

EFFECT OF POWERPOINT PRESENTATIONS ON STUDENTS' COGNITIVE ACHIEVEMENT AND RETENTION IN AUTOMOBILE TRADES IN OYO STATE TECHNICAL COLLEGES

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Abstract

The purpose of the study was to determine the effect of powerpoint presentations on students' cognitive achievement and retention in auto-mechanics trades in technical colleges. The study was conducted in Oyo state. Two research questions and two hypotheses were formulated to guide the study. Quasi experimental design was used for the study. The sample size for this study consisted of 63 participants. A multi stage sampling technique was used for allocation of school for the study. The study compared Powerpoint instructional medium to the use of Conventional teaching method on spark ignition engine: features and functions of the main components. Auto Mechanics Achievement Test (AMAT) was the main instruments used for the collection of data. Content validity was conducted on the instruments by 3 experts. The reliability coefficient for AMAT yielded 0.95 using K R- 20. Research questions were analyzed using Mean and Standard deviation while the null hypothesis were tested at 0.05 level of significance using ANCOVA statistics. The findings of the study indicated that Powerpoint instructional medium was more effective in helping students to assimilate very fast and at same time aid permanent retention. Based on the findings of this research, it was recommended among others, the adoption of Powerpoint instructional strategy for enhancing students' cognitive achievement and retention in Nigerian technical colleges.

Background of the Study

Countries across the globe are making considerable progress on the use of Microsoft Powerpoint for supporting students learning and as such should not be left to chance in Nigeria. Microsoft PowerPoint otherwise known as PowerPoint is a sub-set of Information and Communication Technology (ICT) programme developed by Microsoft. It is an application programme of presentation that is found in Microsoft office (El-Ikhan, 2010). It consists of individual pages or slides that allow the user to present the key phrases of his messages and include only important information (University of Alabama, 2002). It therefore, implies that Powerpoint presentation is mostly used to display the essential points to the viewers (Asogwa, 2011). Asogwa further explained that Powerpoint presentations displayed on a computer could be better projected for larger audience using a Liquid Crystal Display projector (LCD) It therefore follows that Powerpoint presentation could be used in the classroom for supporting students learning by combining computer and projector to display slides for illustrating a lesson.

Just like other forms of visual presentation for supporting students' learning, Microsoft Powerpoint presentations is a technology used for instruction that enables viewers to have better understanding of concepts. McDonald (2008) explained that students tend to enjoy the Powerpoint presentations because the students' attentions are greatly captured especially when multimedia resources are added to illustrate the text in a lesson. The use of multimedia resource in Microsoft PowerPoint presentations makes it possible to provide a much richer visual presentations consisting of multi-coloured texts, graphics, pictures, video and animations which helps to comprehend the concepts at focus. By so doing, the quality of presentations is improved and the entire senses of the students are stimulated thus ensuring the success of the presentation.

Learning is facilitated when all senses of the learner are active at the point of receiving instruction because the new information is conveyed with ease through the sensory receptors (that is, ears, eyes, nose and skin) of the brain (Owosho, 2009). Besides, the computer-based technology that incorporated multimedia resources when used as learning medium are known to have a positive effects on students learning and construction (Chien, Yu-Hua & Ford). As a consequence, teacher should Endeavour to create and sustain appropriate multimedia environment for each of the concerned subject of study for the purpose of effective teaching-learning process. McDonald further expressed that PowerPoint presentations permit variety of manipulations in forms of editing or modification of texts, removal of the existing slides and addition of new slides to make lesson more organized and flexible. Remarkably, the use of Powerpoint presentations can be regarded as a good instructional medium and a key for facilitating effective teaching-learning process. It would therefore, not be out of place to explore such instructional medium in the field of Auto-mechanics trade's programmes of technical colleges.

Auto-mechanics trade programme in technical colleges is a mechanical trade offered as Motor Vehicle Mechanics Works in Nigerian technical colleges (FRC, 2004). It was planned to produce craftsmen and master craftsmen who should be competent and skillful to carry out routine services and repair works on all kind of vehicles. The trades involve repairs and maintenance of brake, transmission, engine, fuel, cooling and lubrication system of a vehicle. The training of students for these tasks demands a high quality instruction as exemplified by the use of Powerpoint presentations in Nigerian technical colleges to enhance the students' cognitive achievement and retention. Cognitive achievement connotes attainment in a school subject as symbolized by a score or mark on an achievement test (Okoro, 2002) while Antherson (2003) contended that cognitive achievement is dependent upon several factors among which are the instructional methods, learning environment and the learner.

Retention of learning according to Momoh (1997) is the repeat performance by a learner, of behaviour earlier acquired, elicited after an interval of time. This implies that a learner who repeats an acquired piece of knowledge with less error is said to have retained the material learnt. It is affected by degree of reinforcement, the method of learning and the learners' memory capacity among others (Oladele, 1998). Since it is presumed that PowerPoint presentations could assist students to learn, it is equally important to determine its ability to enforce learning retention (that is, the transfer of learning and/or retention of learning). The implication of these is that evaluation needs to extend beyond post test for a consideration of individual students in terms of their ability to generalize and transfer learning (Rohrer, 2004 & Simeon, 1998). Hence, a high quality instructional strategy such as PowerPoint presentations (Moursund, 2006) may have an implication, which is worth exploring as a prerequisite to cope with the dynamics of changing world in the process of teaching and learning especially as relates to auto mechanics in technical colleges.

Meanwhile, education in this era has made it imperative that integration of computer-based technology be given a high priority in Nigeria. But, it appears Nigeria technical colleges are making too little efforts to ensure their students are conversant with the use of computer-based technology in their classroom. This could be evident in the methods of teaching employed by the vocational and technical teachers in technical colleges as the conventional method of "talk and chalk" still remained the prevalent medium of instruction. The consequential effect of which amounted to denying the students in the technical college the skills needed to function effectively in the increasingly technologically oriented society.

Students in some Colleges of Education and Universities have long been reaping the benefit of the new technology, Lowry (1999), reported that Microsoft Powerpoint presentation as instructional

medium to be facilitative in cognitive achievement in chemistry, Rankin & Hoaas(2001) asserted that Microsoft Powerpoint has the potency to enhance students performance in Electronics, also Asogwa (2011) in his own contribution affirmed that Powerpoint has been found very effective when used for teaching Christian Religion Knowledge. Would the pattern of achievements be the same for the students in auto-mechanics trades in Nigerian technical colleges if they learn with Microsoft PowerPoint presentation? Auto-mechanics trades in Nigerian technical colleges is a subject in which the students have shown low achievements in both cognitive and performance tests (National Business and Technical Examination Board (NABTEB) [2004]). The situation coupled with the report by NABTEB (2006) that there is a clear evidence of severe problems in the understanding of some seemingly difficult concepts in theoretical lessons in technical colleges, especially in Auto-mechanics trades' programmes raise doubts on the efficacy of the existing instructional approaches to improve cognitive achievement and retention of learning. This is informed by the fact that academic achievement rests on the type of instructional strategies adopted by the teachers.

However, there is paucity of application on the use of Microsoft Powerpoint presentation as an instructional medium especially in a subject like Auto-mechanics trades in technical colleges. Meanwhile, further exploration need to be conducted to extend and optimize the benefits of Microsoft PowerPoint presentation to Auto-mechanics trade's programme and other technical and vocational subjects in technical colleges in order to make a paradigm shift to the new era of Information and Communication Technology.

Statement of the Problem

Education in this era has made it imperative that integration of Information and Communication Technology be given a priority in Nigeria. But it appears Nigerian technical colleges are making too little effort to ensure their students are familiar with the use of ICTs facilities in the classroom. This could be evident in the current practices or the teaching methods employed by the vocational and technical teachers in technical colleges especially in the field of auto mechanics trades. In addition, it could be observed that majority of the students in technical colleges have been completing the programme with very poor academic performance and inadequate skills. The situation raises doubts on the efficacy of the existing instructional approach adopted by the teachers in the teaching and learning of the subject. This is informed by the fact that students' achievement rests more on the type of instructional approach used by the teacher. Meanwhile, the background of the study establishes the potency of the use of Powerpoint presentations for enhancing the students' cognitive achievement and retention of learning in Chemistry, Electronics and Christian Religion Knowledge. Further exploration need to be conducted to extend and optimize the benefits of Powerpoint presentations to Auto-mechanics trades programme and other technical and vocational subjects in technical colleges which differs remarkably from other subjects in terms of contents. Hence, this study is intended to make a case for the exploration of powerpoint presentations as an innovative approach to the teaching and learning of auto-mechanics.

Purpose of the Study

The main purpose of the study was to determine the effect of PowerPoint presentations on students' cognitive achievement and cognitive retention by auto-mechanics students in technical colleges in Oyo state. Specifically, the study sought to:

- (i) Find out the effect of powerpoint presentations on students' cognitive achievement in auto-mechanics trade in technical colleges
- (ii) Find out the effect of effect of powerpoint presentations on students' cognitive retention in auto-mechanics trade in technical colleges

Scope of the Study

The study determined the effect of PowerPoint presentations on students' cognitive achievement and cognitive retention in auto-mechanics trades in technical colleges in Oyo state. The study was delimited to year 2 Motor Vehicle Mechanics Work students in Oyo state. The study made use of powerpoint presentations and conventional teaching approach. The content covered for this study is majorly on "The Spark Ignition Engine: Features and functions of the main components; and the operation of a 4-stroke cycle engine" which were selected from the Auto-mechanics trade programmes modules for 200 level.

Research Questions

The following research questions guided the study:

- (i) What is the effect of PowerPoint on students' cognitive achievement in auto-mechanics trades?
- (ii) What is the effect of PowerPoint on students' cognitive retention in auto-mechanics trades?

Hypotheses

The following hypotheses were formulated to guide the study at 0.05 level of significance:

HO₁: There is no significant difference between the mean scores of Experimental group and Control group in the Cognitive achievement of students in Auto-mechanics trade programmes in technical college.

HO₂: There is no significant difference between the mean scores of Experimental group and Control group in the Cognitive retention of students in Auto-mechanics trade programmes in technical college.

Research Methodology

Design of the study

The study adopted quasi-experimental design. The design was considered the most appropriate for this study as intact classes were used. The design was modified for this study by adding retention test. The design was represented thus:

E	O ₁	X	O ₂	Y	O ₃
C	O ₁	--	O ₁	Y	O ₃

Where, E = Experimental Group

C = Control Group

O₁ = Pretest

X = Powepoint Instruction

-- = Conventional Instruction

O₂ = Posttest

Y = Delay period of two weeks after posttest

O₃ = Retention test

Area of the Study

The study was conducted in two Government Science and Technical Colleges in Oyo State. One in Oyo township and the other in Ibadan.

Population of the Study

The Population of the study comprised of all 189 year 2 Motor Vehicle Mechanic Work Students in Oyo State. The Students' population consisted of 2010/2011 session obtained from Oyo State Board of Technical Education. The choice of year 2 Motor Vehicle Mechanic Work students was to ensure that students used for the study are already familiar with the course.

Sample and Sampling Techniques

The sample size for this study consisted of 63 participants. 30 students participated in the experimental group while 33 students participated in the control group. A multi stage sampling technique was used for allocation of school for the study. At first stage, Purposive Sampling technique was used to select three schools that have computer facilities and at least a projector out of five schools. Thereafter, random sampling was used to draw two schools from three schools purposively selected and was equally used to allocate one school each to the experimental and control groups through balloting. Intact class in each school was used while all year 2 Motor Vehicle Mechanic Work students in the two schools were the subjects of the study.

Instrument for data Collection

The instrument used in the collection of data for this study was Auto-Mechanics Achievement Test (AMAT). AMAT consisted of 30 multiple choice objective questions with Options A – D. It was designed for measuring students' understanding of the content chosen for the study.

Validation of Instrument

The items in the AMAT consisted of standardized questions adopted from the past NABTEB question papers. For that reason, AMAT requires no face validation. Meanwhile, content validity of the items were conducted by given copies of AMAT and its table of specification to three experts in the field of auto mechanics (one each from University of Nigeria, Nsuka; University of Lagos, Lagos and Tai Solarin University of Education). The comments by the validators were incorporated to produce the final version of AMAT to ensure the items covered the required areas of auto – mechanics concepts.

Reliability of the Instrument

The instrument was trial tested using twenty five students from a similar technical college in Osun state. The reliability co-efficient of AMAT using Kuder Richardson 20 formula yielded 0.95.

Experimental Procedure

For the purpose of this study, the researcher developed two lesson plans. The first lesson plan consisted of Powerpoint while the other lesson plan composed of conventional lesson plan. The pretest was administered on both experimental and control groups to draw a baseline for data generated prior to the commencement of the experiment. Experimental group was taught using Powerpoint presentations while the control group was taught using conventional method. The treatment lasted for a period of eight weeks. Auto-mechanics teachers in each school that participated in the study were used as research assistants. At the completion of the treatment, posttest was administered on the students. A delayed period of two weeks was observed after posttest before the retention test was administered on the same students who were the subjects of the study. The same instrument that is, AMAT which were used during the pretest were reshuffled and used for posttest and retention test.

Method of Data Analysis

Mean scores were used to answer research questions. A group that had a posttest/retention test score higher than the other was deemed to have performed better than the other. Hypotheses were analyzed at 0.05 level of significance using Analysis of Covariance (ANCOVA) statistics. Null hypotheses were rejected in case the value of significance of F is less than 0.05 ($p > 0.05$), otherwise ($p < 0.05$), the null hypotheses was not rejected.

Research Question 1:

What is the effect of PowerPoint on students' cognitive achievement in auto-mechanics trades?

Table 1: Pretest and post test mean score and standard deviation of the experimental and control in cognitive achievement of students

COGNITIVE ACHIEVEMENT					
Group	N	Pretest		Posttest	
		Mean	SD	Mean	SD
Experimental	30	0.933	1.080	18.500	5.734
Control	33	0.878	0.992	15.969	5.288

The results from Table 1 indicate that the experimental group obtained a pretest mean score of 0.933 and a post test mean score of 18.500 while the control group obtained a pretest mean score of 0.878 and a post test mean score of 15.969. More so, the results from the table unraveled that post test-post test mean gain of 2.530 was recorded in favour of experimental group. The result implies that students in experimental group performed better than those in control group.

Research Question 2:

What is the effect of PowerPoint on students' cognitive retention in auto-mechanics trades?

Table 1: Table 1: Pretest and retention test mean score and standard deviation of the experimental and control in cognitive retention

COGNITIVE RETENTION					
Group	N	Pretest		Retention test	
		Mean	SD	Mean	SD
Experimental	30	0.933	1.080	18.800	6.233
Control	33	0.878	0.992	15.484	4.783

The results from Table 1 indicate that the experimental group obtained a pretest mean score of 0.933 and a retention test mean score of 18.800 while the control group obtained a pretest mean score of 0.878 and a retention test mean score of 15.484. More so, the results from the table unraveled that retention test-retention test mean gain of 3.315 was recorded in favour of experimental group. The result implies that students in experimental group retained the material learnt better than those in control group.

Table 3: Summary of ANCOVA on the cognitive achievement test scores of auto-mechanics trade students under powerpoint presentations and conventional teaching method

Source	Type III Sum of Square	df	Mean Square	F	Sig.	Decision
Corrected Model	699.492 ^a	2	349.746	16.793	.000	Significant
Intercept	7378.704	1	7378.704	354.295	.000	
Pretest	598.882	1	598.882	28.756	.000	
Group	87.847	1	87.847	4.218	.044	
Error	1249.587	60	20.826			
Total	20532.000	63				
Corrected Total	1949.079	62				

^aSignificance at Sig of F less than 0.05

The data presented in Table 3 above indicates that F value of 4.218 for the group was indicated to be significant at 0.044 level (which is less than 0.05 level). This implies that null hypothesis of no

significant difference between the mean scores of Experimental group and Control group in the Cognitive achievement of students in Auto-mechanics trade programmes in technical college is rejected. Hence, there is significant difference between the mean scores of Experimental group and Control group in the Cognitive achievement of students in Auto-mechanics trade programmes in technical college.

Table 4: Summary of ANCOVA on the cognitive retention test scores of auto-mechanics trade students under powerpoint presentations and conventional teaching method

Source	Type III Sum of Square	df	Mean Square	F	Sig.	Decision
Corrected Model	930.159 ^a	2	465.079	25.331	.000	Significant
Intercept	6943.224	1	6943.224	378.176	.000	
Pretest	757.455	1	757.455	41.256	.000	
Group	153.792	1	153.792	8.377	.005	
Error	1101.587	60	18.360			
Total	20375.000	63				
Corrected Total	2031.746	62				

*Significance at Sig of F less than 0.05

The data presented in Table 3 above indicates that F value of 8.377 for the group was indicated to be significant at 0.05 level. This implies that null hypothesis of no significant difference between the mean scores of Experimental group and Control group in the Cognitive achievement of students in Auto-mechanics trade programmes in technical college is rejected. Hence, there is significant difference between the mean scores of Experimental group and Control group in the Cognitive retention of students in Auto-mechanics trade programmes in technical college.

Summary of Findings

The summary of findings of the study includes:

- (i) The students in experimental group had higher mean score than those in control group in the cognitive achievement test.
- (ii) The students in experimental group had higher mean score than those in control group in the cognitive retention test
- (iii) There is significant difference between the mean scores of Experimental group and Control group in the Cognitive achievement of students in Auto-mechanics trade programmes in technical college.
- (iv) There is significant difference between the mean scores of Experimental group and Control group in the Cognitive retention of students in Auto-mechanics trade programmes in technical college.

Discussion of the Results

The results presented in Table 1 and 2 establishes the potency of the use Powerpoint presentations as a significant factor for enhancing students cognitive achievement and retention. The results in Table 1 indicates that the mean score of students in experimental group who received Powerpoint presentations instructional medium (18.5000) was higher than students in control group (15.9697) who received conventional teaching method. The result was further corroborated in Table 3 where the F value of 4.218 is significant at 0.044, which is less than 0.05. There is therefore, a significant difference ($p < 0.05$) between the mean scores of Experimental group and Control group in the Cognitive achievement of students in Auto-mechanics trade programmes in technical college. This is in line with the findings by Asogwu (2011), Lowry (1999) & Rankin and Hoaas (2001) who

determined the effect of Powerpoint presentations instruction on students' cognitive achievement. Their findings indicated that students who received PowerPoint instruction performed better than those who received conventional method of teaching.

The results in Table 2 indicates that the mean score of students in experimental group who received Powerpoint presentations instructional medium (18.8000) was higher than students in control group (15.4848) who received conventional teaching method. The result was further supported in Table 4 where the F value of 8.377 is significant at .005, which is less than 0.05. There is therefore, a significant difference ($p < 0.05$) between the mean scores of Experimental group and Control group in the Cognitive achievement of students in Auto-mechanics trade programmes in technical colleges. This is in line with the findings by Owosho (2011) who researched on the effect of Constructivist Instructional Approach on Achievement and Retention of Auto-Mechanics Students in Technical colleges. The findings of the study indicated that students in the experimental group performed better than those in the control group. As such, type of instructional method employed in teaching a subject, instructional medium is a powerful factor for the enhancement of students' cognitive retention.

Conclusion

It can be concluded from the findings of the study that students performed better and have higher cognitive retention under powerpoint instructional medium than under conventional teaching method. It therefore implies that instructional medium such as PowerPoint presentations should be explored to enhance students' cognitive achievement and retention in Auto-Mechanics trades in technical colleges in Oyo state.

Recommendations

The following recommendations were made:

- (i) Teachers in technical colleges should make use of Powerpoint in teaching Auto-Mechanics and other vocational subjects.
- (ii) Government should provide computers and projectors in technical colleges to encourage and facilitate the use of PowerPoint presentations in technical colleges.
- (iii) Curriculum planners should incorporate the use of PowerPoint presentations in teaching Auto-Mechanics and other vocational subjects.
- (iv) Seminars, conferences and workshops should be organized to sensitize and train teachers on the use of PowerPoint in teaching and learning of Auto-Mechanics and other vocational subjects.

References

- Anene G. U. (2005). Home economics and the academic performance of a child. *Journal of Home Economics Research*, 6 (1) 99-103
- Antherson, J. S. (2003). *Learning and teaching: intelligent*. Retrieved February 20, 2004 from <http://www.dmu.ac.uk/Jamiea/learningintelligence.htm>.
- Asogwa, U. D. (2011). Effect of PowerPoint presentations on secondary school student's achievement in christian religious knowledge; *International Journal of Education Research* 11 (1)
- El-Ikhan, K. K. (2010). The advantages and disadvantages of teaching with powerpoint. Retrieved Sept 5, 2012 from <http://www.penalido.wordpress.com/theadvantages>.

- eHow (nd). What are the benefits of using powerpoint and slide presentation; Retrieved Sept 5, 2012 from <http://www.ehow.com>;
- Federal Republic of Nigeria (2004). *National Policy on Education* (Revised), Lagos: Federal Ministry of Information Printing Division
- Flowers, J. & Osborne, E. W. (1988). The problem solving and subject matter approaches to teaching vocational- agriculture: Effect on student achievement and retention: *Journal of the American Association of Teacher Educators in Agriculture*, 29(1), 20 – 26, 52. Retrived on October 12, 2008 from [http://www.eric.ed.gov/ERICWebportal/record/Detail?accno = EJ366972-2K](http://www.eric.ed.gov/ERICWebportal/record/Detail?accno=EJ366972-2K)
- Hanyie, W. J. (2003). Effects of take home tests and study questions on retention learning in technology education. *Journal of Technology Education*. 14(2). Retrieved on December 29, 2007 from <http://www.scholar/lib.vt.edu/ejournals/IJEV14n2/haynie.html>.
- Idahosa, O. M. (2003).The use of Microsoft word package to teach basic shapes in mathematics teacher. *Proceedings of the 43rd STAN (Science Teachers Association of Nigeria) Annual Conference on Science, Technology and Mathematics Education for Sustainable Development in Africa*. Ibadan: HEBN Publishers.
- Johnassen, D. H., Carr, C., & Yueh, H. P. (2003). Computers as midtools for engaging Learners in Critical Thinking. *Tech Trends*, 43(2), 24-32. Retrieved on May 15, 2008 from <http://www.amazon.com/computers-Mindtools-schoolsEngaging-critical/dp/0130807095>
- Krishna, A. (2009). Importance of Powerpoint: Retrieved Sept 5, 2012 from <http://www.enotes.com/ref/group/discusswhatimportance-microsoftpowerpoint-teacher>
- Lisa, P. (nd). How to prepare effective powerpoint presentations; Retrieved Sept 5, 2012 from <http://www.ehow.com/how5035>
- Louis, C., Lawrence, M. & Keith, M. (2007). *Research methods in education*. London and New York: Routledge Taylor and Francis Group.
- Lowry, R. B. (1999). Electronics presentations of lectures-effect upon Students performance: A methodology for teaching physical chemistry, University of Plymouth; University Chemistry Education 3(1); Retrieved September 28, 2012 from http://www.rsc.org/..31_lowry.pdf.
- McDonald, C. (22010). Powerpoint in the classroom: students of all ages can create multimedia presentation using Microsoft powerpoint. Retrieved Sept 5, 2012 from <http://www.actden.com/pp/>
- Mohmoh-Olle, J. Y. (1997). Effect of cognitive preference and advance verbal organizers on the retention: of an 'o' level physics textual materials. *The Nigeria Teacher Today* 5, (142),26.
- Okoro, O. M. (2002). *Measurement and Evaluation in Education*. Obosi: Pacific publishers Ltd.
- Oladele, J. O. (1998). *Fundamentals of psychological foundations of education*. Johns-Lad pub. Ltd. Lagos.

- Owosho, J. O. (2009). *Effect of the Constructivist Instructional Approach on Achievement and Retention of Auto-Mechanics Students in Technical Colleges*. (Unpublished Ph.D. dissertations. Department of Vocational Teacher Education, University of Nigeria Nsukka.
- Rankin, E. L. & Hoaas, D. J. (2001): The use of powerpoint and students performance. *Atlantic International Journal*, Vol. 29 Issue 1. Retrived from <http://www.ijessnet.com/.../28.pdf>
- Rohrer, M. (2004). Artificial intelligence in education. In. B. hoffman (Ed), *Encyclopedia of Educational Technology*. Retrieved on September 30, 2007 from <http://www.khoanh.hcmnp.edu.Vn/print.php?sid=/1092-20K>.
- Savage M. & Stemmy, K. L. (2003) Relevance of Godwin's Structure of Knowledge and Ausubel's Learning Theory to a Method for Improving Physics Laboratory Instructions. Department of Education, Ithaca, NY, Cornell University.
- Tuscaloosa City Schools, The College of Education and The University of Albama (2002): Using PowerPoint in the classroom; Retrieved Sept 5, 2012 from <http://www.online.tusc.k12.al.us/>