to educational environments generate effective learning environments through developing learning materials. (Akkoyunlu and Yilmaz, 2005). The usage of computers in education (internet, simulations, animations, visual and audio presentations, etc.) ushers a new age in transmitting information and presents education tools which potentially can change some traditional and non-effective educational methods (Asan, 2003). Technology is an important support element in the development of learning processes of the students; computers are tools which provide technological support to the development of effective learning and teaching processes (Acikalın and Duru, 2005).

Senior High School students are a difficult audience. Teachers have to compete with students' friends and the media. Teachers are always looking for those perfect techniques that will attract these skittish teenagers' attention while at the same time teach them something. Education systems around the world face formidable challenges that are taxing conventional

strategies. Fresh approaches are needed to address persistent problems of the past and provide students with an education appropriate to the needs of a modern, information-based environment. No single solution exists to address these immense challenges. New approaches and strategies for change are needed and computer-mediated communication, and related educational technologies are an important part of these approaches and strategies. During this generation of learners, who are heavily stimulated by visual and active involvement, there is a need to create innovative, pedagogical approaches that effectively utilize technology and meet students' needs.

Most often, teachers use the lecture and discussion method of teaching. Conversely, most lessons are supposed to be activity and practically oriented. This leads to the waning of interest in learning among students. As a result, students perform poorly in internal examinations. Teachers are in most cases blamed for the poor performance of students. It has therefore become the priority of teachers to use innovative strategies of teaching to salvage the situation. The researcher has therefore decided to find out if the use of instructional multimedia (PowerPoint) could help arouse students' interest in the teaching and learning.

2. Literature Review
2.1 Effective Teaching and Learning Methods
There is an unfathomable amount of information regarding most effective teaching methods. However, there are two theories that are prominent. One theory encourages the teacher to understand the different learning styles and demands that the teacher provides a variety of lessons that respond to these differences. The other articulates the need for lessons to promote active participation and learning.
2.1.1 Learning Styles/Modalities
It is understood that no two people are alike and no two people learn in the same way. People process, organize, and react to new information differently. These different responses are called learning styles. Wilson (1998) explained that there are many different elements that affect a person's learning style. They are learning modalities, emotionality, motivation, internal processing, personality, personal background, and the environment. There is a wide variety of information on all of these elements.

Theorists who prescribe to the "learning modalities" principle stated that students possess several learning modalities: visual, auditory, and kinesthetic. These scholars asserted that to be effective, teachers must understand and consider their choices of teaching techniques with regard to student's learning modalities (Wilson, 1998). For example, to meet the needs of visual learners, teachers need to present materials that students can see. For auditory learners, sound must be an aspect of the lessons. Finally, to teach kinesthetic learners, lessons should be physically active. However, there is a debate on how to determine a students' learning modality.

Dunn and Dunn (1993) are the proponents of the theory of "learning modality preferences". They pointed out that students have particular preferences with regard to how information was presented to them. According to them students learn best when the teacher uses techniques that take their modality preferences into consideration (Wilson, 1998). Brown (1996) demonstrated that students mostly preferred kinesthetically based lessons (as cited in Miller, 2001). A study done by Specific Diagnostic Studies mirrored that finding (as cited in Miller, 2001). Based on this theory, teachers aim at providing much more hands-on activities because these activities most likely motivate students to learn.

In contrast, Barbe, Milone, and Swassing (1970) claimed that rather than taking an inventory of likenesses, teachers should focus on which methods actually produced better learning results. This theory is called "The Modalities Strengths Model". The authors contended that

a person's preference in learning was not necessarily their strength. The study, done much earlier than Brown's, indicated that only 15 percent of people actually learned best kinesthetically (as cited in Miller, 2001). Therefore, preference may not be the best predictor of actual retention of knowledge. According to the theory, teachers need to observe, experiment and test to determine which methods prove to be the most effective techniques. However, the two methods were not as far apart as the research seemed to suggest. They agreed that each person possesses all of the modalities just in different ways. A person might prefer or be stronger in one method but they still retain the other modalities and the ability to access and utilize them. Similarly, a person's strengths or preferences in one situation may be different in another (Miller, 2001). A different day, a different subject, a different year could be the determining factor with regards to their learning style. Therefore, a variety of techniques that hits all learning modalities would be the most effective at transmitting knowledge to students (Wilson, 1998).

2.1.2 Active Learning

Active Learning is another aspect of education that scholars hype as a necessary component to learning. To be actively learning, a student should be engaged in the learning. Engagement could be measured in several ways and is a topic that is much too broad to be exhaustively discussed here. However, participation in the learning process is an essential element in engagement and active learning (Ryan & Patrick, 2001). Slavin (1990), discussed the role of participation and active learning. He emphasized that a good learning environment requires students to be intellectually active. Later, he provided data that proved that students actually learn better when they are actively involved (as cited in Hendrix, 1999).

Cooperative Learning and Small-Group Work were often cited as effective learning techniques because students are most active during these activities (Laney, 1999; Rathunde & Csikszentmihalyi, 2005; Chiodo & Byford, 2004). Since the activities are student-centred, students are naturally engaged in the process of learning. Many proponents of cooperative learning looked negatively on whole-class instruction since it was perceived as teacher-centred and inactive (Bolliger, 2003).

In contrast, other authors pointed out that active learning did not only occur in small groups. It was also achieved through whole-class activities by way of teacher-student interaction. If the teacher requires student participation during whole-class instruction, it becomes active (Ryan & Patrick, 2001). Future teachers are shown techniques that require participation while in a whole-class format. In summary, teacher led, whole-class activities can be engaging and active as long as they are not teacher-centred lessons. For the lesson to be most effective, students need to participate in the process by interacting with the teacher and each other.

2.1.3 Combining Efficiency and Effectiveness in Teaching and Learning

Efficiency is the quality of being able to do a task successfully without wasting time or energy while effectiveness is the ability to perform a task well and produce the intended or desired results. This section looks at the effectiveness and efficiency of teaching and learning techniques together with their teaching and learning aids.

2.1.4 Lecture and Discussion

As widely accepted, although arguable that lecture is one of the most efficient methods of teaching, there is little quantitative, testable data on the effectiveness of lecture. But, when applying the theories of Learning Modalities and Active Learning, lecture alone does not work as an effective teaching strategy. Lecture method does not reach all learning styles (Pennell, 2000; Sultan & Jones, 1995). When just lecturing, auditory students' learning needs are met but other modalities such as visual and kinesthetic, are left behind. Active Learning is rare with lecture as well. Many critics of lecture method of instruction pointed to the inherent passivity of the method (Chiodo & Byford; Bolliger, 2003; Hendrix, 1999;

Pennell, 2000; Shrock & Shrock, 1994). During lecture lessons, students sit and listen and not participate in the learning.

For active involvement in lecture, something must be added. Numerous sources cited discussion as an essential element for an effective lesson (Namathaka et al. 2000; Henderson, Winitzky, & Kauchak, 1996 as cited in Pennell, 2000). Pennell (2000) contended that adding discussion to a traditional lecture changed the lesson from passive to active because the students are interacting with the teacher and other students. In addition, asking questions at different challenging levels would enable more students to be active since their different cognitive levels would be met (Namathaka et al., 2000). Further, Chiodo and Byford (2004) were of the view that, "teaching with discussion enables students to develop an understanding of specific issues". They explained that good lectures must be dialog-based not didactic. Teachers are part of the learning process in tandem with the students, not the only part of it. When the lecture includes the students, it makes it more active.

2.1.5 Visual Aids

Research determined that discussion increased the effectiveness of the efficient lecture because active involvement matured. However, the auditory learning style was the only modality addressed. Visual learners were still ignored. Many authors demanded that in an effort to meet other learners' needs, visual aids should be added (Sultan & Jones, 1995). The traditional approach to a visual aid is the whiteboard or blackboard. Not much research is available on the effectiveness of the whiteboard or blackboard as a standalone. One book discussed the importance of writing legibly, where to stand when using the blackboard, and how to erase it (Namathaka et al., 2000).

A more modern, technological approach requires a computer software program. PowerPoint by Microsoft is a popular option. Teachers can create slides with the lecture information on it and project it for the class to see. Images, sounds, and motion can be added to increase the effectiveness. Dils (2000) and Sultan and Jones (1995) were emphatic that multimedia software such as PowerPoint provided more opportunities to reach multiple learning styles. In addition, these types of visuals, which can be colourful and animated, allowed learners to process the information in a more constructive way (Mayer, 1996 as cited in Larson, 2001; Stone, 1999).

One particular theory is widespread. The modern world calls for modern teaching techniques. Students today are constantly encountering technology. In order for teachers to reach these technology-savvy students, the teachers need to use technology-inspired techniques (Frey & Birnbaum, 2002; Larson, 2001). Using traditional visual aids can bore students into passivity. Stone (1999), commented that one advantage of computer lecture-ware is that the visual aspects can be engaging to students raised in a video world and thus make a traditional lecture less passive.

Since both the idea of using the computer as a teacher aid in lectures and the availability of computer projection screens are relatively new, there are only a few studies that have quantitatively measured the effectiveness of computers on learning. Goldberg and Richards (1995) established that test scores improved in high-tech high schools such as CO-NECT (as cited in Larson, 2001). Another study completed more recently by the North Central Regional Laboratory also discovered that technology helped increase the scores on standardized achievement tests (as cited in Larson, 2001). Finally, Yang (1991) reported that lessons using textbooks and worksheets were inferior to computer-based instruction. When attention was paid more directly to computer-aided teacher presentations, benefits were still reported, although conditionally. Kozma (1991) reported that if the teacher used good software (one in which the programmer understood learning styles and processing), then learning improved (as cited in Beets & Lobingier, 2001).

Not all research was positive on the use of software applications for teacher presentations. Even in 1983, some researchers refused to just accept the notion that new always means better. Clark (1983) stated that no research had proved that a variety of media improved learning (as cited in Beets & Lobingier, 2001). Frey and Birnbaum (2002), writing much later than and definitely not as contentious as Clark, concurred. They proclaimed that PowerPoint still remained a passive learning method.

Due to the contradictory nature of the debate, it is not surprising that Beets and Lobingier (2001) reported that many teachers were unwilling to give up their traditional lectures for PowerPoint and other technology-based presentation methods. Many felt that the work necessary to create these presentations outweighed any benefits they could reap.

Larson (2001) did little to convince those sceptical teachers. He conducted a study of fifth graders. He used PowerPoint for one lecture and another teacher used a traditional lecture method with worksheets for the other. Later, the students switched teachers and received the other method. Both classes were tested after each lesson. Larson reported no significant statistical difference in their test scores. He concluded that the PowerPoint may be more motivating but it had no effect on knowledge retention. It is clear that the work did not mention whether or not another visual aid was added to the traditional lecture as a replacement for the PowerPoint. However, a few studies exist that measure the effectiveness of PowerPoint versus a traditional whiteboard/blackboard visual. Lowry (1999) was positive towards PowerPoint. He demonstrated that the students' grades went up when PowerPoint was used (as cited in Frey & Birnbaum, 2002). This notion was reemphasized by Dils (2000) and he declared that he received similar results.

On the other side of the debate, Beets and Lobingier (2001) came out with findings similar to Larson's (2001) study; no evidence that PowerPoint was better for retention than was the whiteboard/blackboard.   Students' questionnaires demonstrated several reasons why PowerPoint might not be as beneficial as peddled. Several students mentioned that professors often moved faster through the material when it was already written on the PowerPoint. One observation noted that teachers automatically went slower when using the blackboard because they had to pause to write it down.

Researchers do not seem to agree on which visual aid best complements lecture and discussion methods of teaching. Although, in the end, all seem to agree that visual aids are an essential element to any lesson. Both whiteboards and PowerPoint have specific advantages and disadvantages with PowerPoint having an edge over whiteboard.

2.2   Empirical Basis of the Study
2.2.1   Students' Attitudes on Teaching Techniques and their Effect on Performance

An attitude is a personal view of something or an opinion, or general feeling about something which translates into the way one behaves towards that thing. A commonly held belief is that students prefer to exercise control over their course of study. This assumes that they are capable of making such decisions as to which technique of instruction best suits them and that provision for such control will be a motivating factor reflected in an increased rate of learning. However, little experimental data exist to support this belief. This section discusses the effect of students' attitude on teaching techniques and how they affect their performance.

Much research has been done in the field of academic achievement and many authors have given their suggestions about the factors that influence students' performance within the school environment. Two of these factors include student attitudes and school context. Against this theoretical background, it is necessary to look at how important these two factors are and exactly how they affect student outcomes. The relationship between students' attitude and academic performance is further discussed. Research has shown that a large number of students' performances are affected by their attitudes towards specific subjects, education and

academics in general (Bowen & Richman, 2000). It has been suggested that when students demonstrate weak commitment to their academics then they are bound to underperform. Additionally, some students with an unrealistic view of themselves may perform poorly too. For instance, those who tend to be overconfident or naive about the requirements of their academics may register very poor performance (Broughton, 2003). Conversely, when students do not believe in themselves or when they have low self-confidence, chances are that they will underachieve (Powers, 2006). Sometimes some students may think of themselves as people who cannot control their own destiny. They imagine that they are victims of the system and this can lead to academic failure. In other scenarios some students may be too proud to ask for help when they encounter a problem in their studies (Bowen & Richman, 2000). Also, some students find it difficult to grow or develop because they tend to resist change and this impedes their academic progress. In other situations, a student may not work well in groups yet this is a necessary part of the academic environment.

Teaching and learning, more than any other part of the student's experience is an area where the school can control the input to the student experience. A great deal of discussion in the student retention literature suggests that if students are offered 'student centred' approaches in the classroom and other aspects of their academic course, they enjoy it more and prove less likely to underperform. However, the attitudes of students to the experience offered to them are crucial. Johnson (2007) discusses the problem that 'student centered' teaching can be unpopular with certain students who lack motivation or confidence, because students who are placed at the 'centre' of their learning experience need to work hard and consistently.

2.2.2 The Use of PowerPoint Presentation to Whip Up Students' Interest in Lessons

Slide presentation software such as PowerPoint has become an integrated part of many instructional settings, particularly in large classes and in courses more geared toward information exchange than skill development. PowerPoint can be a highly effective tool to aid learning, but if not used carefully, may instead disengage students and actually hinder learning.

PowerPoint is undeniably a powerful tool when it comes to making a presentation, but there are some divided viewpoints and some considerations to keep in mind when considering the use of PowerPoint as a teaching tool. For example, Hoffman, (2000) focused on the use of technology in education and argues that, from the teacher's perspective, the use of PowerPoint may be something of a trade-off. Although PowerPoint-based presentations are more portable, and can be saved for repeated use, they typically take longer to assemble than writing the same material on a blackboard or an overhead. In addition, learning to use PowerPoint well takes time, and depending on a school's infrastructure and commitment to technology, training opportunities and reliable presentation gear may vary in availability.

On the other hand, many creative teachers from around the country have been able to take PowerPoint to the next level in the classroom. They have designed presentations that focus on involving students, as well as activities that instruct students how to use PowerPoint to express their own ideas as part of a project or group assignment. Such activities can capitalize on the strengths of this presentation software as an easy-to-use visual display medium that can be used to engage visual learners and capture students' attention and interest. PowerPoint's ability to incorporate photos, graphics, animation, even sound and video, meshes well with the more visually-oriented aspects of the curriculum, and this can be especially effective with younger children and adolescents.

Using PowerPoint improve the students' learning motivation, increasing authentic materials for study, encouraging interaction between the teacher and the students. According to Telg (2008), people remember pictures/visuals more and PowerPoint presentations provide a plethora of ways of incorporating images during lectures. He warns however that; images

also deter us from reading the material from slides. You only have to include visuals that relate to the lecture.

Attention and interest can be captured voluntarily or involuntarily. Involuntary – a person's attention is captured by novel or salient information, presented at a surprising location; Presented in an "important" colour, etc. Voluntary attention capture depends solely on the audience; to make an effortful attempt to focus on relevant material discarding the unimportant material. The Point is that, like any other teaching and learning tool, PowerPoint requires some goals and objectives in mind to achieve successfully. It is obvious that training, knowing how PowerPoint works and what it can do is important to the effectiveness of lesson delivery.

2.2.3   The Most Common Abuses of PowerPoint Presentation

The most common abuses in PowerPoint use for teaching and learning include visually poor or boring slides. Too many texts on the slide do not support good reading of text, other abuses for example, inappropriate use of multimedia options, for example too much animation or over use of slide transitions. Further, many teachers do not have enough basic knowledge in applying PowerPoint in teaching learning. In addition, PowerPoint cannot handle unexpected situations because PowerPoint is unable to handle the students' questions immediately as the teachers do.

2.3.4 Improving Students' Performance in Lessons Using PowerPoint Presentations.

Technological advances and a media-savvy audience have led to a boom in the use of multimedia presentations in college classrooms. Multimedia formats are popular with faculty and students alike. In fact, faculty and students perceive that the use of multimedia presentations improves student learning (Hogarty, Lang, and Kromrey 2003). The empirical evidence supporting this perception is inconsistent, however. According to Gale and Robert (2005), multimedia presentations can improve student test scores significantly. Additionally, the results indicated that students who had already proven themselves to be above-average academic performers received far more benefits from multimedia presentations than students of below-average academic performance. A possible explanation for these positive findings is that these college students are technologically savvy and better able to process high-tech deliveries. This series of results provides support for dual-coding theory, which predicts that student learning improves when material is presented both visually and verbally as opposed to having either visual or verbal presentation alone. It is recommended that teachers match their use of technology with the degree of technological savvy of their audience.

2.3.5   Lecture and Discussion Visual Aids: PowerPoint versus Whiteboard

A study conducted by Maddux, C., & Aberasturi, S. (2008) sought to investigate whether there was a difference in student recall of information or in student verbal interaction after lectures using PowerPoint versus the same lectures featuring two traditional lecture formats (lecture with overhead transparencies and lecture without visual presentation aid). The results showed that the method of material presentation does affect students' retention of the information as measured by a multiple-choice quiz over lecture content.

The wide acceptance of PowerPoint is due to its many advantages. Screens with great complexity and high visual appeals can be produced quickly and easily. Graphics that have been scanned from traditional media or copied from the Internet can be combined with text or other material. The ability to make use of multimedia materials may make it easier for instructors to address different learning preferences and styles (Daniels, 1999).

Further, research suggests that student attention is enhanced if information is presented in more than one modality (Mayer & Anderson, 1992; Mousavi, Low, & Sweller, 1995). In the classroom setting, PowerPoint is often used as a lecture aid for visual support of oral presentations or lectures, and supporters suggest it can help ensure that the main points of a lecture are clearly made. According to Yaworski (2001), PowerPoint helps speakers organize

their thoughts and present them in a clear and concise manner whileusing multi-sensory tactics to hold audience attention.

Results of such studies typically show that students tend to prefer lectures with PowerPoint to lectures with just blackboard illustrations. It goes without saying that good teaching is not simply presenting content to students, but must foster students' connections to content and promote student retention of facts and concepts (Mason & Hlynka, 1998). Also critical is the effect of any teaching aid on verbal interaction between students and the instructor, or students with other students. In fact, verbal interaction is considered highly desirable by most instructors, and discussion is generally believed to enhance understanding and retention.

It was obvious that, lectures using PowerPoint presentations as a visual aid resulted in better student retention of the material than traditional lectures with no presentation aids or with the whiteboard as a presentation aid.

A review of the literature related to the use of PowerPoint presentations as a visual aid in delivering lessons has revealed that PowerPoint has a great potential to arouse and sustain learners' interest, increase performance and make lessons more interactive. These desired benefits can be however achieved when PowerPoint is used incorporating the factors this literature has uncovered as relevant to the effective use of PowerPoint. The subsequent chapter considers the methodology used in this study and how PowerPoint presentations were used in lesson presentations.

3. Method

3.1 Research Design

The research was conducted to follow the descriptive research design. Descriptive research design was deliberately chosen for this study since it involves investigating, recording, analyzing and interpreting data. It presents a picture of the specific details of a situation. In all, eight weeks were used for the study. The first three weeks were used for the diagnosis to record the entry behaviour of students. The following four weeks were used for the intervention and the last week for the post-intervention.

3.2 Population

Population is defined as the entire collection of a set of objects, people, or events, in a particular context. The population is the entire group of persons or objects that is of interest to the researcher. The study was conducted at Antoa Senior High School. The entire SHS students of about 700 were used as the population for this research work.

3.3 Sampling Method

The whole of SHS Science students of Antoa Senior High School were purposively sampled for the study. A non random purposive sampling method was used based on the fact that the researcher was assigned to handle those classes as an intern. Owing to this, it therefore became imperative for the researcher to stick to this sample size for his study and later make inferences. The choice of this sampling became necessary since it hoped to provide the researcher with relevant and immediate data needed for the analysis. The class was made up of eighty (80) students. There were eighty-six (56) boys representing 70% of the class and twenty-four (24) girls representing 30% of the class. The average age of the class was 17years.

3.4 Research Instrument

The researcher employed various techniques and instruments to gather data in aid of rectifying the situation at hand. The instruments used for data collection were questionnaire, interview, observation, and teacher-made test.

3.4.1 Teacher-Made Test

Test was one of the principal data collection instruments. Result from that guided the researcher during the pre intervention, intervention and post intervention stages of the study.

It was the only way the researcher could measure the progress or otherwise of the students with respect to the effectiveness of the intervention. The researcher conducted tests made up of relevant test items meant to measure the appropriate skill or knowledge at the end of every topic. These tests were in three main forms thus class exercises, assignments and class tests. The class exercises and assignments were often given at the end of every lesson whilst the class tests were conducted at the end of each topic.

3.4.2 Interview
The researcher also interviewed a selected number of students to solicit their ideas as to why they portrayed disinterest in learning. A structured interview approach was used here because the researcher wanted the students to be sure of what they were responding to thereby giving the right responses.

3.4.3 Observation
The nature of the research problem identified called for data collection in the natural setting. This prompted the researcher to use observation technique to gather information. The researcher observed the students both in class and out of class. This was to find out what underlying factors made students to exhibit such low interest in the teaching and learning. The researcher observed his students both overtly and covertly since at some points students were aware of the researcher's presence while at other times too, students were oblivious to any such activity.

3.5 Data Analysis
The data collected was analysed by comparing the various exercises and responses made by the students who formed part of the study. The data was organized into tables and results were analysed using actual figures and percentages.

4. Results and Discussion
4.1   Pre-intervention Results
Before the researcher was able to get accurate information about the research problem and design an appropriate intervention strategy, the researcher conducted background data collection on the problem. Instruments such as tests, observation, and interview were used for this purpose. This section presents the results obtained.

4.1.1   The use of PowerPoint software and projector arouse students' interest in the teaching and learning
During the researcher's time at Antoa Senior High School, most students of form two particularly the 2 Science class were not attending lessons. During the pre intervention stage, it became evident from the tutors through informal interview that none of them used PowerPoint presentations to deliver lessons. They had been resorting to the traditional way of presenting lessons using the chalkboard. This made class more boring to students, especially when they have the misconception that is not as important as other subjects because it not examinable by WAEC.

By way of evidence, the researcher decided to observe students' punctuality and consistency for three consecutive lessons. Table 4.1 gives a summary of students' attendance to lessons. This was so done to determine their level of interest in the subject.

Response	Frequency	Percentage (%)
Very motivated	0	0%
Motivated	6	15%
Not motivated at all	34	85%
Total	40	100

Table 4.1 presents a summary of students' attendance in three consecutive lessons. Table 4.1 shows that whilst 32 students representing 40% of the total population of the class were

present at the first lesson, 35 students representing 45% of the total population of the class were present during lesson2. Also, 44 students out of 80 showed up at lesson3 which represent 55% the class. Table 4.1 therefore indicates that students' attendance to lessons were generally below average. Table 4.1 can also be represented graphically as shown below.
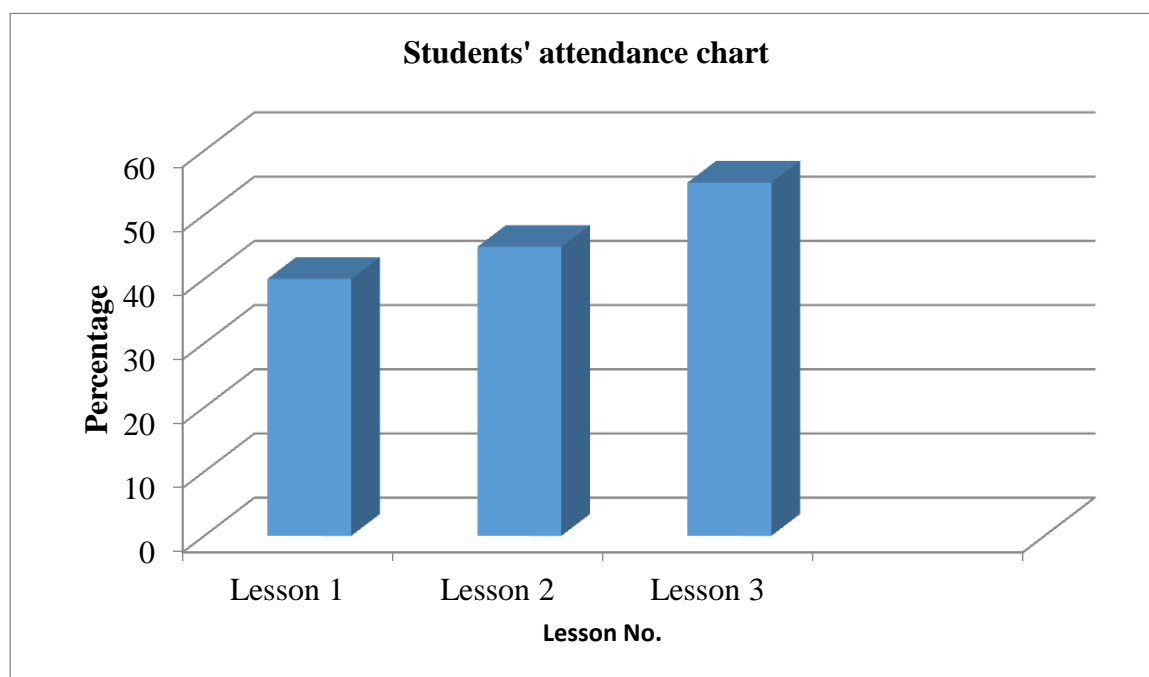

Figure 4.1 Students attendance to lessons before intervention

4.1.2 A talk on importance of Education to improve students' performance

The researcher in the early stages of the study observed the students to find out how their indifference to the teaching and learning that impacted their academic performance. Based on the observation, it was found out that students generally have a poor attitude towards the teaching and learning. The seriousness level of students which was evidenced by their participation in lessons and the contributions they made during lessons was also generally low. Students were also not motivated to learn the subject at all and stated the major reason as the subject not being examinable at the external examinations. This made students attach very little or no importance to the teaching and learning. The researcher therefore, conducted a test to ascertain whether students' performance matched up with their attitudes and level of interest observed. Table 4.2 indicates students' performance when a pre – test was conducted.

Table 4.2:　　　Students' Performance on Pre-Test

Marks	Frequency	Percentage (%)
16 – 20	4	5%
11 – 15	6	7.5%
6 – 10	32	40%
0 – 5	38	47.5%
Total	**80**	**100%**

Table 4.2 presents students' performance on pre-test conducted by the researcher. Table 4.2 shows that whilst 38 students representing 47.5% scored in the range 0 – 5, thirty-two students representing 40% scored in the range 6 – 10. Six students representing 7.5% scored

in the range 11 – 15 and only four students scored in the range 16 – 20, representing 5% of the entire class.

Table 4.2 therefore indicates that whilst ten students representing 12.5% scored above the 50% average mark, as many as seventy students representing 87.5% scored below the average mark of 50%. The result of the pre-test is also illustrated in Figure 4.2.
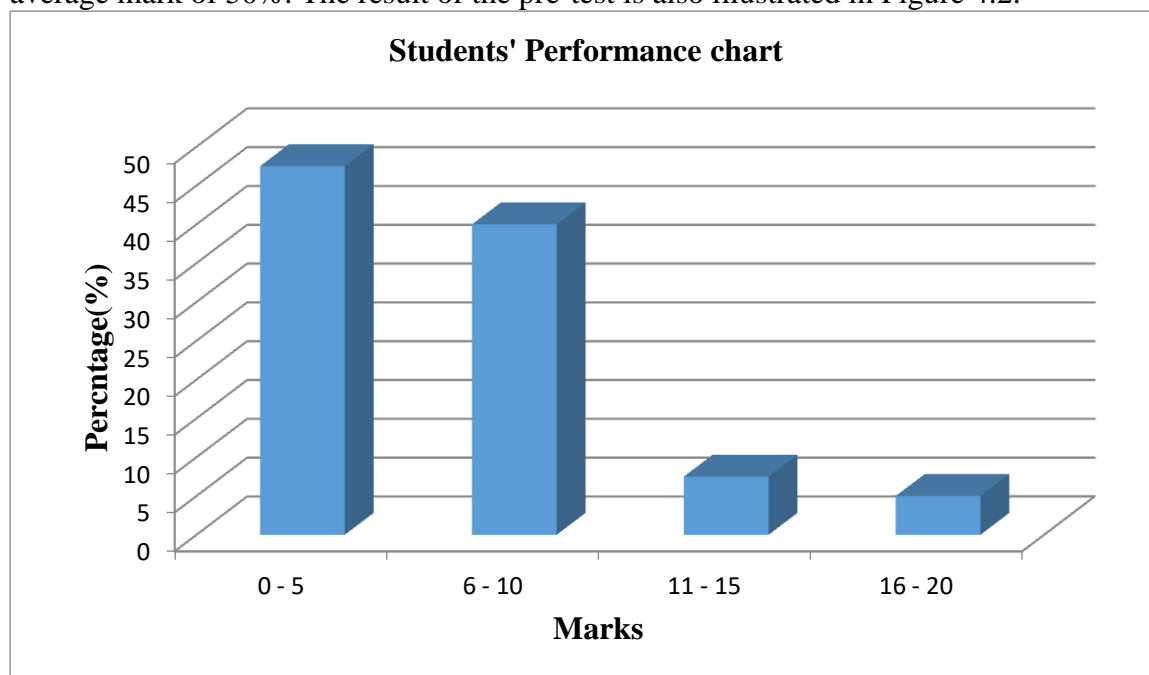

Students' Performance chart

Figure 4.2: Students' Performance on Pre-Test

4.1.3   The use of Activity method to improve students' performance

Teachers were not using the Activity method of teaching to teach, as such it led to low skill acquisition among students. All the teachers who were interviewed admitted to the fact that using Activity method in teaching helps in enhancing skill acquisition but they were not using it in their teaching. Instead, they prefer lecture method because of the large classes they have. To really ascertain students understanding and knowledge in was something that did not come by chance. As a matter of fact, the researcher had to conduct a class exercises in order to arrive at a fair conclusion about the level of students' performance in. In simple terms, the students were put to test and seemed like some factors have already taken hostage of their whole ideas in the subject. It is true that if one does not have time for something and also do not show any seriousness for that thing, unless a miracle, there is no way that person can perform well in it when put to test. The pre-test was conducted to really find out students' performance in learning. Table 4.3 is a summary of students' performance when they were put to test.

Table 4.3:   Students' Performance on Pre-Test

Marks	Frequency	Percentage (%)
16 – 20	4	5%
11 – 15	6	7.5%
6 – 10	32	40%
0 – 5	38	47.5%
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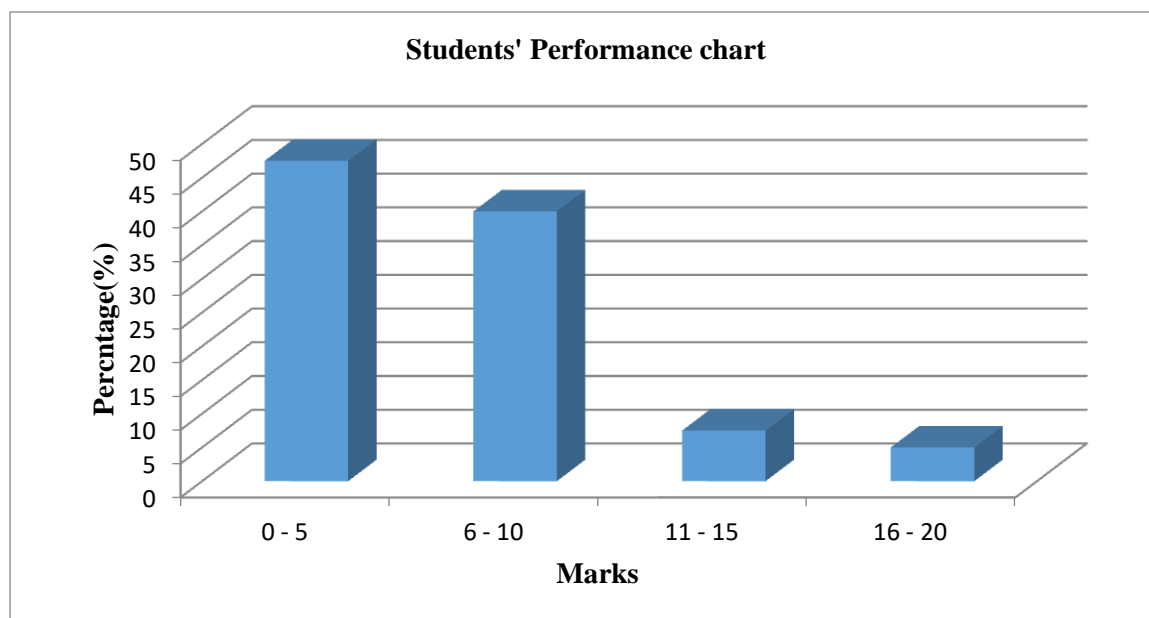

Figure 4.3: Students' Performance on Pre-Test

4.2   Post Intervention Results

Post intervention presents the outcome of the intervention strategy implemented. At this stage of the research, the researcher was only interested in evaluating the students' attitude and performance towards learning. The intervention for this study was the use of PowerPoint presentations to aid teaching and learning. The post intervention stage presents the results of the intervention. After successful implementation of demonstrational teaching as an intervention technique, the researcher evaluated the extent of skill acquired by students and their levels of motivation.

4.2.1   The use of PowerPoint software and projector arouse students' interest in the teaching and learning

The intervention strategy was in the form of delivering lessons with PowerPoint presentations. The PowerPoint presentations served as the primary mode of delivery of lessons and also as a visual aid. Using instructional multimedia to teach lessons provided the students with unique and different learning experience and environment. This whipped-up their interest in attending lessons. Table 4.4 gives a summary of students' attendance to lessons the intervention was implemented.

Table 4.4 Students' attendance to lessons after intervention.

Lesson No.	Frequency	Percentage (%)
Lesson1	70	87.5%
Lesson2	78	97.5%
Lesson3	80	100%

Table 4.4 presents a summary of students' attendance lessons after the intervention was implemented. Table 4.4 shows that whilst 70 students representing 87.5% of the total population of the class were present at the first lesson, 78 students representing 97.5% of the total population of the class were present during lesson2. Also, all the 80 students showed up at lesson3 which represents 100%. Table 4.4 therefore indicates that students' attendance to lessons were generally above average. Table 4.4 can also be represented graphically as shown below:
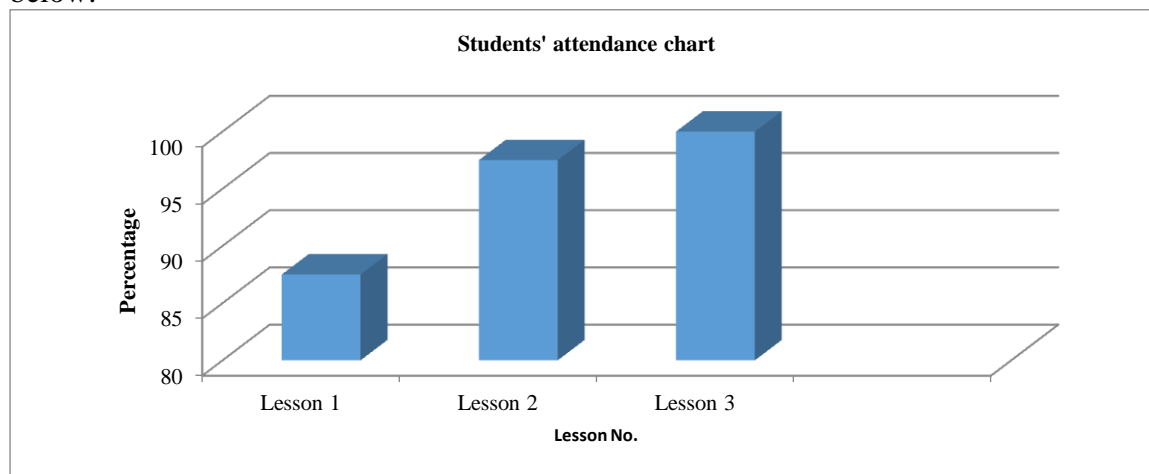

Figure 4.4 Students attendance to lessons after intervention

4.2.2   A talk on importance of Technology Education to improve students' performance

Necessity compelled the researcher to organise a Talk on the Importance of Information Technology Education for the students. This was in one way or the other intended to motivate students to improve their performance in learning. After the implementation of the intervention strategy, the researcher observed improvements in students' performance. It was noticed that students had a turnaround from their previous indifferent attitude towards the teaching and learning. To see whether this intervention would reflect on their performance, a post – test was conducted. Table 4.5 below presents the result of the post test conducted.

Table 4.5:   Students' Performance on Post-Test

Marks	Frequency	Percentage (%)
16 – 20	34	42.5%
11 – 15	40	50%
6 – 10	5	6.25%
0 – 5	1	1.25%
Total	**80**	**100%**

Table 4.5 presents students' performance on post-test conducted by the researcher. Table 4.5 shows that whilst only one student representing 1.25% scored in the range 0 – 5, five students representing 6.25% scored in the range 6 – 10. Forty students representing 50% scored in the range 11 – 15 and as many as thirty-four students scored in the range 16 – 20, representing 42.5% of the entire class.

Table 4.5 therefore indicates that whilst only six students representing 7.5% scored below the 50% average mark, as many as seventy-four students representing 92.5% scored above the average mark of 50%. The result of the post-test is also illustrated in Figure 4.5.
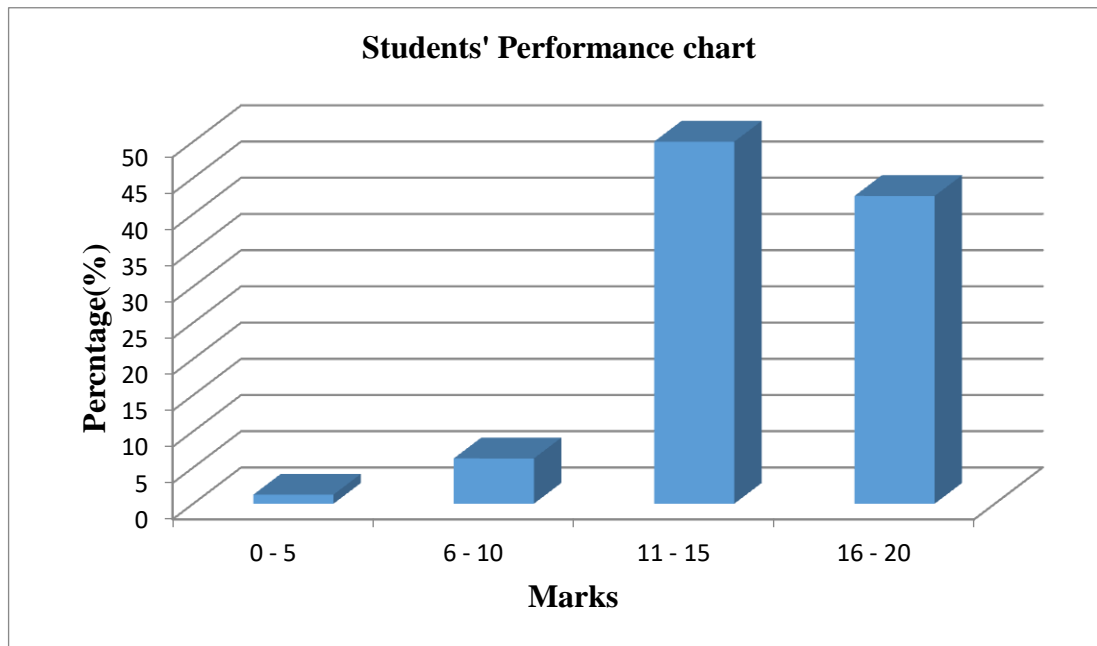
Figure 4.6: Students' Performance on Post-Test

4.3 Discussion of Post – Intervention Results

This section of the study presents discussions of the results realized at the post – intervention stage of the research work. These discussions have been presented based on the data collection exercise in relationship with the research questions. This enabled the researcher to test the research questions and objectives for this action research work The outcome of this discussion will be paramount as it will be used to draw summaries, conclusions and make suggestions for further studies.

4.3.1 The use of PowerPoint software and projector arouse students' interest in the teaching and learning

Table 4.1 indicated that students' attendance to lessons were generally below average. On the contrary, Table 4.4 indicated that students' attendance to lessons were generally far above average. From the results obtained in both Tables, students' interest levels were boosted when PowerPoint presentations were used to present lessons.
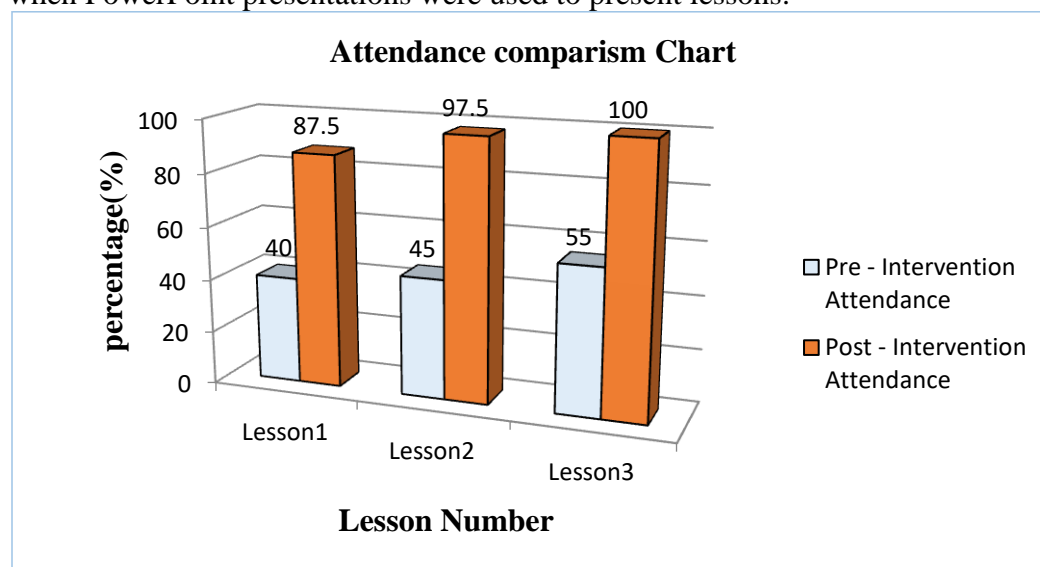

Figure 4.7: Students' attendance comparism chart.

4.3.2   Importance of Technology Education to improve students' performance

Table 4.2 indicated that, whilst 10 students representing 12.5% scored above the 50% average mark, as many as 70 students representing 87.5% scored below the average mark of 50%. On the converse, Table 4.5 indicated that whilst as many as 74 students representing 92.5% scored above the average mark of 50%, only 6 students representing 7.5% scored below the 50% average mark. This is an indication that, the students did better in the post test than in the pre test. This was attributed to the reason that after the Talk on the Information and Technology Education has successfully been delivered, students were motivated to learn and hence, improvement in performance. This shows that there is a strong correlation between students' desire to learn and their academic performance or achievement.
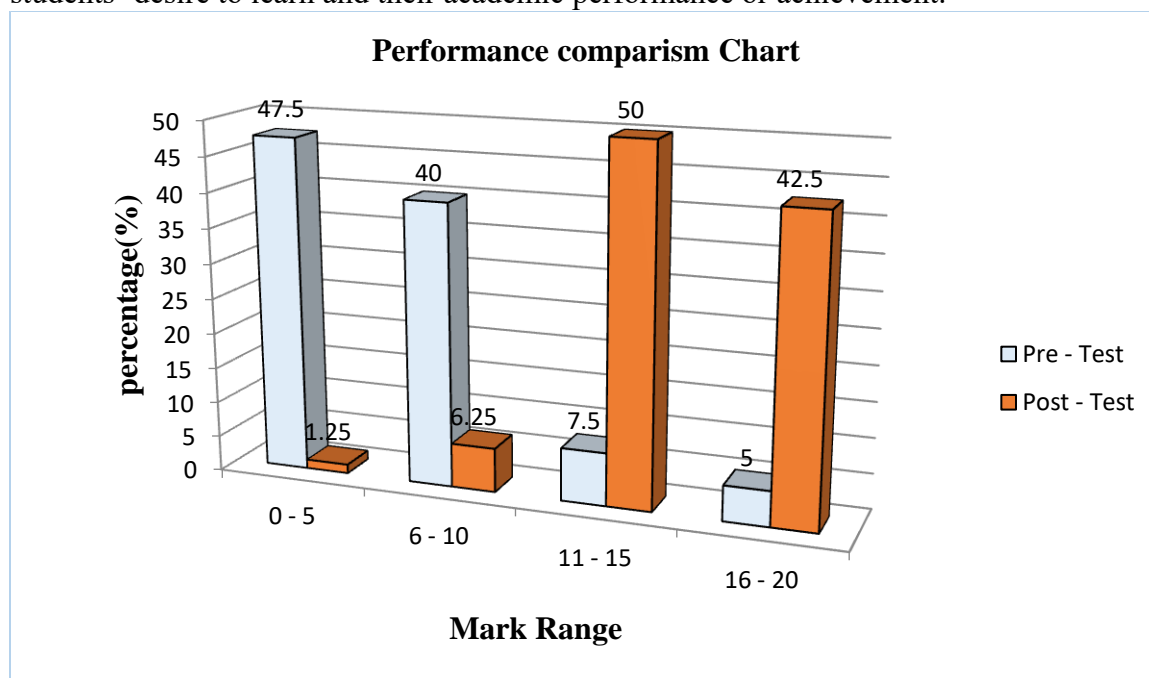

Performance comparism Chart

Figure 4.8   Students' pre-test and post-test scores.

4.3.3   The use of Activity method to improve students' performance

Table 4.3 indicated that, whilst 10 students representing 12.5% scored above the 50% average mark, as many as 70 students representing 87.5% scored below the average mark of 50%. However, Table 4.6 indicated that whilst as many as 74 students representing 92.5% scored above the average mark of 50%, only 6 students representing 7.5% scored below the 50% average mark. This is an indication that, Students' post - test scores were greatly improved over their pre-test scores owing to the use of Activity method of handling lessons. This was evident from their participation in class and their general performance. Gale and Robert (2005) asserted that the use of activity method of teaching can improve students' performance significantly.
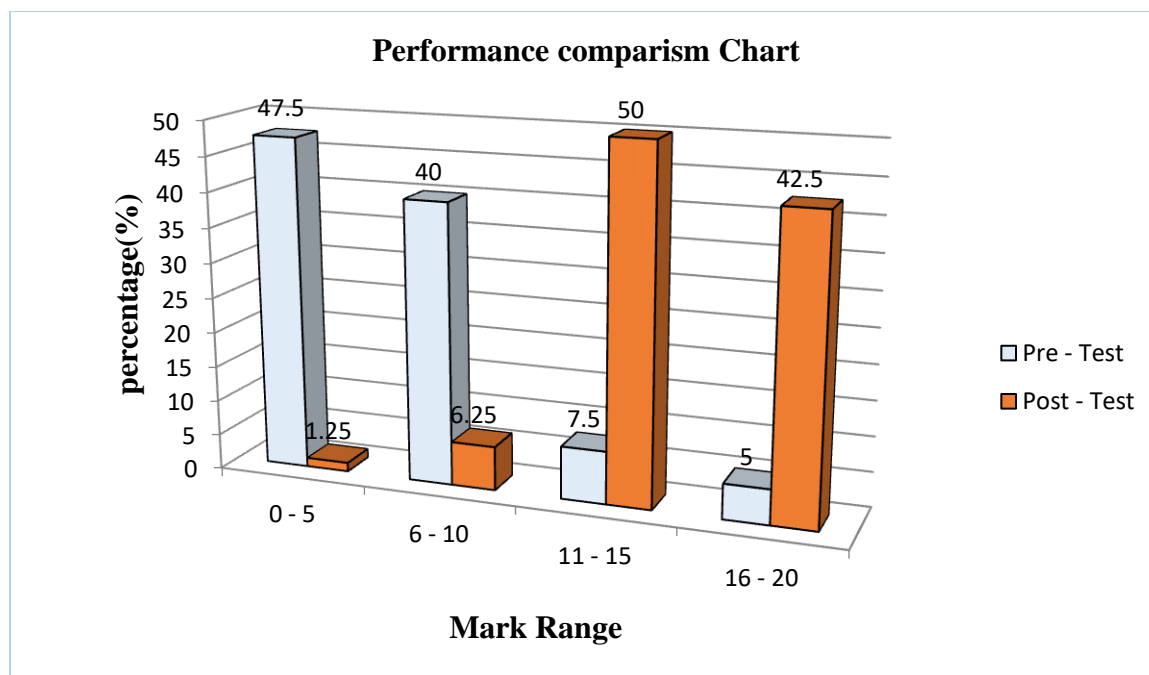
Figure 4.9: Students' pre-test and post-test scores.

5. Summary

The study brought to light the following findings: First of all, after using the PowerPoint to present the lessons, the students were no longer capitulate but rather showed great interest in class. As analysed earlier, Table 4.4 indicated that students' attendance to lessons were generally far above average when PowerPoint was used to present lessons.

Secondly, a talk on importance of Technology Education significantly improved students' performance in learning. This is evident in Table 4.5, which indicated that whilst as many as 74 students representing 92.5% scored above the average mark of 50%, only 6 students representing 7.5% scored below the 50% average mark.

Finally, the use of Activity method to teach lessons increased students' participation and greatly improved their academic performance in learning as it has been shown in Figure 4.9.

6. Conclusion

Based on the findings, the following conclusions can be made. When PowerPoint is used to present lessons, students show great interest in class and their attendance is improved. This is in line with research work done by Szabo and Hastings (2000), which demonstrated that the use of PowerPoint increased lecture attendance. Another study completed more recently by (Harrison 2006), also discovered that PowerPoint encourages students for learning.

Also, this study showed that a talk on importance of Technology Education significantly improved students' performance. This confirms similar work done by scholars Rathunde and Csikszentmihalyi (2005). They claimed that organizing symposium for students is one of the fundamental principles behind their achievement.

Finally, the use of Activity method to teach lessons increased students' participation and greatly improved their academic performance. This is in accordance with the research done by Henderson, J. Winitzky, N. and Kauchak, D. (1996), which asserted that the use of activity method of teaching can improve students' performance.

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