



## PERCEIVED INFLUENCE OF M-LEARNING ON THE TEACHING AND LEARNING OF BUSINESS EDUCATION COURSES IN NATIONAL OPEN UNIVERSITY OF NIGERIA STUDY CENTRES

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### Abstract

*The study was undertaken to investigate the perceived influence of m-learning on teaching and learning of business education courses in National Open University of Nigeria study centres. The researchers employed a descriptive survey research design. The study population consisted of 656 subjects made up of students and facilitators of business education programme in the two study centres in Kwara State. A sample of 248 respondents was drawn proportionately from the two study centres based on size. Two structured questionnaires were used; one for students, the other for the facilitators.. The instrument was validated by three Business Education experts The questionnaire was structured on 4-points rating scale of High Extent (HE) for 4 points, Moderate Extent (ME) for 3 points, Low Extent (LE) for 2 points, No Extent (NE) for 1 point. The data obtained were analysed using frequency, percentages, mean and standard deviation to answer the research questions. T-test statistics was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed among others that teaching and learning with mobile devices and platforms were perceived by business education students and their facilitators to have salutary influence on teaching and learning. Based on the findings it was concluded that teaching and learning with mobile devices and platforms positively influence student-facilitator interaction, which enhances teaching and learning of business education students. The study recommended the wholesale adoption of m-learning for online educational programmes.*

**Key words:** *M-learning, National Open University, Business Education, Study Centres*

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### Introduction

Learning, which is dynamic according to the nature of the society, has been changing rapidly in recent years. This is because the current generation of students was born as digital natives, raised academically with e learning facilities. Learning methods,



infrastructures and facilities are also changing rapidly to reflect contemporary societal realities (Uzunboylu, Bicen, & Cavus, 2011). Mobile learning refers to the delivery of learning, education or learning support on mobile devices. M-learning devices comprise portable computers, MP3 players, notebooks, mobile phones and tablets among others. M-learning focuses on the mobility and interaction of learners with portable devices. Mobile learning, also known as m-learning, is a relatively new way to access learning content using mobiles. Webopedia (2018) describes it as education via the internet or network using personal mobile devices such as tablets and smart phones to obtain learning materials through mobile applications, social interactions and online educational hubs. It is flexible, allowing students to access learning materials anywhere, any time. Students use mobile apps and tools to access educational information, complete assignments to their lecturers, download course instructions and work in social groups to complete tasks and to generally exchange relevant information. M-learners use mobile devices for educational purposes at their convenience. Mobile learning also engenders new portability by replacing books and notes with small devices, filled with tailored learning contents to enhance learning.

Learning occurs when there is a permanent change in the behaviour of an individual. Parties in learning are learners, teachers and environment. Learners from a very young age make sense of the world, actively creating meaning while reading texts, interacting with the environment, or talking with others (Wilson & Peterson, 2006). For learning to occur, students need to be taught or guided. However, teaching is either to explain or impart knowledge. The first implies that once a subject matter has been taught, learning is assumed to have taken place but the latter posits that if learning has not taken place, the subject matter has not been taught. To achieve learning through teaching, modern pedagogy insists on learner-centred approach to teaching. The learner-centred method of teaching concentrates on students as learners; on the improvement of learning outcomes, instead of mere delivering of subject contents. *The learner-centred method of teaching includes active based, team based, inquiry based and problem based learning process. The facilitator gives learners opportunity to learn individually or in groups (peer), he provides guidance by identifying subject matter, providing guideline, posing challenges for learners to solve and assessing the learner with the view to providing feedback.* The facilitator functions not as the sole source of wisdom and knowledge but more as a coach or guide whose job is to help students acquire the desired knowledge and skills for



themselves. M-learning, like other e-learning formats, enable learner-centred teaching.

Mobile learning portals and devices enable the presentation and use of learning materials that are more adaptable to individual learning styles and which levels the way for tackling problems with numeracy and literacy (Attewell & Savill-Smith, 2003). Mobile learners adopt student-centred-learning styles. Consequently, it engenders the need for collaboration and co-construction of knowledge and ideas, which demand change in educational practices in order to enable students to learn how to utilize mobile device technologies in learning. Mobile learning technologies support learning by increasing the possibilities for student participation and collaboration in the learning process. Mobile devices increase motivation and retention of subject matters, especially in business education..

Nwazor (2014) describes Business Education as an aspect of learning that prepares individuals for roles in business and offers them knowledge about business. To Obanya (2010), business education is an educational programme offered in higher institutions which prepares students for careers in business through inculcating in them skills and knowledge about or useful in the business world. The brochure of Rivers State University of Science and Technology, one of the pioneers of Business Education in Nigeria, describes the subject as an aspect of vocational and technical education, a specialized programme of instruction designed to provide individuals with knowledge, skills and attributes leading to employability and advancement in office occupations. Business Education is one of the courses offered by the National Open University of Nigeria (NOUN).

The National Open University of Nigeria is Nigeria's only open university. It has branches in all the 36 states of Nigeria, It has several study centres in each state where learners may opt to come together to receive instructions from facilitators. The facilitators also often employ e-learning facilities for instruction delivery. However, the extent to which they use m-learning devices is unknown.

### **Statement of the Problem**

Since mobile devices provide cheap, flexible and accessible alternatives to conventional computer system as instrument of teaching and learning, it is important that teacher and student became aware of m-learning utility as an instrument of business education pedagogy. However, the extent to which the devices are used for



productive education purposes is unknown. The extent of influence of m-learning on the teaching and learning of business education courses especially in National Open University of Nigeria is also unknown. If the real and potential influences of m-learning in teaching and learning of business education course are not determined, students and teachers may be unable or unwilling to take full advantage of m-learning for the improvement of teaching and learning in business education, hence the need for this study.

### **Research Questions**

To what extent are mobile learning platforms being used by business education students and their facilitators in National Open University of Nigeria Study Centres?

How useful are mobile devices to business education students and facilitators

To what extent do mobile learning facilities enhance interaction among students and facilitators in NOUN?

### **Research Hypotheses**

H<sub>01</sub>: There is no significant difference between the mean responses of business education students and their facilitators on the extent of mobile learning platforms usefulness in National Open University of Nigeria Study Centres.

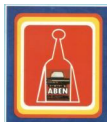
H<sub>02</sub>: There is no significant difference between the mean responses of business education students and their facilitators on the extent of usefulness of mobile devices in National Open University of Nigeria Study Centres.

H<sub>03</sub>: There is no significant difference in mean responses of male and female respondents on the extent to which mobile learning enhances interaction among students and facilitators in National Open University of Nigeria Study Centres.

### **Methods**

Descriptive survey research design was adopted for this study. The population of this study comprised 656 subjects made up of students and facilitators of business education in the study centres. A total sample of 248 respondents was drawn proportionately from the two study centres respectively based on its size.

Structured online and offline questionnaires were used; students and facilitators had different structures of questionnaire under the same heading. The instrument was both face and content validated by three experts comprising one senior lecture from Business and Entrepreneurship Education Department in Kwara State University, Malete and two from Tai-Solarin University.



Respondents' opinions were obtained using questionnaire structured on 4-points rating scale of High Extent (HE) for 4 points, Moderate Extent (ME) for 3 points, Low Extent (LE) for 2 points, No Extent (NE) for 1 point Data obtained from the respondents were analysed using frequency, percentages, mean and standard deviation to answer the research questions. T-test was used to test the null hypotheses at 0.05 level of significance.

## Results

### Research Question1

To what extent are mobile learning platforms being used by business education students and their facilitators in National Open University of Nigeria Study Centres?

**Table 1:** Mean and standard deviation of responses on the extent to which mobile learning platforms are Used by business education students

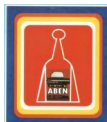
S/No	Item Statements	Mean	SD	Remark
1	Weblogs	3.15	1.25	Moderate extent
2	Wikis	3.21	1.26	Moderate extent
3	Twitter	3.18	1.34	Moderate extent
4	YouTube	3.45	1.26	Moderate extent
5	Google Hangout	3.46	1.21	Moderate extent
6	WhatsApp	3.63	0.84	High extent
7	Skype	2.97	1.35	Moderate extent
<b>Grand Mean</b>		<b>3.29</b>	<b>1.22</b>	<b>Moderate extent</b>

Analysis of data in Table 6 reveals that one of the listed items was rated as being used to High extents which is WhatsApp (  $\bar{O} = 3.63$ ). Five of the items listed were rated as Moderate extent. These include: Weblogs ( $\bar{O} = 3.15$ ), Wikis ( $\bar{O} = 3.21$ ), Twitter ( $\bar{O} = 3.18$ ), YouTube ( $\bar{O} = 3.45$ ), Google Hangout ( $\bar{O} = 3.46$ ) and Skype ( $\bar{O} = 2.97$ ). The grand mean is 3.29 which fall within the range of moderate extent.

**Table 2:** Mean and standard deviation of responses on the extent to which mobile learning platforms are used by business education facilitators

S/No	Item Statements	Mean	SD	Remark
1	Weblogs	2.60	1.14	Moderate extent
2	Wikis	2.60	1.14	Moderate extent
3	Twitter	3.00	1.22	Moderate extent
4	YouTube	2.60	1.14	Moderate extent
5	Google Hangout	2.20	1.10	Low extent
6	WhatsApp	3.60	0.89	High extent
7	Skype	2.60	1.14	Moderate extent
<b>Grand Mean</b>		<b>2.74</b>	<b>1.11</b>	<b>Moderate extent</b>

Source: Field Survey, 2018



Analysis of data in Table 7 reveals that one of the listed items was rated as being used to high extents which is WhatsApp (O = 3.60). Five of the items listed were rated as moderate extent. These include: Weblogs (O = 2.60), Wikis (O = 2.60), Twitter (O = 3.00), YouTube (O = 2.60) and Skype (O = 2.60). One of the listed items was rated as Low extents which is Google Hangout (O = 2.20). The grand mean is 2.74 which fall within the range of moderate extent.

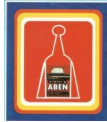
### Research Question 2

To what extent are mobile devices perceived as being useful by business education students and their facilitators in National Open University of Nigeria Study Centres?

**Table 3:** Mean and standard deviation of responses on the extent to which mobile devices are being used by business education students

S/No	Item Statements	Mean	SD	Remark
1	I read soft copy lecture notes using mobile devices rather than hard copy because of its portability	3.33	0.82	Moderate extent
2	I use mobile devices to improve my interest in the subject content	3.43	0.75	Moderate extent
3	I use mobile devices to share online assignment	3.63	0.68	High extent
4	I use mobile devices for receiving instant feedback	3.61	0.68	High extent
5	I use mobile devices in constructing new academic ideas	3.53	0.75	High extent
6	I use mobile devices in order to be academically creative	3.52	0.76	High extent
7	I use mobile devices to enhance my learning	3.56	0.79	High extent
8	I use using mobile devices to play educative digital music files	3.31	0.94	Moderate extent
9	I use mobile devices to access the web	3.61	0.80	High extent
10	I use mobile devices to make learning enjoyable	3.58	0.82	High extent
<b>Grand Mean</b>		<b>3.51</b>	<b>0.78</b>	<b>High extent</b>

Seven of the items listed were rated as being used to High extent. These included: “I use mobile devices to share online assignment” (O = 3.63), “I use mobile devices for receiving instant feedback” (O = 3.61), “I use mobile devices in constructing new academic ideas” (O = 3.53), “I use mobile devices in order to be creative” (O = 3.52), “I use mobile devices to enhance my learning” (O = 3.56), “I use mobile devices to

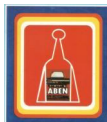


access the web” (O = 3.61) and “I use mobile devices to make learning enjoyable” (O = 3.58). Three of the items listed were ranked as Moderate extent. These included: “I prefer to read soft copy lecture notes using devices rather than hard copy because of its portability” (O = 3.33), “I use mobile devices to improve my interest in the subject content” (O = 3.43) and “I use using mobile devices to play educative digital music files” (O = 3.31). The grand mean is 3.51 which falls within the range of high extent.

**Table 4:** Mean and standard deviation of responses on the extent to which mobile devices are being useful by business education facilitators

S/No	Item Statements	Mean	SD	Remark
1	I prefer to prepare soft copy lecture notes using devices rather than hard copy because of its portability	3.60	0.54	High extent
2	I use mobile devices to improve my interest in the subject content	3.00	1.22	Moderate extent
3	I use mobile devices to share online assignment	3.60	0.55	High extent
4	I use mobile devices for receiving instant feedback	3.80	0.45	High extent
5	I use mobile devices in constructing new ideas	3.40	0.55	Moderate extent
6	I use mobile devices in order to be creative	3.60	0.55	High extent
7	I use mobile devices to enhance my teaching	3.20	1.30	moderate extent
8	I use using mobile devices to send educative digital music files	3.00	1.22	moderate extent
9	I use mobile devices to access the web	3.80	0.84	High extent
10	I use mobile devices to make teaching enjoyable	3.80	0.45	High extent
<b>Grand Mean</b>		<b>3.48</b>	<b>0.77</b>	<b>Moderate extent</b>

Six of the items listed were rated as High extent. These included: “I prefer to prepare soft copy lecture notes using devices rather than hard copy because of its portability” (O = 3.60), “I use mobile devices to share online assignment” (O = 3.60), “I use mobile devices for receiving instant feedback” (O = 3.80), “I use mobile devices in order to be creative” (O = 3.60), “I use mobile devices to access the web” (O = 3.80) and “I use mobile devices to make learning enjoyable” (O = 3.80). Four of the items listed were ranked as Moderate extent. These included: “I use mobile devices to improve my interest in the subject content” (O = 3.00), “I use mobile devices in constructing new ideas” (O = 3.40), “I use mobile devices to enhance my teaching”



(0 = 3.20) and “I use using mobile devices to send educative digital music files” (0 = 3.00). The grand mean is 3.48 which falls within the range of moderate extent.

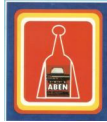
### Research Question 3

To what extent do students perceive mobile learning as enhancing interaction among them and their facilitators in National Open University of Nigeria Study Centres?

**Table 5:** Mean and standard deviation of responses on the extent to which mobile learning perceive to enhance interaction among students and facilitators (STUDENT)

S/No	Item Statements	Mean	SD	Remark
1	Mobile learning helps to solve the problems caused by the absence of students	3.41	0.78	Moderate extent
2	Mobile learning improves communication between students and facilitators	3.59	0.75	High extent
3	Mobile learning is a quicker method of getting feedback in learning.	3.60	0.68	High extent
4	Mobile learning breaks down psychological barriers between students and facilitators	3.40	0.80	Moderate extent
5	Mobile learning is a way of encouraging more interaction by students and facilitator	3.48	0.75	Moderate extent
6	Mobile learning reduces the distance between teacher and students, thereby reducing students' pressure	3.43	0.80	Moderate extent
7	M-learning helps me to share information with other students	3.65	0.67	High extent
8	Mobile learning enables me to play back audio and video lecture Interactions	3.45	0.83	Moderate extent
<b>Grand Mean</b>		<b>3.50</b>	<b>0.76</b>	<b>High extent</b>

Three of the items listed were rated as High extent. These included: “Mobile learning will improve communication between students and facilitators” (0 = 3.59), “Mobile learning is a quicker method of getting feedback in learning” (0 = 3.60) and “M-learning helps me to share information with other students” (0 = 3.65). Five of the items listed were ranked as Moderate extent. These include: “Mobile learning helps to solve the problems caused by the absence of students” (0 = 3.41), “Mobile learning breaks down psychological barriers between students and facilitators” (0 = 3.40), “Mobile learning is a way of encouraging more interaction by students and facilitator” (0 = 3.48), “Mobile learning reduces the distance between teacher and students, thereby reducing students' pressure” (0 = 3.43) and “Mobile learning



enables me to play back audio and video lecture Interactions” (O = 3.45). The grand mean is 3.50 which fall within the range of High extent.

**Table 6:** Mean and standard deviation of responses on the extent to which mobile learning is perceived to enhance interaction among students and facilitators (FACILITATORS)

S/No	Item Statements	Mean	SD	Remark
1	Mobile learning helps to solve the problems caused by the absence of facilitators	3.60	0.55	High extent
2	Mobile learning improves communication between student and facilitators	3.60	0.55	High extent
3	Mobile learning is a quicker method of getting feedback in teaching.	3.80	0.45	High extent
4	M-learning breaks down psychological barriers between students and facilitators	3.60	0.55	High extent
5	Mobile learning is a way of encouraging more interaction by students and facilitators	3.60	0.55	High extent
6	Mobile learning reduces the distance between teacher and students, thereby reducing facilitator's pressure	3.60	0.55	High extent
<b>Grand Mean</b>		<b>3.63</b>	<b>0.53</b>	<b>High extent</b>

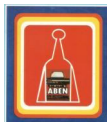
All of the items listed were rated as High extent. These included: “Mobile learning helps to solve the problems caused by the absence of facilitators” (O = 3.60), “Mobile learning will improve communication between student and facilitators” (O = 3.60), “Mobile learning is a quicker method of getting feedback in teaching” (O = 3.80), “M-learning breaks down psychological barriers between students and facilitators” (O = 3.60), “Mobile learning is a way of encouraging more interaction by students and facilitators” (O = 3.60) and “Mobile learning reduces the distance between teacher and students, thereby reducing facilitator's pressure” (O = 3.60). The grand mean is 3.63 which fall within the range of High extent.

### Test of Hypotheses

The three null hypotheses of the study were tested using independent samples t-test. The null hypotheses were tested at 0.05 level of significance. The summary of the test of hypotheses are presented in Tables 7 to 9 as follows:

#### Hypothesis 1

There is no significant difference between the mean responses of business education students and their facilitators on the extent of mobile learning platforms usefulness in National Open University of Nigeria Study Centres.



**Table 7:** Summary of t-test on the difference between the mean responses of business education students and their facilitators on the extent of mobile learning platforms usefulness

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Student	236	3.29	1.21	0.892	239	0.423	NS
Facilitator	5	2.74	1.11				

The data in Table 7 reveals that responses are close to the mean as the standard deviations are very low. The table reveals that the null hypothesis that states that there is no significant difference between the mean response of business education students and their facilitators on the extent of mobile learning platforms usefulness in National Open University of Nigeria Study Centres was supported. This implies that students and facilitators did not differ significantly in their responses regarding the perceived influence of business education students and their facilitators on the mobile learning platforms usefulness.

### Hypothesis 2

There is no significant difference between the mean response of business education students and their facilitators on the extent of usefulness of mobile devices in National Open University of Nigeria Study Centres.

**Table 8:** Summary of t-test on the difference between the mean responses of business education students and their facilitators on the extent of usage of mobile devices

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Student	236	3.51	0.78	0.881	239	0.428	NS
Facilitator	5	3.48	0.77				

The data in Table 8 reveals that the students and facilitators responses showed a rating of moderate extent on the usage of mobile devices (mean = 3.51; SD = 0.78) and (mean = 3.48; SD = 0.77). The table implies that students and facilitators did not differ majorly in their responses regarding the perceived influence of business education students and their facilitators on the usage of mobile devices.

### Hypothesis 3

There is no significant difference in mean responses of male and female respondents on the extent to which mobile learning enhances interaction among students and facilitators in National Open University of Nigeria Study Centres.



**Table 9:** Summary of t-test on the difference in mean responses of male and female respondents on the extent to which mobile learning enhances interaction among students and facilitators.

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Male	112	3.55	0.63	0.433	232	0.666	NS
Female	122	3.51	0.78				

The data in Table 9 reveals that the male and female responses showed that there are high perceived influences of mobile learning on interaction among students and facilitators. The table revealed that null hypothesis that stated that there is no significant difference in mean responses of male and female respondents on the extent to which mobile learning enhances interaction among students and facilitators in National Open University of Nigeria Study Centres was supported.

### Discussion of Findings

The purpose of this paper was to present the findings regarding the perceived influence of m-learning on the teaching and learning of business education courses in National Open University of Nigeria Study Centres. It looked at both students and facilitators' perception on influence of m-learning on students' academic performance. Tables 1 and 2 presented the mobile learning platforms which are likely useful to business education students and their facilitators. The most used among the mobile learning platform was WhatsApp. More than 72% of both students and facilitators indicated to a highly extent that WhatsApp is useful for their teaching and learning, while other mobile platform were moderately useful for their teaching and learning, expect for Hangout that the facilitators indicate to be barely useful. The platforms that was useful to the respondents serves as medium of sharing texts, audio and visual contents useful in academic performance. This was supported by Barhoumi (2015) {who found} that WhatsApp is a good tool for mobile learning when it is used in a blended course strategy. In a blended mobile lecture, anything posted by students or teachers will be instantly accessible for online students working from school or home. This was in agreement with the opinion of Boakye (2016) that mobile technology provides a discussion environment where learners can make their opinions and responses to clarify their understanding of concepts and promote learning. Some of the platforms provide opportunities for sharing of audio and visual academic contents in ways that greatly enhanced interaction between the faculties and students which have promoted their learning.



Tables 3 and 4 presented the extent to which mobile devices are being used by business education students and their facilitators. Findings reflect that mobile devices are being used by business education students in National Open University of Nigeria Study Centres to a high extent. Umoru (2015) reflects that when devices were utilized purposefully by students and teachers, the intended outcomes would improve. The intended business education outcomes obviously are those conferring on the students the skills, attitudes and competencies required by industries for office activities and for self-survival and successful living. The findings of the study reveal that using mobile devices in constructing new ideas enhances performance. It was also ascertained by Boakye (2016) that mobile technology devices provide opportunities for new learning exists among the respondents. Students receive useful comments on their learning from persons outside university context and the ability to search for course-related information to improve performance. The study also revealed that respondents prefer to prepare soft copy lecture notes using devices rather than hard copy because of its portability. The result contradicts the findings of Olsen, Kleivset and Langseth (2013) that Students of today still seem to prefer print on paper as the primary delivery mechanism for texts as part of their education. The study also among others revealed that using mobile devices increases interest in the subject content. This is also in consonance with the findings of Elfeky & Masadeh (2016) that students' understanding and comprehension of learning content provided via Mobile Learning was much better.

Tables 5 and 6 presents the extent to which mobile learning is perceived to enhance interaction of students and their facilitators in National Open University of Nigeria Study Centres. Mobile learning enhances interaction among students and facilitators in National Open University of Nigeria Study Centres to a high extent. The study was supported by Amiaya and Ranor (2015) that students can play back audio and video of interactions and also m-learning reduces the distance between teacher and students, thereby reducing students' pressure.

In summary, mobile learning platforms and devices that was useful to the respondents serves as a medium of sharing texts, audio and visual contents useful in academic performance. The findings of the study also reveal that using mobile devices in constructing new ideas enhance performance, likewise among others the study revealed that using mobile devices increases interest in the subject content. However, the study further showed that students can also play back audio and video of interactions and also m-learning reduces the distance between teacher and students, thereby reducing students' pressure.



## Conclusion

Based on the findings of this study which reveals that m-Learning was perceived to have a positive influence on the teaching and learning of Business Education courses in National Open University of Nigeria Study Centres of Nigeria Study Centres., it was concluded that teaching and learning with mobile learning is desirable because of its enormous usefulness to business education students and their facilitator in their teaching and learning. This means that teaching and learning with the mobile devices and platforms positively influences business education students and their facilitators in their teaching and learning and can consequently further have a salutary effect on industry and the national economy.

## Recommendations

In view of the result of the study and the conclusions drawn, the following recommendations were made:

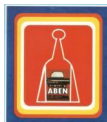
There is need for Nigerian curriculum planners to incorporate mobile platforms and devices usage right from the onset of education. This is important if Nigeria is to catch up with the advanced country in the adoption of e-learning.

Business education teachers should integrate the use mobile learning and it devices as it enhances academic performance of business education students. Teacher should use m-learning platforms to prepare and disseminate teaching materials.

National Open University of Nigeria should encourage m-learning by opening m-learning platforms and educating their students on the use of em-learning.

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