

**EFFECT OF EDMODO LEARNING PLATFORM ON THE STUDENTS’
ACHIEVEMENT IN BUSINESS STUDIES IN SECONDARY SCHOOLS**

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Abstract

This study determines the effect of using Edmodo learning platform on academic achievement of male and female students in business studies. Two research questions guided the study while two hypothesis were tested. Quasi – experimental research design was adopted. The sample of the study comprised 267 respondents made up of 114 male and 153 female students in Awka Education Zone. Simple random sampling technique was used to select two secondary schools from each of the three local government areas in Awka Educational Zone. The pre-test and post test were administered to both the control and experimental group. Edmodo learning plat form was used to teach the experimental group while control group was taught the same lesson using traditional method. Also the researchers developed questionnaire whose reliability index was found to be 0.82 using the Cronbach Alpha formula. Data collected from study were analyzed. The research questions were answered using mean and standard deviation while hypotheses were tested at 0.05 level of significance using ANCOVA. A number of findings

were made from the study which includes: The achievement grades of students taught business studies using Edmodo learning plat form are greater than those taught using traditional method; there was significant effect of gender on the students' mean achievement scores of students taught Business studies using Edmodo learning plat form . In line with the finding, it was recommended among other that Edmodo learning plat form should be formally adopted for instruction in secondary schools in order to improve students' performance.

Keywords: Edmodo Learning Plat form and Academic Achievement

Introduction

With the invention of Web based classroom tools, a throng of new possibilities on how to use online technologies such as social networking sites for blended learning has gotten researchers finding the best possible way to capitalize on these tools. Many studies are conducted in the areas of using social networking sites such as Facebook and Twitter as teaching and learning tools. Another up and coming social networking site catered especially for teaching and learning is Edmodo.

Edmodo is a free and secure learning platform designed by Jeff O' Hara and Nick Borg in 2008 for teachers, students, parents, schools, and districts, and is available at www.edmodo.com (Chada Kongcham, 2013). Edmodo is a free and secure educational learning network used to provide a simple way for teachers to create and manage an online classroom community as well as enables students to connect and work with their classmates teachers anywhere and anytime (Balasubramanian, Jaykumar & Leena, 2014). This website looks similar to Facebook, but is much more private and safe because it allows teachers to create and manage accounts and only for their students, who receive a group code and register in the group, can access and join the group; no one else can participate or spy on the group (Jarc, 2010). The site provides a simple way for teachers and students in a virtual class to connect and collaborate. Borg and O'Hara believed that a social networking geared towards the needs of students could have a profound impact on how students collaborate and learn in their world, rather than the school setting their teachers grew up in (Gushiken, 2013). Teachers have noted that Edmodo even strengthened the relationships between students, and led to a stronger classroom community (Mills, 2011). Students can also share content, submit homework, assignments and quizzes, receive their teachers feedback, notes and alerts as well as voting on polls (Jarc, 2010). Hence Edmodo can be seen as Learning Management System (LMS) which can facilitate teachers to set up and manage their online classes easily (Witherspoon, 2011). Edmodo was recognized by the American Association of School Librarians in 2011 as one of the top 25 websites that fosters the qualities of

innovation, creativity, active participation and collaboration (Enriquez, 2014.) In the category entitled “Social Networking and Communication”. Edmodo has more than 6.5 million users and host online conferences called Edmodocon with thousands of attendees (Flanigan, 2011).

The use of Web-based learning technologies has increased dramatically over the past decade providing new opportunities and avenues for students to interact with their professors virtually using computer-mediated communication technologies (Li & Pitts, 2009). Online communities provide an increased choice for people to choose to contact with anyone, especially those with common interests, values, beliefs or passions (Baym, 2002). Social networking sites such as “Facebook” and “MySpace” have been subject to much recent debate within the educational community. Whilst growing number of educators celebrate the potential of social networking to (re)engage learners with their studies, other fear that such applications compromise and disrupt young people’s engagement with traditional education provision. (Selwyn, 2009). On-line social networks are also an excellent communication tool for knowledge construction based on social relations, conversation, collaboration and shared work. Therefore the networks can be used as an extension of a physical classroom to help students stay in touch with their teachers, while the teachers and educational institutions to update their knowledge and learning methodologies as well as developing collaborative working (Arroyo, 2011). The social networking can benefit the students who are shy and do not participate in class can communicate with their teachers and classmates (Miller, 2011).

Several studies within the literature coverage reported persistent poor performance in Business studies by junior secondary school students in junior Certificate Examination (Ogunu, 2000). Amongst the factors implicated is students’ poor performance in Business studies mostly in the Book keeping questions as deduced from the literature, is the predominant use of lecture method (expository method) in teaching business studies (Enwere & Enwere, 2014). The lecture method is teacher centered with the teacher acting as repertoire of knowledge while the students are passive listeners or dormant recipients of the lessons. Although the lecture method has the advantages of being less tasking and allows for a wide coverage of content within a short time, and in addition allows for teaching large number of students at the same time. It does not always produce positive learning outcomes in many students. This is because it encourages rote learning (mere memorization of basic rules) which does not enhance meaningful learning or student’s academic achievement (Enwere,2012). The academic achievement of student is a major indicator as to whether or not learning has taken place (Ogunu, 2000). According to Okoli & Egbunonu in Enwere & Enwere, (2014), academic achievement involves observable and measurable performance of students that take place in the presence of a standard for measuring academic excellence. It is generally observed that teachers can

enhance students' academic achievement by employing different teaching method. In teaching Business studies (bookkeeping unit), variations in teaching methods are well recognized.

Edmodo, has reached more than 58 million users. Among the reasons for such a large spread of Edmodo throughout the world is the fact that it is totally free of charge; that membership is easy; that it provides multi language support; that besides its educational features, it has many of the features of an Social Networking Site (SNS); that it has a design similar to SNSs in terms of use; and that students, teachers and parents can easily register to the system. In addition to the capability SNSs to allow free sharing and to act as a source of news, Edmodo has such features found in Learning Management Systems (LMSs) as lesson planning tool, assignment, examination, questionnaire applications and teacher's account.

There are several studies demonstrating that effective and productive online cooperative learning environments contribute as much to students' success as face-to-face cooperative learning environments do (Khalid, Joyes, Ellison, & Daud, 2014; nel-Ekici, & Delen, 2016). Social networks provide students in different places with the opportunity of social and active learning and support cooperative learning (Hossain, & Wiest, 2013; Hatch, Shuttleworth, Jaffee, & Marri, 2016). Enriquez (2014), in their study, reported that students' success increases when Edmodo learning plat form are supported with cooperative learning. In addition, it was pointed out that these educational benefits of social networks were due to cooperative learning resulting from the sharings and interactions among students (Fabian, Topping, & Barron ,2016; Kartal, 2012). In a study conducted on the use of Edmodo learning plat form in education, it was found that university students believed reading their classmates' comments contributed to their learning (Mills, 2011).

Furthermore, Cohen, Kulik and Kulik (2016) found that Edmodo as a teaching method enhanced students performance in mathematics. Many researchers among whom are Good and Brophy (2013) have observed that although boys generally receive more praise than girls from their teachers, they also receive more criticism and perform high than girls in class.

Purpose of the Study

The purpose of this study is to determine the effect of using Edmodo learning platform on students' academic achievement in teaching business subjects.

Specifically this study sought to determine:

1. Effect of Edmodo learning platform on academic achievement of students in business studies.
2. Effect of gender on students' mean academic achievement in business studies.

Research Question

The following research question guided the study:

1. What are the differences in the pre-test and post-test mean academic achievement scores of student taught business studies using lecture method and those taught using Edmodo learning plat form?
2. What are the differences in the mean academic achievement scores of male and female students taught business studies using Edmodo learning plat form.

Null Hypothesis

The following null hypothesis was formulated to guide the study and was tested at 0.5 level of significance.

1. There is no significant difference in the mean achievement scores of students taught business studies using lecture teaching method and those taught using Edmodo learning plat form.
2. There is no significant differences in the mean academic achievement scores of male and female students taught business studies using Edmodo learning plat form.

Methodology

The design of the study is quasi experimental, specifically, the pre-test, post-test, non-equivalent control design. This was used because intact classes were used since it was not convenient for schools used in this to randomly assign students to experimental and control conditions. Pre-tests were administered to all groups. The sample consisted of two hundred and twenty five (225) junior secondary schools (basic 9) from sixteen (16) class intact classes randomly sampled from sixteen junior secondary schools in Awka Education Zone of Anambra State. All the students are in basic 9 in two co-educational secondary schools from 3 L.G.As in Awka Education Zone were purposively chosen for the study. One school from each of the 3 L.G.As was randomly selected and assigned to experimental group while one should again from each of the L.G.As was also randomly selected to serve as the control group. The experimental schools were assigned to Edmodo learning plat form of teaching while control schools were assigned to the lecture method of teaching financial accounting. The experimental sample (N = 133) consisted of 60 boys and 73 girls, while the control sample (N = 134) consisted of 54 boys and 80 girls.

Instrument

The only instruction for the study was Edmodo Business Studies Achievement Test (EDFAAT). EDFAAT is a 30 item multiple choice test developed by the researchers

based on the business studies JSS three (3) (basic 9) scheme of work which includes: preparation of trial balance, trading account, profit and loss accounts and balance sheet.

EDFAAT was subjected to both content and face validity. Face validity was established by evaluating of the test item by three experts in test construction from a university and three experienced senior secondary school financial accounting teachers. 30 items (out of the initial draft 0 50 items) were found suitable in terms of discrimination and facility idiocies after careful items analysis. A reliability coefficient of 0.82 was established using Cronbach Alpha.

Procedure

The regular business studies teachers in the selected schools were used for the study. Teachers who participated in the experimental treatment were subjected to rigorous training regimen for a period of three weeks at two hours per week. The teachers were trained on how to conduct instructions in business studies using Edmodo learning plat form. This was done to ensure uniformity and mastery of the teaching strategy. In addition each teacher in the experimental school was given a copy of the validated lesson plan and a copy of the instrument to be used for data collection. The teachers in the control schools did not receive any training. They were required to teach the business studies concepts using conventional lecture method of teaching. The researchers vetted the lesson plans prepared by the teachers in the control schools ensure that the lesson plans followed the conventional lecture method. In addition, each teacher in the control schools was given a copy of the instruments to be used for data collection. EDFAAT was administered as pre-test to experimental and control groups before treatment commenced to assess the students' knowledge of financial accounting concepts. Data collected were subject to ANCOVA to determine the homogeneity of the groups.

Presentation of Results

Mean and standard deviation scores of students on cognitive achievement in EDFAAT was used to answer the research questions (Table 1) while ANCOVA was used to test the hypotheses (table 2) at 5% confidence level. ANCOVA analysis on pre-test scores for subjects in the experimental and control groups was used to establish that the two groups were equivalent before treatment began.

Research Question 1.

The following research questions were formulated to guide the study.

1. What are the differences in the pre-test and post-test mean academic achievement scores of student taught business studies using lecture method and those taught using Edmodo learning plat form?

Table 1: Mean Achievement Scores Students in Control and Experimental Groups

Groups	N	Pre-test SD Mean	Post-test Mean	SD Mean	Mean	Remark
Experimental Group	133	2.14	1.31	4.94	2.08	1.05
						Positive Effect
Control Group	134	0.54	1.03	1.62		2.44

The result as presented in Table 1 showed that with pre-test mean score of 2.14 and post-test mean scores of 4.94 with mean gain 2.80 for the students treated with the Edmodo learning plat form as against pre-test mean score of 0.53 and post-test mean score of 1.62 with mean gain of 1.09 for the students in the control group. Edmodo learning plat form has positive effect in teaching business studies in secondary schools. With the mean gain of 2.80 for the treatment group, Edmodo learning plat form has a very positive effect on students' achievement grade.

It can be concluded that Edmodo learning plat form of teaching enhances achievement of business studies than lecture method. This findings is in agreement with Enriquez (2014) that reported that students' success increases when Edmodo learning plat form are supported with cooperative learning. Furthermore, Cohen, Kulik and Kulik (2016) found that Edmodo as a teaching method enhanced students' performance in mathematics. Fitz-Gibon (2015) found that low achieving students improved better when taught with edmodo.

2.What are the differences in the mean academic achievement scores of male and female students taught business studies using Edmodo learning plat form.

Table 2: Mean Academic Achievement of Male and Female Students in Experimental Groups

Source of Variation	N	Pretest mean	SD	Posttest Mean	SD	Mean Gain	Remark
Male Students	60	0.26	0.24	4.53	1.39	4.27	Positive effect
Female Students	73	0.32	0.56	2.41	1.43	2.09	

The result presented in table 2, showed that pre-test mean score of 0.26 and post-test mean score of 4.53 with mean gain of 4.27 for the male students treated with the Edmodo learning plat form. The table also shows pre-test mean score of 0.32 and post-test means score of 2.41 with mean gain of 2.09 for the female students also exposed to the experimental. This implies that Edmodo learning plat form method has differential effect on the male and female students.

Testing of Hypotheses

1. There is no significant difference in the mean achievement scores of students taught business studies using lecture teaching method and those taught using Edmodo learning plat form.

Table 3: Summary of ANCOVA on Students’ Academic Achievement in Control and Experimental Group

Source of Variation	SS	df	MS	Cal.F	Crit.F
Corrected Model	23536.72	2	11768.36		
Intercept	958.69	1	958.69		
Pretest Scores	38.09	1	38.09		
Treatment Models	3124.45	1	3124.45	183.80	3.99 S
Error	1172.94	66	17.00		
Residual	193587.00	69			

In Table 3, it was observed that at 0.05 level of significance, 1df numerator and 68df denominator, the calculated F 183.80 is greater than the critical F 3.99. Ho is therefore rejected. This implies that Edmodo learning plat form has significant effects on students’ achievement grades in business studies

2. There is no significant differences in the mean academic achievement scores of male and female students taught business studies using Edmodo learning plat form.

Table 4: Summary of ANCOVA on Male and Female Academic Achievement Scores in Experimental Groups.

Source of variation	SS	Df	MS	f-cal	f-crit	P 0.05
Corrected model	42.40	1	42.40			
Intercept	23.14	1	23.14			
Pre-test scores	44.60	1	44.60	6.14	2.87	S
Error	403.08	33	12.18			
Residual	28496.00	35				
Corrected Total	448.69	34				

In the table 4, it was observed that at 0.05 level of significance, 1 df numerator and 34 df denominator, the F – calculated 6.14 is greater than the f-critical 2.87 by the result. Ho is not accepted. According to results in table 2, the use of Edmodo learning plat form has very high effect on male students with mean gain of 4.27. The method also has high effect on female students with mean gain of 2.09. This implies that the method has a very high effect on the male students with a mean difference of 2.18 against female students in business studies.

Discussion of Results

The discussion of results is done under the following sub-headings:

- Effect of Edmodo learning plat form on Achievement Grade of Students
- Effects of Gender on the use of Edmodo Learning plat form.

Effect of Edmodo learning plat form on Achievement Grade of Students

One of the variables investigated in the study was the effect of Edmodo learning plat form on the achievement grade of students in business studies. The results in Table 1 show that the achievement grades of students taught business studies using Edmodo learning plat form are greater than the achievement grades of those taught the same lesson using lecture method. In specific term, the experimental group had a mean gain of 2.80 against 1.09 mean gain of the control group. This shows a mean difference of 1.71 in favour of the experiment group.

This findings is in agreement with Johnson and Johnson (2014) that reported that students' success increases when Edomodo learning plat form are supported with cooperative learning. The above findings is also in agreement with Cohen, Kulik and Kulik (2016) who found that students taught mathematics with the use of Edmodo learning plat form scored 66th percentile ahead of those taught the same lesson with lecture method.

Effects of JITT method on Gender

One of the variables investigated in the study was the effect of gender on the use of Edmodo learning plat form in teaching business studies. Results in Table 2 show that gender has a very high positive effect on the academic achievements of students in financial accounting. According to the results in the table, male students have mean gain of 4.27 against female students with mean gain of 2.09.

Again, results in table 2 also indicate that gender has significant effect on the use of Edmodo learning plat form in teaching business studies. According to the results in the table, the use of Edmodo learning plat form has a very high effect on male students with mean gain of 4.51. The learning plat form also has high effect on female students

with mean gain of 3.79. Thus, the method has a very high effect on the male students with a mean difference of 0.72 against female students.

The above findings are in agreement with Good and Brophy (2013) who found that boys receive more criticisms in class and perform high than girls in class. Bernard in Enwere (2012) also corroborated the above findings when he found that female students are under achievers in terms of academic activities.

Conclusion

The predominant use of lecture method in teaching business studies in schools is ineffective because it does not enhance achievement for all students and does not promote meaningful learning of the subject. The use of Edmodo learning plat form is a powerful innovation in the teaching and learning of business studies which is capable of increasing the achievement grades of instruction. It implies that environmental factors (be it a developed or non-developed) do not form any obstruction in the application of this relatively new method of instruction. As such it is strongly recommended for instruction in business studies and other related areas, at all levels of education.

Recommendations

Based on the findings of this study the following recommendations were made.

- Edmodo learning plat form should be formally adopted in secondary schools in order to improve students' performance.
- Several workshops and seminars should be organized for teachers on the use of Edmodo learning plat form in order to make it popular among the teachers.
- Secondary school libraries should be upgraded electronically to give students access to electronic data-base in order to fully utilize Edmodo learning plat form in teaching and learning processes.
- Secondary school teachers should undergo training in computer application so that they can fully utilized Edmodo learning plat form in teaching their students.

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