
EFFECTS OF WHATSAPP ON THE ACADEMIC PERFORMANCE OF BUSINESS EDUCATION STUDENTS IN COST ACCOUNTING IN FEDERAL COLLEGES OF EDUCATION

BY

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Abstract

The study was carried out to investigate the effects of WhatsApp on the academic performance of business education students in cost accounting in Federal Colleges of Education in North-West Nigeria. Quasi experimental design was adopted for the study. In order to achieve this, three specific objectives and three research questions were raised. Three null hypotheses were tested for the study. The population of the study was 241 students and the sample was 91. Cost Accounting Performance Test (CAPT) was used as the instrument for data collection. The instrument consisted of two sections. Section A was the pre-test and section B was the post-test. The data collection procedure lasted for five weeks. The research questions one to three were answered using mean and standard deviation. Null hypotheses one to three were tested using Analysis of Covariance (ANCOVA). All the hypotheses were tested at 0.05 level of significance. Null hypotheses one were rejected, while hypotheses two and three were retained. The study found that WhatsApp had positive effects on the academic performance of Business Education students in Cost accounting. However, there was no significant gender effect on the academic performance of male and female students who were taught cost accounting using WhatsApp. There was a significant difference in the academic performance of business education students taught Cost Accounting using WhatsApp and lecture method. Based on the findings, it was concluded that WhatsApp affected the academic performance of business education students in cost accounting. It was recommended among others that WhatsApp should be used to teach cost accounting to Business Education students in Colleges of Education.

Keywords: WhatsApp, Social Media, Academic Performance, Business Education and Cost Accounting

Introduction

Teachers and students over the past several years, have become accustomed to teaching and learning in the four walls of the classroom. These means of communicating instructions involve physical contact between the teachers and students where contents are imparted either verbally or in written form in the classroom. As individuals become empowered, the obsolescence of traditional one-way media poses enormous implications for the future of our society. The traditional teaching approaches are largely teacher-centred and follow procedural steps of activities and demonstrations. This approach may not provide students with valuable skills or even with a body of knowledge that holds out much, beyond conclusion (Dickman, 2012).

Educational technologies are often incorporated in classroom settings to allow learning to be personalized and independent for the students (Job productivity, 2006). Advocates and critics of the use of educational technologies have found a middle ground through blended (or hybrid) learning (Hinkelman, 2018). The terms blended learning, mixed-mode learning, and hybrid learning are used interchangeably (Zhao & Breslow, 2013). Blended learning allows a smooth transition from a shift in teaching methodology to another for teachers and learners. It is important that the goal should not be just to integrate technology in the classroom; instead, pedagogical objectives should determine the different modes of teaching instructions (O'Byrne & Kristine, 2015).

Social media are platforms used to build social networks or social relations among people who share interests, activities, backgrounds or real-life connections. People now obtain information, education, news and other data from social media which has become more popular among the younger generation. There are sites such as Facebook, YouTube, Blogs, Twitter, Myspace or LinkedIn (Lusk, 2010). A social medium consists of representation links and a variety of additional services. This is in line with the view of Gross (2010), who viewed social media as those means that employ mobile and web-based technology to create a highly integrative platform through which individuals and community share, co-create, discuss and modify user-generated content. Wigmore and Rouse (2017) viewed social media as a collection of online communication channels dedicated to community-based input, interaction, content-sharing and collaboration. Social media are media for social interaction as a superset beyond social communication. They further explained that social media are becoming an integral part of life with most online media including the social components such as comment fields for users. These new media have evolved a great deal and become a critical aspect of the modern-day human. Some researchers emphasized that, traditionally, consumers used the internet to simply expend content: they read it, they watch it, and they use it to buy products and services. Increasingly, however, consumers are utilizing platforms such as content-sharing sites, blogs, social networking and wikis (Kietzmann, 2011; Zeitel & Tat, 2014).

One type of social-media networking sites (SNS) that might have potential in higher education to support teaching and learning is WhatsApp messenger. WhatsApp messenger is a smartphone and web-based instant message application that allow users to exchange information using a variety of media including text, image, video, and audio messages (Church & De Oliveria, 2013; Sahu, 2014). WhatsApp can create immediate connections, encourage reflection and facilitate coordination of informal and formal learning. It also served as a tool for bridging access to learning resources, rendering peer-based and hierarchical support, leveraging on-task behaviour and enhancing meaningful context-free learning. WhatsApp increase students' social interactivity with one another and with the instructors, and this facilitates collaborative learning. There are a number of social networking sites and social network applications, such as WhatsApp, Google classroom, Facebook, Twitter, Imo, and Skype that facilitate communication between people regardless of distance.

WhatsApp is primarily a mobile application for social media, and operates on almost every modern type of device. It is compatible with almost every operating system used on digital devices. The application was introduced in 2010 with an initial function of facilitating

communication and helping students to actively take part in education outside the classroom. According to Bouhnik and Deshen in Hamad (2017), WhatsApp could assist introvert students in learning, particularly in a group because it minimizes or eliminates the anxiety associated with asking questions before other co-learners. Following its introduction, WhatsApp was quickly adopted by a great many people around the globe, but primarily as a platform that facilitates communication in social networks. Since its introduction, the application has rapidly changed the way people communicate with one another. For instance, due to its availability and ease of use, it has now become one of the most useful and influential social media tools used by students in higher learning institutions (Issa and Alsaleem in Hamad, 2017). Apart from its social function which is to provide a direct medium of communication for people, WhatsApp has a tremendous potential in facilitating learning and interaction in higher education (Issa&Alsaleem in Hamad, 2017).

The general benefits of using WhatsApp instant messaging in the blended mobile lecture are as follows: WhatsApp instant messaging facilitates online collaboration and cooperation between online students connected from school or home in a blended mobile lecture; WhatsApp is a free application that is easy to use; Groups connected to WhatsApp instant messaging can share learning objects easily through comments, texting and messaging. Discussions are related to the course content taught 100% in-class; WhatsApp provides students with the ability to create a class publication and thereby publish their work in the group and Information and knowledge are easily constructed and shared through WhatsApp instant messaging (Yus, 2017).

Business Education is an important integral part of general education which emphasizes skills and competence acquisition for use in office and business. Udoh (2016) defined Business Education as a comprehensive activity-based occupational education programme that is concerned with acquisition of practical skills, abilities, understanding, attitude, work habits and competencies that are requisite to success in any chosen business occupation. According to him, it equips the recipients with practical skills in areas of accounting, marketing, distributive trade, management and office technology, information and communication technology (ICT), economics and entrepreneurship. In today's world of business, Business Education curriculum needs to replace the traditional pedagogical practices that still underpin its teaching and learning process. From a competitive standpoint, the greatest challenges faced by Business Education products are that they appear to be relatively deficient in ICT skills and understanding the international business trends. The curriculum needs ICT component not as a tool for communication but also as a tool for teaching and learning and carrying out research.

Academic performance is that extent to which students, teachers or institutions have achieved their short or long-term educational goals. It is reflected in the Cumulative Grade Point Average (CGPA) and completion of educational qualifications such as High School Certificates and Bachelor's degrees. The tracking of academic performance fulfils a number of purposes. Areas of achievement and failure in a student's academic career need to be evaluated in order to foster improvement and make full use of the learning process. Results provide a framework for talking about how students fare in school and about a constant standard to which all students are held. Performance results also allow students to be ranked and sorted on a scale that is numerically obvious, minimizing complaints by holding teachers and schools accountable for the components

of every grade. Performance can be evaluated through regular grading. Students demonstrate their knowledge by taking written or oral tests, performing presentations, turning in homework and participating in class activities and discussions. The subjectivity of academic performance evaluation has lessened in recent years, though it has not been totally eliminated. It may also not be possible to fully remove subjectivity from the current evaluation methods, since most are biased towards students that respond best to traditional teaching methods (Tobias, 2011).

Cost accounting is process of recording, classifying, analyzing, summarizing, allocating, and evaluating various alternative courses of action for the control of costs. Its goal is to advise the management on the most appropriate course of action to be taken based on the cost efficiency and capability. Cost accounting helps to improve utilization of resources such as man power, plant and machinery, vehicles, building and cash (Collins, 2011). Performance in cost accounting is important because it is one of the courses required in Business Education (accounting option) for graduation. Experience has shown that the performance of Business education undergraduate students in cost accounting has not been encouraging and, as it has been noted by Torp and Sage (2014), this explains that methodology is very vital in any teaching-learning situation as the method adopted by the teacher may promote or hinder learning. It may sharpen mental activities which are the bases of social power or may discourage initiatives and curiosity thus making self-reliance and survival difficult. Students need to understand concepts at deeper levels; they need to be engaged in sustained thinking to give them better understanding of concepts. The performance in cost accounting has also become an argument in terms of gender as in who performs better.

In the words of Wolfe (2005), gender refers to the social differences that exist in a society between women and men, boys and girls. Gender is often used interchangeably with “sex”. Sex is the biological difference between a man and a woman while gender is the roles determined by society and conveyed from society to society or culture.

Statement of the Problem

Teachers have the major obligation of empowering students with specific skills, knowledge and attitude that will enable them to live and work in the knowledge society. The current traditional method of teaching cost accounting in Federal Colleges of Education in North-West, Nigeria is seems inadequate to the detriment of the academic performance of business education students. Cost accounting is a vital and major part of Business Education programme in Nigerian tertiary institutions. Unfortunately, where cost accounting is being offered as a major course, the rate of failure in the course is quite alarming. The summary of the analyses of business education students’ performance in cost accounting for 2015/2016, 2016/2017 and 2017/2018 academic sessions in three Federal Colleges of Education in North-West, Nigeria: Federal College of Education Kano, Kano State, Federal College of Education, Zaria Kaduna State, Federal College of Education, Katsina, Katsina State, offering Business Education are given as follows. For 2015/2016 academic session – out of 122 students, 46 (37.7%) passed, while 76 (62.3%) failed and for 2016/2017 academic session, out of 119 students 48 (40.3%) passed, while 71 students (59.7%) failed. For 2017/2018 academic session out, of 130 students, 51 (39.2%) passed while 79 (60.8%) failed). If this poor performance goes unchecked, the competence of NCE Business

Education (Accounting Option) graduates becomes questionable and they will become irrelevant in the world of work.

Based on the researcher's recent interaction with some students, it was observed that even with the incorporation of ICT into the curriculum of business education, lecturers still prefer to use the traditional method in teaching cost accounting. Also, business education students believe that cost accounting is too technical and difficult, and that is why lecturers are finding it difficult to teach effectively. On the basis of the foregoing, the researcher is prompted to investigate the effects of WhatsApp on the academic performance of business education students in cost accounting in Federal Colleges of Education in North-West, Nigeria.

The situation presented here calls for great concern for both lecturers and students. Even at this, most students that passed did not pass at first sitting. There is a dire need to address this situation. This is what the study intends to do by investigating the effects of WhatsApp on the academic performance of Business Education students in cost accounting in Federal College of Education in North-West, Nigeria.

Purpose of the Study

The main purpose of this study is to investigate the effects of WhatsApp on the academic performance of Business Education students in cost accounting in Federal Colleges of Education in North-West, Nigeria. The specific purposes are to:

1. determine the effects of WhatsApp on the academic performance of Business education students in cost accounting in Federal Colleges of Education.
2. establish the effects of gender on the academic performance of Business education students who were taught cost accounting using WhatsApp in Federal Colleges of Education.
3. ascertain the interaction effect of treatment and gender on the academic performance of Business Education students taught cost accounting.

Research Questions

The study answered the following research questions:

1. What is the effect of WhatsApp on the academic performance of Business Education students in cost accounting in Federal Colleges of Education?
2. What is the effect of gender on the academic performance of Business Education students who were taught cost accounting using WhatsApp in Federal Colleges of Education?
3. What is the interaction effects of treatment and gender on the academic performance of Business Education students taught cost accounting?

Research Hypotheses

The following null hypotheses are formulated and were tested at 0.05 level of significance:

H₀₁: WhatsApp has no significant effect on the academic performance of Business Education students in cost accounting in Federal Colleges of Education.

H₀₂: There is no significant difference in the academic performance of male and female Business Education students who were taught cost accounting using WhatsApps in Federal Colleges of Education.

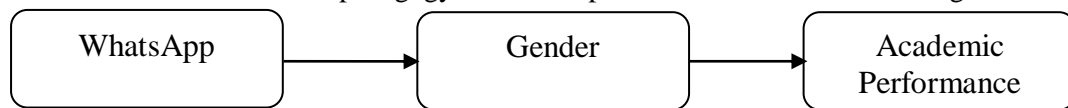
Ho₃: There is no significant interaction effects of treatment and gender on the academic performance of Business Education students taught cost accounting.

Theoretical Framework

The key theory formed for the foundation for this study is Albert Bandura's Social Learning Theory (1997). Social learning theory stipulates that people can learn new behaviours by observing others. This also refers to the reciprocal relationship between social characteristics of the environment, how they are perceived by individuals and how motivated a person is to reproduce behaviour they see happening around them. According to Nabavi (2014), this theory is based on the idea that we learn from our interactions with others in a social context. Separately, by observing the behaviour of others, people develop similar behaviour. After observing the behaviour of others, people assimilate and imitate that behaviour, especially if their observational experiences are positive ones or include rewards related to the observed behaviour.

Conceptual Framework

The conceptual framework adopted for the study was based on the premise that business education need to change from the traditional pedagogy in teaching and learning business education courses. Ekoh (2016) refers to traditional pedagogy as a pre-technology education context in which the teacher is the sender or the source, the educational materials is the information or message and the student is the receiver of the information. In order to improve the academic performance of the students, there is a need to change the method of teaching business education courses to innovative pedagogy. The conceptual framework is shown in figure below



Conceptual Framework (Source: The Researcher, 2020)

In this study, WhatsApp are the independent variables, gender is the moderating variable while academic performance dependant variable. The independent variables in the research have a strong relationship to the dependent variable. The framework tends to guide the relationships between independent and dependent variables, with independent variables directly influence dependent variable in the research study.

Methodology

The study employed the quasi-experimental design. Specifically, pre-test and post-test non-equivalent control group design was used. The design was considered appropriate because it was not possible for the researcher to assign subjects randomly to the groups. The population of the study was 241 students. It comprised NCEIII Business Education (Accounting Option) students who offered cost accounting in the Federal Colleges of Education in North-West, Nigeria. 91 respondents were drawn as sample size for the study. Two colleges of education was sampled, they are Federal College of education Kano and Federal College of Education, Katsina using purposive sampling. The instrument for data collection was Cost Accounting Performance Test (CAPT) containing section A for pre-test and section B for Post-Test. After using this technique, Federal College of Education, Kano was assigned to E1 (Experimental Group 1, WhatsApp); and Federal College of Education, Katsina was assigned to the control group (Control Group). The demographic variable was analysed using percentage while the data for the research questions 1 -

3 were analysed using mean and standard deviation. Null hypotheses one to three were tested using Analysis of Covariance (ANCOVA). All the hypotheses were tested at 0.05 level of significance. Analysis of Covariance (ANCOVA) was considered appropriate for testing variables because it is used to establish that two or three groups were equivalent before treatment groups.

Research Question One: What is the effect of WhatsApp on the Academic Performance of Business Education Students taught Cost Accounting in Federal Colleges of Education?

Data collected explained the research question as shown in Table 1

Table 1: Descriptive statistics for WhatsApp and control groups

Group	N	Mean	Std. Error
Experimental I (WhatsApp)	44	70.23	7.43
Control Group (Lecture)	34	46.82	4.73

Source: Field Experiment, 2020

The data in Table 1 reveals that the participants in treatment group (WhatsApp) performed better than their counterparts in the control group (Lecture method) because they had the highest post-test mean score (mean = 70.23) as against the post-test mean score of the control group (mean = 46.82). This implies that WhatsApp is effective for improving the academic performance of business education students in cost accounting.

Research Question Two: What is the effect of gender on the academic performance of Business Education students who using whatsapp in Federal Colleges of Education?

Data collected explained this research question as shown in Table 2

Table 2: Descriptive Statistics for WhatsApp and Gender group

Group	N	Mean	Std
Male	33	71.12	7.05
Female	11	67.55	8.22

Source: Field Experiment, 2020

The data in Table 6 shows the mean difference in male and female business education students' academic performance in cost accounting taught using WhatsApp. The table reveals that the male participants in treatment group (whatsapp) performed better than their female counterpart because they had the highest post-test mean score (mean = 71.12) as against the post-test mean score of the female counterpart (mean=67.55). This implies that WhatsApp is effective for improving the academic performance of male business education students taught cost accounting.

Test of Hypotheses

Ho₁: WhatsApp has no significant effect on the academic performance of Business education students taught Cost accounting in Federal Colleges of Education in North-West Nigeria.

Table 3: Summary of Analysis of Covariance (ANCOVA) for Test of Significance of main effect treatment of WhatsApp on academic performance of Business education students taught Cost Accounting

Source	Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	10506.336 ^a	2	5253.168	126.537	.000
Intercept	951.412	1	951.412	22.917	.000
Pre-test	1.056	1	1.056	.025	.874
Treatment	9546.933	1	9546.933	229.964	.000
Error	3113.612	75	41.515		
Total	294660.000	78			
Corrected Total	13619.949	77			

a. R Squared = .771 (Adjusted R Squared = .765)

Source: Field experiment, 2020

The data presented in Table 8 shows F-calculated values for effects of treatment of WhatsApp on the academic performance of Business education students taught cost accounting (229.96). The Table shows that there was significant main effect of treatment of WhatsApp on academic performance of business education students taught cost accounting (F= 229.96; P = .000). Hence, the null hypothesis that stated that WhatsApp has no significant effect on the academic performance of business education students taught Cost accounting in Federal Colleges of Education in North-West Nigeria was therefore rejected. This implied that WhatsApp has positive effect on the academic performance of business education students taught cost accounting. This means that the effect observed was due to the main treatment given to students.

Ho₂: There is no significant difference in the academic performance of male and female business education students who were taught Cost accounting using WhatsApp in Federal Colleges of Education.

Table 4: Summary of Analysis of Covariance (ANCOVA) for Test of Significance of Effects of Gender on academic performance of Business education students taught cost accounting using WhatsApp

Source Variance	Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	10636.243 ^a	4	2659.061	65.057	.000
Intercept	1005.978	1	1005.978	24.612	.000
Pre-test	.031	1	.031	.001	.978
Groups	7652.104	1	7652.104	187.218	.000
Gender	13.132	1	13.132	.321	.573
Treatment * Gender	116.256	1	116.256	2.844	.096
Error	2983.706	73	40.873		
Total	294660.000	78			
Corrected Total	13619.949	77			

a. R Squared = .781 (Adjusted R Squared = .769)

Source: Field experiment, 2020

The data presented in Table 4 shows F-calculated values for effect of gender on the academic performance of business education students taught cost accounting using WhatsApps as 0.32. The Table showed that there was no significant gender effect on the academic performance of business education students taught cost accounting using WhatsApp ($F = 0.321$; $p > 0.05$). Hence, the null hypothesis that stated that there is no significant effect of gender on the academic performance of business education students taught cost accounting using WhatsApp in Federal Colleges of Education in North-West Nigeria is therefore not rejected. This implied that gender has no effect on the academic performance of business education students taught cost accounting. This means that male and female students performed alike.

Table 5: Summary of Analysis of Covariance (ANCOVA) for Test of Significant Interaction Effects of Treatments and Gender on academic performance of Business education students taught cost accounting

Source	Variance	Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model		10636.243 ^a	4	2659.061	65.057	.000
Intercept		1005.978	1	1005.978	24.612	.000
Pre-test		.031	1	.031	.001	.978
Groups		7652.104	1	7652.104	187.218	.000
Gender		13.132	1	13.132	.321	.573
Treatment * Gender		116.256	1	116.256	2.844	.096
Error		2983.706	73	40.873		
Total		294660.000	78			
Corrected Total		13619.949	77			

a. R Squared = .781 (Adjusted R Squared = .769)

Source: Field experiment, 2020

The data presented in Table 5 shows F-calculated value for interaction effect of treatment of WhatsApp and gender on academic performance of business education students taught cost accounting as 2.84. The Table showed that there was no significant interaction effect of treatment of WhatsApp and gender on academic performance of business education students taught cost accounting ($F = 2.844$; $P = 0.096$). Hence, the null hypothesis is therefore not rejected.

Discussion of the findings

This study was conducted to determine the effects of WhatsApp on the academic performance of business education students in cost accounting in Federal Colleges of Education. The study found that WhatsApp had effect on the academic performance of business education students in cost accounting. This shows that out of the three methods used in this study, WhatsApp proved to be the best. The findings of the study corroborated with that of Loksha, (2016) who conducted a research on the effects of WhatsApp messenger usage among students in Mangalore University and found that WhatsApp enhance students' academic performance through collaborative learning. It was concluded that WhatsApp has positive effect in their academic performance.

Majority of the students studied had their Grade Point Average (GPA) less than 2.5 which implies a negative impact on the use of smart phones and their related applications on the GPA of

students. This is also in line with the findings of Tuurosong and Faisal (2014), Munkila and Idris (2015) who examined the impact of social networking sites on the academic performance of students in polytechnics in Ghana. Findings of the study revealed that there exists a negative relationship between the use of social media and academic performance of the students, as 39.5% of the students agreed to the fact that WhatsApp has adverse effects on their academic performance. However, the social media as a whole and not WhatsApp as an exception, have some positive effects on the academic activities of the students since the social media assist the students in performing some academic activities.

The study found that there was no significant gender effect on the academic performance of business education students who were taught cost accounting using WhatsApp. This implies that gender has no effect on the academic performance of business education students taught cost accounting using WhatsApp. This means that both male and female students performed alike. This finding may be as a result of innovations in teaching which encourages all students to interact with their teachers.

Conclusion

Based on the findings of the study, it was concluded that WhatsApp had positive effects on business education students' academic performance in cost accounting. This implies that the lecture method which is the popular method of teaching used by business education lecturers in teaching cost accounting is not as effective as the use of WhatsApp.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Lecturers should acquire ICT skills in order to carry out innovative teaching.
2. WhatsApp usage should be encouraged among lecturers, to teach business education students cost accounting in colleges of education.
3. That male and female business education students in colleges of education should be taught cost accounting by lecturers using WhatsApp. This is because of its numerous benefits to both genders.
4. Seminars, workshops and conferences should be organize on how to incorporate the use of social media network to teaching and learning.

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