International Journal of Educational Research and Studies
www.journalofeducation.net
Online ISSN: 2664-6811, Print ISSN: 2664-6803
Received: 10-06-2021, Accepted: 27-06-2021, Published: 28-07-2021
Volume 3, Issue 3, 2021, Page No. 19-23

Differential effects of managing powerpoint instructional package and gender on students' academic achievement in Christian religious studies

Ikwuka Obiageli Ifeoma[1], Adigwe Joseph Eluemunor[1], Okoye Chinyere Celina[1], Igbokwe Innocent Chiawa[2], Eli-Chukwu Ngozi Clara[3]
[1] Department of Educational Foundations, Nnamdi Azikiwe University Awka, Nigeria
[2] Department of Educational Management and Policy, Nnamdi Azikiwe University Awka, Nigeria
[3] Department of Electrical & Electronic Engineering, Alex Ekwueme Federal University Ndufu-Alike, Nigeria

Abstract
The objective of teaching and learning of Christian Religious Studies (CRS) as a subject in Nigerian secondary schools is to bring up children who can respect the beliefs and feelings of others; appreciate dignity of labour and moral values that make an individual a good citizen. The achievement of secondary school students in the subject in Senior School Certificate Examination (SSCE) has been a source of worry to the researchers. In the quest for answers to these emergent problems, the present study investigated the controlling differential effects of power point instructional package and gender on academic achievement of secondary school students in Christian Religious Studies in Edo State, Nigeria. The study was guided by two research questions while two hypotheses were tested at 0.05 level of significance. The design of the study was quasi experimental design involving 2x4x2 factorial design. The population consisted of 1,363 SS2 students offering CRS in Uhunmwode L.G.A. of Edo State, Nigeria. The sample size was 88 SS2 students drawn from two intact classes of two co-educational schools out of 52 public secondary schools in the area of study. The instrument, Christian Religious Studies Achievement Test (CRSAT) was used for data collection. Data collected was analyzed using mean to answer the research questions while Analysis of Covariance (ANCOVA) was used to test the hypotheses. The result of the study revealed that students taught Christian Religious Studies using power point instructional package had a higher mean score than those in control group who were taught using conventional instructional medium. The result of the study further revealed that both male and female students in the experimental group improved in their achievement in CRS but female students achieved better than the male students after their exposure to treatment. This shows that gender is a significant factor in students' achievement in using power point instructional package. Based on this, power point instructional package stands as an effective and efficient instructional medium to enhance students' academic achievement in CRS. Thus, recommendation was made for the adoption and constant use of power point instruction by the CRS teachers in particular and other teachers in general.

Key Words: academic achievement, Christian religious studies, power point instructional package, gender, conventional instructional medium

Introduction

Moral decadence among Youths especially secondary school students has reached unendurable level. Students frequently involve in different kinds of crimes such as killing, stealing, sexual abuse, secret cults and lots of others. This is an indication that certain school subjects that are responsible to inculcate morals, value formation and spiritual growth of students are poorly taught in Nigerian schools. Christian Religious Studies (CRS) is a school subject offered compulsorily at primary and junior secondary levels of education. It is one of the oldest subjects in the school curriculum that is handed down by the Missionaries in the 19th century on the setting up of schools. It is also a subject that equips students with good morals, values and virtues for worthy living in the society. In the view of Isukpa (2014) [10], Christian Religious Studies is a subject designed to provide the learner with morals and spiritual transformation. Ndifon and Monity (2019) [11] asserted that CRS is a subject used to inculcate moral, values and behaviour change in the students. From these definitions, it could be seen that CRS as a school subject serves different functions in the lives of the students. According to Ntamu, Owulu and Monity (2019) [11], CRS as a subject serves the functions of developing students' intellectual ability and moral character. To Ikechukwu (2014) [7], CRS is important because it helps to reform the thought, character, moral and aspirations of the students. Furthermore, the importance of CRS as a school subject cannot be overemphasized. It inculcates good virtues, develop good and sound individual who are morally and spiritually upright, honest and truthful to develop the society. Moreover, Njoku and Njoku (2015) [13] posited that the objectives of teaching and learning of CRS in Nigerian schools is to bring up students who can respect the views and feelings of others; appreciate dignity of labour and moral values that make an individual a good citizen. Despite the enormous benefits of CRS, the researchers observed that students' academic achievement in the subject in Senior School Certificate Examination (SSCE) conducted by West African Examination Council (WAEC) in the three consecutive years in Edo State are not encouraging. Their low academic achievement in the subject could either be attributed to lack of interest on the part of the students, lack of

professional CRS teachers, inappropriate teaching methods or lack of adequate instructional materials, to mention but a few.

Studies have shown that Conventional Instructional Medium (CIM) which is also known as traditional talk and chalk method that involves the use of chalkboard and marker is the mostly used method in Nigeria education system (Ikwuka, 2010; Ikwuka, Etodike & Okoli, 2020; Owusu, 2009) [9, 17]. In this method of teaching, according to Ikwuka et al (2020) [9] and Alumona in Ngwu (2015) [15], the teacher is the initiator of knowledge with students as passive learners which might be another cause of poor achievement. In view of this, teachers need to employ activity-based methods with stimulating instructional media such as power point instructional package (PIP) that can enhance teaching and learning process for better academic achievement.

Power point instructional package is a computer-based tool used for preparation and presentation of classroom instructional delivery. It is activity-based because it has the capability of presenting information in different modes for enhancement of teaching and learning. In support of this, Nyenwe and Ishiaku (2013) asserted that power point presentation is an electronic device that deals with computer and computer software which can be used for teaching and learning purposes. Grupta (2010) further stated that power point uses texts, graphics and animations in presenting information. Udo and Udosen (2010) also supported and opined that power point is a software that incorporates text, video, animation and uses graphical approach for presentation in form of slide shows that accompany the oral delivery of topics. Power point is one of the digital instructional delivery used for learning that enables the satisfaction of the learning needs of students by facilitating instruction and having a motivating impact on them (Etim & Akpaetor, 2016) [3]. In the views of Ikwuka and Eluemunor (2020) [9], power point presentation is a good instructional medium and a key to facilitating an effective teaching and learning process, while Ofili (2016) [16] asserted that power point is one of the ICT devices that can be used for classroom instructional delivery. He further said that it could be used for duality of lesson presentation, thus to stimulate visualization and animation. In other words, power point instructional package is very important for instructional delivery because its usage appeals to the two major sensory perceptions of visual and auditory perceptions. These senses are indispensable in learning process because learners take information through them. In addition, Ugwuanyi, Okeke, Nnamani, Obochi and Obasi (2020) [20] asserted that power point instructional package hinges on providing audio and visual facilitation in the subject being taught by a teacher to students. Power point instructional package therefore creates good and more efficient learning environments that have the likelihood of improving students' academic achievement in any teaching subject. Academic achievement is the outcome of performance of students in examination, quiz and or continuous assessment after teaching and learning takes place. According to Ernest-Ehibudu and Opurum (2013) [4], academic achievement is the degree or level of success attained at the end of an endeavour. The level of students' academic achievement depends on the effective use of application of power point instructional delivery. Several studies have been conducted by different researchers to investigate the effect of power point instructional package in a particular subject. For instance, the study of Etesike (2020) [2] on the effect of power point instructional delivery on students' achievement in General Studies Education in Colleges of Education revealed that students taught GSE 124: FLEHI using power point performed significantly better than their counterpart taught using lecture method of teaching. On the other hand, Ofili (2016) [16] revealed that the experimental group taught with power point presentation performed better than the control group taught using conventional method with a significant difference in favour of the experimental group. The study of Gambari, Yusuf and Balogun (2015) [15] found out that students taught with power point performed better than those taught with chalkboard method with a significant different in favour of the power point instructional package. Anigbo and Orie (2018) [1] further conducted similar study and obtained the same result. Moreover, from these results, power point instructional delivery influences students' academic achievement. However, it is apposite to find out if gender of the students can have the same effect on their achievement due to the use of power point. Gender therefore is a term refers to male or female. The issue of gender and academic achievement center generally on the extent to which male and female perform differently in different subjects using instructional methods and media. Gender is regarded as a factor in this study because it might be that male and female may have differences in academic achievement when power point is used as an instructional delivery package. The results of researches carried out on gender differences in school subjects using ICT related instructional packages were inconclusive. The study of Uba (2014) [19] on the comparative effect of power point presentation and digital video instruction on secondary school students' achievement in Geography revealed that male students performed better than female students when exposed to power point presentations. However, no significant difference was found in their achievement. The study by Ofili (2016) [16] revealed that female students performed better than their male counterparts when taught with power point and that there was a significant difference in their mean achievement scores in favour of female students. Gambari et al (2015) [2] in their study revealed that both male and female students benefited from the treatment with female students having better performance than the male students, however, there was no significant difference. Similar to this, the study of Etim and Akpaetor (2016) [3] revealed that male and female students taught with power point instructional delivery performed equally better, hence no significant difference was found in their academic achievement. Based on this, the researchers sought to determine the differential effects of power point instructional package and gender on academic achievement of students in Christian Religious Studies.

Research Questions

1. What are the mean achievement scores of students taught CRS using power point instructional package and those taught CRS using conventional instructional medium?
2. What are the mean achievement scores of male and female students taught CRS using power point instructional package?

Hypotheses

1. There is no significant difference in the mean achievement scores of students taught CRS using power point instructional package and those taught using conventional instructional medium.

2. There is no significant difference between the mean achievement scores of male and female students taught CRS using power point instructional package.

Method

A pretest, posttest quasi-experimental design involving 2x4x2 factorial model was employed in the study using intact classes. The intact classes for the study were randomly assigned to experimental and control groups. The experimental group was taught using power point instructional package (PIP) while the control group was taught using conventional instructional Medium (CIM). At the beginning of the experiment, pretest was administered to both groups; thereafter at the end of the experiment, posttest was then administered. The study was carried out in Uhunmwode L.G.A of Edo State, Nigeria. The population of the study comprised 1,363 SS2 students who offered CRS in the 52 public secondary schools during the first term of 2019/2020 academic session in the study area. The choice of this area for carrying out this study was that the people value and consider education as an important industry. The sample size for the study was 88 SS2 students drawn from two co-educational public secondary schools out of 52 public secondary schools involving intact classes. Simple random sampling technique was used to assign the two schools into experimental group comprised of 42 students (19 males and 23 female) that was taught CRS using power point instructional package and control group of 46 students (20 males and 26 females) that was taught the same course contents using conventional instructional medium. Data were collected using Christian Religious Studies Achievement Test (CRSAT) which was made up of 50 multiple choice questions. The questions were drawn from WAEC past questions (2016-2018) on CRS topics that were taught during the period of the experiment. The researchers also prepared lesson plan for both experimental and control groups and marking guide for CRSAT. The instrument was validated by three experts. Reliability of the instrument was ascertained using Kudder Richardson 20 (KR-20), which yielded the coefficient of 0.77. Moreover, certain variables were controlled to enable the researchers investigate the differential effects of power point instructional package and gender such as: class interaction, experimental bias, resentful demoralization of the control group, effect of pre-test and posttest, Hawthorne effect, teacher variable and so on. Data were analyzed using mean and standard deviation to answer research questions while Analysis of Covariance (ANCOVA) was used to test the hypotheses.

Results

Research Question 1

What are the mean achievement scores of students taught CRS using power point instructional package and those taught using conventional instructional medium?

Table 1: Mean achievement scores of students taught CRS using Power point Instructional Package and those taught using conventional instructional medium

Groups	N	Pretest		Posttest		Mean Gain	Remark
		Mean	SD	Mean	SD		
PIP	43	23.53	4.27	37.09	5.58	13.56	Effective
CIM	45	22.95	3.45	24.05	2.66	1.10	Not Effective

Results in Table 1 show that the students in experimental group who were taught CRS with PIP have pretest mean score of 23.53 and posttest mean score of 37.09 with mean gain of 13.56 in CRS. Also, students in the control group who were taught CRS with CIM have pretest mean score of 22.95 and posttest mean score of 24.05 with mean gain of 1.10. This indicates that PIP was more effective in enhancing students' achievement in CRS than CIM.

Research Question 2: What are the mean achievement scores of male and female students taught CRS using power point instructional package (PIP)?

Table 2: Mean achievement scores of male and female student taught CRS using power point instructional package (PIP)

Groups	N	Pretest		Posttest		Mean Gain	Remark
		Mean	SD	Mean	SD		
Male	18	22.94	3.74	37.22	5.79	14.28	Effective
female	20	24.75	4.59	37.45	5.82	12.70	Effective

Results in Table 2 indicate that power point instructional package was effective in enhancing both male and female students' achievements in CRS. The data show that male students with posttest mean score of 37.22 and mean gain of 14.28 outperformed their female counterparts with posttest mean score of 37.45 and mean gain of 12.70. Also, the spread from the standard deviation scores increased in male and female moving from the pretest to the posttest with the male students having the higher spread of scores.

Test of Hypotheses

Hypothesis 1: There is no significant difference in the mean achievement scores of students taught CRS using power point instructional package (PIP) and those taught with conventional instructional medium (CIM).

Table 3: ANCOVA for differences on mean achievement scores of students taught CRS using Power point instructional package and those taught with Conventional instructional medium

Source	Type III Sum of Squares	Df	Mean Square	F	Sig
Corrected model	202.651[a]	6	33.775	1.174	.325
Intercept	6023.805	1	6023.805	209.321	.000
Pretest	1.800	1	1.800	.063	.803
Treatment	20.077	2	10.039	3.3 4	.026*
Gender	70.289	1	70.289	2.44	.031*
Treatment * Gender	105.441	2	52.720	2.83	.030*
Error	3424.555	119	28.778		
Total	175382.000	126			
Corrected total	3627.206	125			

Table 4: ANCOVA for difference in academic achievement of male and female students taught CRS using power point instructional package

Source	Type III Sum of Squares	Df	Mean Square	F	Sig
Corrected model	30.853[a]	2	15.427	.455	.638
Intercept	1130.509	1	1130.509	33.371	.000
Pretest	30.362	1	30.362	.896	.350
Gender	69.247	1	69.247	2.7	.032*
Error	1185.700	35	33.877		
Total	54205.000	38			
Corrected total	1216.553	37			

R Squared =.125 (Adjusted R Squared =.079) *significant at p<.05

Results in Table 4 show that there is significant difference in the posttest mean scores of male and female students in the experimental group, $F(2,38) = 2.7$, $p<0.05$. This is an indication that there is significant difference in the mean achievement scores of male and female students in CRS in favour of males. Hence, the hypothesis that there is no significant difference in the mean achievement scores of male and female students taught CRS using PIP is rejected.

Discussion

The findings of the study revealed that students in experimental group who were taught CRS using power point instructional package has higher mean scores than those in control group who were taught the same course contents using conventional instructional medium. This recorded improvement showed that students in the experimental group achieved better than those in the control group. This, therefore is an indication that power point instructional package is effective, and enhanced the achievement of CRS students. This finding is in agreement with the results of Ernest-Ehibudu and Opurum (2013) [4], Etesike (2020) [2], Ofili (2016) [16], Gambari et al (2015 and Anigbo and Orie (2018) [1] who found out that students exposed to learning using power point instructional package achieved significant positive results than their counterparts taught using conventional instructional medium.

The findings of the present study further revealed that male and female students taught with power point instructional package improved in their achievement in CRS, however the male students out-performed their female counterparts. This is an indication that gender of the students plays part in students' achievement when power point instructional package was used. This finding agreed with the findings of Gambari et al (2015) [5] who found out that male students performed better than their female counterparts on their exposure to power point instructional package but no significant difference was observed in their achievement. However, the present finding was in disagreement with the studies of Ofili (2016) [16] and Uba (2014) [19] which stated that female students performed better than their male counterparts and as such a significant difference was observed in their achievements. On the other hand, the findings of Etim and Akpaetor (2016) [3] differs with the finding of the present study. They found out that male and female students taught using power point instructional package performed equally better, hence no significant difference was found in their academic achievement. These findings showed that effect of gender on academic achievement of students is still inconclusive.

Conclusion

Based on the findings of this study, it was concluded that the use of power point instructional package had significant effect on the students' achievement in CRS. Also, that gender was a significant factor on students' achievement in CRS in favour of males using power point instructional package in secondary schools.

Recommendations

Based on the findings and conclusion of this study, it was recommended among others that:

1. Christian Religious Studies' teachers in particular and other subject teachers in general should be encouraged to adopt and constantly use power point instructional package in the teaching and learning since it was found to be an effective and efficient means of instructional delivery. More so, since it was found to be gender discriminatory, constant use of it in teaching and learning will help to close the gender gap.
2. Frequent training on how to use power point instructional package effectively in the instructional delivery of CRS should be organized for all CRS teachers by the Government and Stakeholders in education sector. Such training should be supervised and evaluated to make sure that CRS teachers have mastered the knowledge and skills for the proper use of power point in instruction.

References

1. Anigbo LC, Orie MJ. Effect of power point instruction on students' academic achievement in computer science (database management system) in Colleges of Education, River State. Computer Engineering and Intelligent Systems,2018:9(1):1-6.
2. Etesike CN. Effect of power point lesson delivery on students' achievement in general studies education courses in Colleges of Education in Nigeria. Journal of Education Research and Behavioural Sciences,2020:9(2):27-32.
3. Etim PJ, Akpaetor FB. Utilization of power point instructional package and academic performance of SSII agricultural science students in Ukanafun local government area of Akwaibom State, Nigeria. Asia Pacific Journal of Contemporary Education and Communication Technology,2016:2(2):83-88.
4. Ernest-Ehibudu II, Opurum J. Family dynamic is correlate of academic achievement in mathematics among secondary school students in Etche L.G.A. International Journal of Educational Research,2013:12(2):257-265.
5. Gambari AI, Yusuf HT, Balogun SA. Effectiveness of power point presentation on students' cognitive achievement in technical drawing. Malaysian Online Journal of Educational Technology,2015:3(4):1-12.
6. Grupta, V. Secret guide to computer. 2010. New York: Dreamtech Press.
7. Ikechukwu, C.I. Assessment for the improvement of teaching and learning of Christian Religious Knowledge in secondary schools in Awgu education zone, Enugu State, Nigeria. Journal of Education and Practice,2014:5(32):35-43.
8. Ikwuka OI. Development and validation of audio and video-taped instructional packages for teaching oral English in senior schools in Minnna, Nigeria. Unpublished Ph.D Thesis, Department of Science Education, University of Ilorin, 2010.
9. Ikwuka OI, Etodike CE, Okoli OK. Differential effects of instruction technique and gender on secondary school students' achievement in civic education in Anambra State, Nigeria. Higher Education of Social Sciences,2020:9(1):1-7.
10. Isukpa ME. Effect of role play method on students' academic achievement and interest in Christian Religious Studies in senior secondary schools in Ebonyi central education zone of Ebonyi State, Nigeria. Unpublished undergraduate project. University of Nigeria Nsukka, 2014.
11. Ndifon RA, Monity FM. Student variable and choice of Christian Religious Knowledge among senior secondary

school students in Cross River State, Nigeria. British Journal of Education,2019:7(11):50-60.
12. Ntamu GU, Owulu EE, Monity FM. Students' variables and academic performance in Christian Religious Studies in Calabar municipality, Nigeria. Valley International Journals,2016:3(11):2933-2942.
13. Njoku NC, Njoku DI. Challenges to effective implementation of Christian Religious Studies curriculum: A study of secondary school pupils in Ebonyi State of Nigeria. Journal of Education and Practice,2015:6(18):1-6.
14. Nyenwe J, Ishakaku EC. Planning for information and communication technology integration in Nigeria. Journal of Educational Media and Technology,2013:17(1):10-17.
15. Ngwu AA. Effect of power point presentation modes on students' achievement and retention in Basic science. 2015. npublished Masters Thesis. University of Nigeria Nsukka.
16. Ofili GO. Effects of power point instructional medium on Biology students' academic achievement and retention in Uyo, Akwa-ibom State. Journal of Science, Technology, Mathematics and Education, 2016:11(3):1-7.
17. Owusu KS. Instructional media as a tool for ensuring quality teaching and learning for pupils in junior high schools (selected schools in the Kumasi metropolis). Unpublished Master Thesis. Kwame Nkrumah University of Science and Technology, Kumasi, 2009.
18. Udo L, Udosen IR. Power point utilization and academic performance of Biology students in Akwa-ibom State College **of** Education, Afghasit. Proceedings of NAEMT 31st annual convention and conference at Lagos, 2010, 13-17.
19. Uba AE. Comparative effect of power point presentation and digital video instruction on secondary school students' achievement in Geography. 2014. Unpublished Masters Thesis. University of Nigeria Nsukka, 2014.
20. Ugwuanyi CS, Okeke CI, Nnamani PA, Obochi EC, Obasi CC. Relative effect of animated and non-animated power point presentations on Physics students' achievement. Cypriot Journal of Educational Sciences,2020:15(2):282-291.