e-2795-3272
p-2795-3264

https://doi.org/10.5281/zenodo.6806422 Vol. 05 Issue 06 June - 2022 Manuscript ID: #0644

EFFECTIVENESS OF POWERPOINT PRESENTATIONS ON STUDENTS' COGNITIVE ACHIEVEMENT IN FINANCIAL ACCOUNTING

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ABSTRACT

The current study was carried out to investigate the effectiveness of PowerPoint presentations on students' cognitive achievements in Financial Accounting. Senior secondary school students offering Financial Accounting in the North-East Senatorial District of Akwa Ibom State, Nigeria were used for the study. A quasi-experimental research design using non-randomised pre-test and post-test control groups was adopted. The sample for the study consisted of 176 SS2 students drawn from four intact classes of four secondary schools in the study area. The Financial Accounting Achievement Test (FAAT)with a reliability coefficient of 0.85 was used for data collection. The obtained data were analysed using mean and Analysis of Covariance (ANCOVA). Interpreted results showed that students taught Financial Accounting using PowerPoint presentations had a higher cognitive gain that those taught using the traditional methods. Based on the findings of the study, the study recommends among others, the use of teaching methods that enhance higher student gains, especially in the 21st-century learning classroom where teaching methods are becoming ubiquitous.

KEYWORDS

Academic Performance, Cognitive gain, Financial Accounting, Power Point, Retention.

Introduction

The information and communication technologies (ICTs) have fostered qualitative changes in how teaching is now approached, especially in terms of content presentation and methods of teaching. Different studies, (for example Savoy, *et al*., 2009; Gambari, 2010; Adegoke, 2011 and Abd-El-Aziz, 2014) have shown that the use of technology in schools has developed new ways of teaching and learning which are considered more efficient than the conventional/traditional methods. This has led to a gradual move away from the conventional/traditional teaching methods, which are no longer responding to the needs of students nor increasing their cognitive progress (Mansour, 2019). The conventional/traditional teaching methods basically involve a formal discourse or exposition on a subject matter by the teacher to attain a stated instructional objective. The teacher does the talking while the students listen, take notes and occasionally ask questions for clarifications (Oviawe, 2010).

Unarguably, the instructional delivery mode employed by the teacher plays an important role in understanding, skills acquisition and meaningful learning. Power point presentations have now become one of the new normal in educational methodology, made possible by ICT and the need to foster students' centered learning. PowerPoint is a software programme that has become a basic means of delivering presentations in both lecture halls and educational centers. It is a presentation package that allows one to produce on screen computer presentations, overhead projection transparencies, posters and web-pages. It allows for the manipulation of text and graphical elements with great creative flexibility, whilst also providing a set of pre-designed templates which make it possible for even the most non-artistic user to produce professional layouts (Blankstein, 2010). Power point is ideal for producing full-screen computer presentations to enhance lectures, demonstrations and displays. It can enhance the effectiveness of classroom lectures by highlighting key points, providing pictures and other graphics supporting the material (Jeremiah, 2013). Every day more than 30 million presentations are delivered with PowerPoint (Savoy *et al*., 2009; Ramon *et at*., 2013) aimed at meeting the needs of the ever-changing learners' demands. This has led to a gradual shift from the conventional/traditional teaching methods to learners' friendly and ICT based methodologies.

Using PowerPoint presentations may encourage students' participation in the class and improve their achievement. It enhances learning by providing a better understanding and comprehension of the subjects as well as by providing different approaches, methods, and techniques for ease of understanding by the learners. This variety of techniques, which can be on the same slide; like adding pictures, sounds, colors, and animations combines all kinds of learners (kinesthetic, auditory, and visual) and give them all the chance to be active learners and raise their interest in learning. This also has an outstanding effect in academic performance and information retention.

The conventional/traditional method of teaching Financial Accounting has been found to present many challenges in the teaching learning process, such as keeping the students passive in class, which invariably leads to poor academic achievement and retention (Wanger 2008; Oviawe, 2010; Weimer, 2012). Though the conventional/traditional methods are effective and efficient in disseminating large body of content to a large number of students, this contradicts the students' centered-learning-approach which encourages students' participation in the learning process (Mitchell & Honore, 2017; Barlett & Strough, 2021). With the growing concern in recent times to have an Accounting classroom that is student-centered, activity-oriented and focused on understanding in order to facilitate learning for the majority of students, there emerges the urgent need to explore new approaches with potentially radical teaching applications (Irem, 2016). In this regard, there is need for teachers and instructors to incorporate multi-media in teaching and instruction delivery process, thereby giving the students opportunity to engage actively in the lesson, develop technical skills and explore the contents taught in more details so as to increase their academic performance and retention. This study therefore sought to determine the effectiveness of Power Point presentations on students' cognitive achievement in the teaching of financial accounting.

Purpose of the Study

The purpose of this study was to determine the effectiveness of Power point presentations on students' cognitive achievement in the teaching of financial accounting. To achieve this purpose, the specific objectives were to:

I. Compare the academic performance of students in Financial Accounting between those taught using PowerPoint presentations and those taught using the conventional/traditionalteaching methods.
II. Compare the retention of students in Financial Accounting between those taught using PowerPoint presentation and those taught using the conventional/traditional teaching methods.

Research Questions

To achieve the purpose of the study, the following research questions were raised:

I. Does any difference exist in the academic performance of students in Financial Accounting between those taught using PowerPoint presentations and those taught using the conventional/traditional teaching methods?
II. Does any difference exist in the retention of students in Financial Accounting between those taught using PowerPoint presentations and those taught using the conventional/traditional teaching methods?

Research Hypotheses

The following null hypotheses were formulated for the study:

i. There is no significant difference in the academic performance of students in Financial Accounting between those taught using PowerPoint presentations and those taught using the conventional/traditional teaching methods.
ii. There is no significant difference in the retention of students in Financial Accounting between those taught using PowerPoint presentations and those taught using the conventional/traditional teaching methods.

Research Methodology

A quasi-experimental research design using non-randomized pre-test and post-test control group was used for the study. The sample consisted of 176 Senior Secondary Two (SS2) students drawn from three intact classes of three secondary schools in Akwa Ibom State, Nigeria. Data was collected using "Financial Accounting Achievement Test (FAAT)" which was designed for the study. The instrument comprised 20 multiple choice questions with options A-D. Kuder-Richardson 20 formula was used to obtain a reliability coefficient of 0.85 for the instrument. PowerPoint presentation was developed using note of lessons on Financial Accounting topics to be taught to the students before commencement of the study. A pre-test of the "Financial Accounting Achievement Test (FAAT)"was administered to the students before they were taught the concepts again in their respective groups using PowerPoint presentations and the conventional teaching method. After the treatment, the test was again administered as a post-test. After an interval of one month, the test was again administered to test the student's retention of the concepts that were taught. The obtained data was analyzed using mean, standard deviation and Analysis of covariance (ANCOVA).

Results

The results of the mean statistics of students' performance and retention are presented in Tables 1 and 2.

Table 1: Mean statistics of the performance of students in Financial Accounting between those taught with PowerPoint presentations and those taught using conventional/traditional methods

Instructional strategy	N	Pre-test Mean	Post-test Mean	Mean Difference
PowerPoint	59	37.03	67.20	30.17
Conventional/traditional	62	37.10	56.26	19.16

Table 2: Mean statistics of the retention of students in Financial Accounting between those taught with PowerPoint presentations and those taught using conventional/traditional methods

Instructional strategy	N	Post-test Mean	Retention-test Mean	Mean Difference
PowerPoint	59	67.20	70.93	3.73
Conventional/traditional	62	56.26	54.36	-1.90

The results of the Analysis of Covariance of students' performance and retention are presented in Tables 3 and 4.

Table 3: Result of ANCOVA of the academic performance of students in Financial Accounting between those taught with PowerPoint presentations and those taught using conventional/traditional methods

Source	Type III Sum of Squares	Df	Mean Square	F-cal	Sig.
Corrected Model	3655.76[a]	2	1827.88	26.74	.00
Intercept	12742.82	1	12742.82	186.43	.00
Pretest	34.04	1	34.04	.50	.48
Instructional strategies	3625.00	1	3625.00	53.04	.00
Error	8065.39	118	68.35		
Total	470789.00	121			
Corrected Total	11721.16	120			

*=Significant at P< 0.05 alpha level

Table 4:Result of ANCOVA of the retention of students in Financial Accounting between those taught with PowerPoint presentations and those taught using conventional/traditional methods

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	8326.08[a]	2	4163.04	55.64	.00
Intercept	7448.40	1	7448.40	99.54	.00
Posttest	18.22	1	18.22	.24	.62
Instructional strategies	5386.90	1	5386.90	71.99	.00
Error	8829.70	118	74.83		
Total	488875.00	121			
Corrected Total	17155.79	120			

*=Significant at P< 0.05 alpha level

Discussion

The result in Table 1showed that the mean difference in academic performance for students taught Financial Accounting with PowerPoint presentations was 30.17 while that of students taught with conventional/traditional methods was 19.16. The mean showed that students taught Financial Accounting with PowerPoint presentations performed better than students taught using the conventional/traditional methods. The result in Table 3 also shows that the calculated F-ratio for the effect of instructional strategies at df 1, 119 is 53.04, while its corresponding calculated level of significance is .00 alpha. This level of significance is less than .05 in which the decision was based. With this result, the null hypothesis was rejected. This implies that there is a significant difference in the performance of students in Financial Accounting between those taught using PowerPoint presentations and those taught using conventional/traditional methods.

This result could be attributed to the fact that PowerPoint presentations can create better interactions, more effective and transactional instructional situation and engage multiple learning styles, increase visual impact, improve audience focus that is likely to improve students' performance in school subjects. The findings of the study is in line with that of Shavelson (1998), Gurbuz *et al.*, (2010), Ahmed (2011), Lari (2014), Dahunsi (2014), Etim and Akpaetor (2016), Motagi (2018) and Gambari and Balogun (2019). All these studies asserts that using PowerPoint presentations affect the student`s academic performance positively. However, the present findings contradicts the findings of Daniels (1999), Szabo and Hastings (2000), Beets and Lobingier (2001), Bartsch and Cobern (2003), Susskind (2005); Apperson *et al*., (2006), Savoy *et al*., (2009) and Ramon *et al*.,

(2013) whose studies found no significant difference in student performance or evidence that PowerPoint presentations can enhance students` performance or even students 'academic achievement. The teaching method, though not the only parameter for academic performance, can play a significant role when applied knowledgably by professionals.

Findings on the retention of the students are quite revealing. Table 2shows the mean statistics of the retention of students who participated in the study. Those taught with power point presentations had a positive mean retention difference of 3.73 while those taught with the conventional/traditional methods had a negative mean retention difference of -1.90.Table 4 also present the result of ANCOVA of the retention test. The calculated F-ratio for the effect of instructional strategies at df 1, 119 is 71.99, while its corresponding calculated level of significance is .00 alpha. This level of significance is less than .05 in which the decision is based. With this result, the null hypothesis was rejected. This implies that there is a significant difference in the retention of students in Financial Accounting between those taught using PowerPoint presentations and those taught using the conventional/traditional methods. This finding could be attributed to the fact that PowerPoint presentations can be used to project visuals which would otherwise be difficult to bring to class thereby making it easier for the teachers to sustain the students' interest in class and could motivate students to learn and thus enhance their retention abilities. Also, since points of emphasis could also be presented in bold letters, this can make for easy retention. The findings are in line with that of Bulter and Mautz (1996), Lopez and Rodriguez (2013) and Mansour (2019) who found out in their studies that power point presentations help in information retention. This finding contradicts that of Nouri and Shahid (2005) who found that there was no conclusive evidence that PowerPoint presentations improve short-term or long-term memory.

Conclusion

The study has shown that PowerPoint presentation has a potential of increasing students' academic performance and retention in financial accounting over the conventional/traditional teaching methods. It must be stressed that teachers, who are professionals in knowledge impartation, should determine when to use this technology appropriately. Familiarity and availability should not detect its usage, but the intended goals and objectives. This will provide for a learning environment that will enhance better understanding and appropriate knowledge transfer. This study therefore recommends the use of teaching methods that enhance higher students' gains especially in the 21st century learning classroom where teaching methods are becoming abundant.

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