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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A THESIS SUBMITTED TO THE DEPARTMENT OF BUSINESS AND ENTREPRENEURSHIP EDUCATION, COLLEGE OF EDUCATION, KWARA STATE UNIVERSITY, MALETE, NIGERIA

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE (ED.) DEGREE, BUSINESS EDUCATION

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DECLARATION

I declare that this thesis titled Perceived Influence of M-Learning on the Teaching and Learning of Business Education Courses in National Open University of Nigeria Study Centres, has been carried out by me in the Department of Business and Entrepreneurship Education under the supervision of Dr. L. F. Ademiluyi. The sources from which the literature was reviewed have been duly acknowledged in the text and a list of references provided. No part of this research work has been previously presented for another degree or diploma at this or any other institution.

_____ _____

Mutiyat Omolara SALAM Date

CERTIFICATION

This thesis titled Perceived Influence of M-learning on the Teaching and Learning of Business Education Courses in National Open University of Nigeria Study Centres by Mutiyat Omolara SALAM meets the regulations governing the award of the degree of Master of Science (M.Sc.) Business Education of Kwara State University, Malete, and was approved for its contribution to knowledge and literary presentation.

Dr. L. F. Ademiluyi Project Supervisor	Date
Dr. B. N. Nwabufo Co-Project Supervisor	Date
Prof. T. A. Umoru Head, Department of Business and Entrepreneurship Education	Date
Prof. Stephen K. Subair Dean, School of Post Graduate Studies	Date
External Examiner	Date

DEDICATION

This research work is dedicated to Almighty GOD

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List of Abbreviations Used

3G	3rd Generations
CBT	Computer Based Test
E - Book	Electronic Book
E -Learning	Electronic Learning
ECAR	Educes Centre for applied Research
EDGE	Enhanced Data Rates for Global Evolution
E-Mail	Electronic Mail
ESL	English as a Second Language
HND	Higher National Diplomat
ICT	Information Communication Technology
IM	Instant Message
IPods	Internet Pod (Apple)
M – Learned	Mobile Learning
MP3	Multi-Media Player 3
MSN	Microsoft Network.
NOUN	National Open University of Nigeria
ODL	Open and Distance Learning
OTM	Office Technology and Management
PDAs	Personal Digital Assistants
POP	Pen on Paper
UMPC	Ultra-Mobile Personal Computer
UNESCO	United Nation Education and Scientific and Cultural Organization
USB Drive	Universal Serial Bus
VoIP	Voice over Internet Protocol
Wi-Fi	Wireless Fidelity

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Abstract

The study was carried out to investigate the perceived influence of M-learning on teaching and learning of business education courses in National Open University of Nigeria study centres. Five specific purposes and research questions each were raised while five null hypotheses were tested for the study. Descriptive survey research design was adopted for the study. The population of the study comprised 624 business education students and 32 facilitators out of which a sample of 236 and 12 students and facilitators respectively were drawn proportionately from two study centres using Taro Yamane formula. The instrument adopted for data collection was Perceived Influence of M-Learning on the Teaching and Learning of Business Education Courses Questionnaire (PIMLTLBECQ). The instrument was validated by three experts not below the rank of senior lecturer. A reliability coefficient of 0.76 was obtained, using Cronbach Alpha *coefficient. The instrument was of two types, each type was made up of five sections. The demographic variables of the respondents were analysed using frequency and percentage. The data collected for the research questions were analysed using mean and standard deviation. Null hypotheses were tested at 0.05 level of significance using independent t-test. The findings of the study revealed amongst others that teaching and learning with M-Learning were perceived by business education students and their facilitator to have a positive influence on the teaching and learning of Business Education Courses in National Open University of Nigeria study centres. The study equally showed that, there was no significant difference between the mean responses of male and female respondents on the benefits derived from mobile learning in National Open University of Nigeria study centres. Based on the findings it was concluded that teaching and learning with mobile learning positively affects the academic performance of students. This means that teaching and learning with the mobile devices and platforms positively influences the academic performance of business education students and can consequently further have a salutary effect on industry and the national economy. It was therefore recommended among other things that there is need for government to conduct regular sensitization programmes on mobile learning for educational stakeholders in curriculum development. Business education teachers should integrate the use of mobile learning and devices as it is perceived to enhance academic performance of business education students.*

CHAPTER ONE

INTRODUCTION

Background to the Study

Learning, which is dynamic according to the nature of the society, has been rapidly changed in recent years. As a result, the generation of students born with digital technology bring with them a significantly different approach to learning (Barbaux in Taleb, Ahmad & Musavi, 2015). Undoubtedly, it is known that in this generation, students own very powerful multimedia technologies, which make it easier for file sharing and messaging to take place. These activities do not normally fit into the conventional classroom setting (Open Universiteit Nederland, 2009). Learning which in hither to could only takes place face-to-face in a four corner wall can now be accessed anywhere anytime due to the advancement of technology resulting in shift from traditional learning to mobile learning.

In short, mobile learning is the exploitation of ubiquitous handheld technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning (VaniKalloo & Permanand, 2012).

Furthermore, mobile learning also engenders new portability by replacing books and notes with small devices, filled with tailored learning contents. Also, mobile learning is the delivery of learning, education or learning support on mobile phones, PDAs or tablets. Likewise, E-learning has provided the ability for traditional learning to break out of the classroom setting and for students to learn at home. Alternatively, mobile learning is convenient in that it is accessible from virtually anywhere. Usually, sharing is almost instantaneous among everyone using the same content, which leads to the reception of instant feedback and tips. Looking more closely at, mobile learning has built on e-learning by taking it a step further and allowing students to learn virtually anywhere a mobile signal is available (Oller, 2012).

Just like, during the 21st Century there has been exceptional advancement in the development of mobile phone technology; this has reorganized and redefined the means by which students produce, retrieve, and share information (Avraamidou, 2008). No doubt, Developments such as imbedded sensors, cameras, motion detection, location awareness, social networks, web searching, and augmented reality present the potential to foster learning and engagement across multiple physical, conceptual, and social spaces, both indoors and out (Newhouse Williams, & Pearson in Baran, 2014). Simultaneously, the combination of mobile technologies and the new generation's 'digitally-enhanced' cognitive and social skills demand new solutions in the current concept of learning (Uzunboylu, Bicen, & Cavus, 2011). In addition, recent developments in mobile and wireless technologies have facilitated this new mode of learning (Taleb & sohrabi, 2012).

According to Downes in Twum (2014), the internet was altered from a medium that conveys and utilizes information, to a platform that constructs, exchanges, remixes, repurposes and then passes along content. Mobile devices equipped with internet connections have created the need for a new form of electronic learning, called mobile learning (Fu, Su, & Yu in Maha & Heba, 2015). Significantly, mobile learning provides access to expertise over a range of areas readily available in an online learning environment; and builds personal and professional support networks. It capitalizes on the ubiquitous nature of mobile technologies and their ease of use in a variety of locations.

Moreover, learning that takes place anywhere any time which is accomplished by mobile devices and communication network is known as mobile learning. Equally, mobile learning is an online learning that takes place between learner and facilitator, in accordance with the adoption of active and collaborative online teaching and learning with the aid of connectivity, mobile devices and platforms. Mobile learning enables the learner to acquire knowledge at any geographical location and time. It also solves the problem of large classes and also makes

available numerous learning materials that aid learning. Study examined teacher perceptions of students' academic achievement when mobile devices were incorporated into the classroom (Navaridas, Santiago and Tourón 2013). The researchers found that 53% of teachers surveyed at different grade levels perceive mobile devices as greatly impacting student learning in their classroom. Approximately 38% of those teachers surveyed believe mobile devices have significantly impacted learning in their classroom. In contrast, 9% of teachers responded that mobile devices made no difference in the learning in their class. However, no data was provided to verify the data on teacher perceptions and students' actual academic advancements.

Specifically, mobile learning is "learning across multiple contexts, through social and content interactions, using personal electronic devices" (Crompton, 2013). To point out, M-learners use mobile devices educational technology at their time convenience. Identically, M-learning technologies include handheld computers, MP3 players, notebooks, mobile phones and tablets. M-learning focuses on the mobility of the learner, interacting with portable technologies. In this case, using mobile tools for creating learning aids and materials becomes an important part of informal learning (Trentin & Repetto, 2013).

Notably, Mobile learning can therefore impact how students learn and how educators teach. Mobile learning enables teachers and learners ubiquitous and seamless access to information (Kukulska-Hulme, Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, 2009; Seppälä & Alamäki in Baran, 2014). Convenience, expediency, and immediacy are valuable to teachers and enhance students' learning. These features provide opportunities for individualized, situated, collaborative, and informal learning without being limited to classroom contexts. Based on the features of m-learning, individualized learning and collaborative learning are achieved (Cheon, Lee, Crooks & Song, 2012).

Looking closely at how Hannah and Joshua (2017) review the question that plagues many districts is whether or not mobile devices belong in the classroom and whether or not

their use can contribute to students' learning. The researchers found that Students believed they had a greater change in their learning using mobile devices as compared to paper-learners. Those students were more confident in their learning. In addition, students using mobile devices showed a greater change in their interest and motivation to learn as compared to paper learners. Overall, the students felt more excited and driven to learn when using mobile devices.

Further, these features provide opportunities for individualized, situated, collaborative, and informal learning without being limited to classroom contexts (Cheon, Lee, Crooks, & Song, 2012). While portability and mobility have already made these devices attractive tools, developments such as geospatial technologies, search capabilities, image and video capture, and context awareness have further increased their versatility by promoting situated learning experiences and allowing exploration within authentic settings, particularly supporting inquiry-based learning (Martin & Ertzberger, 2013). A study by Thomas and Orthober (2011) found that sending students text-messages after class about course related topics, including daily reminders of assignments and tests, appeared to increase student preparedness and task completion because they were able to quickly and conveniently communicate with their instructor after school hours. It also found that when mobile devices were used appropriately, may impact students' academic achievement, as well as students' dispositions towards learning. MacLuckie (2010) showed that using mobile devices increases motivation and retention of subject matters.

Looking more closely, learning is beyond school settings and extended to the environment; it takes place as early as when one is born by adapting with new environment; it also happens in our daily activities. As well as learning being deliberate or unintentional, it is said to occur when there is permanent change in the behaviour of an individual. Parties in learning are learners, teachers and environment. Research suggests that 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). Bullen, Gallardo-Echenique and Marques-Molias (2016) opined that Research has shown however that more often students will try to solve problems themselves by searching online when they have a difficulty with their course or studies. Students were also less likely to talk to teachers, students in other courses or go to the support centre on their institution when they needed support.

Furthermore, to teach 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. More to the point, teachers who believes in the concept of "they have been taught, whether they understand or not it is none of my business", adopt teacher-centred method. In this concept learners are not actively involved in classroom. The latter idea explains the learners as an active being in classroom. Weimer (2013) opined that learning lies at the heart of learner centred teaching.

Simply put, mobile learning portals 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. Ally in Twum (2014) defines learning style as a means by which an individual learns, processes information, interacts with others, and completes practical tasks. Consequently, there is a need to involve collaboration and co-construction of knowledge and ideas, which demand change in educational practices to allow students to learn how to utilize mobile device technologies in learning. It can be argued that these technologies can support learning by increasing the possibilities for student participation and collaboration in the learning process (Khoo, Williams, Otrel-Cass, Cutler, Ballard & Critchley, 2012).

Apparently, 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. Correspondingly, the facilitator gives learners opportunity to learn individually or in groups (peer), he provides guidance by identifying subject matter, providing guideline, posting challenges for learners to solve and assessing the learner with the view to providing feedback.

Conversely, the difference between the learner-centred and teacher centred method of teaching is that students are actively involved in learner centred leaning rather than being passive learners in teacher-centred method of teaching in the latter context. 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. Properly implemented, a learner-centred method of teaching can lead to increased motivation to learn (Collins & O'Brien, 2003).

Accordingly, a student is a person enrolled in an educational institution who attends classes in a course to attain the appropriate level of mastery of a subject for a specific profession under the guidance of a facilitator. Studentship applies to learners at any level or age. Where, the facilitator is called “teacher " the learner is called “student". A facilitator however, is someone who engages in facilitating activities that makes learning easier; finding answer to problem by discussing things and suggesting ways of doing things through provision of indirect or unobtrusive assistance, guidance, or supervision. He or she helps learners to understand their objectives and assists them on how to achieve these objectives; in doing so, the facilitator remains "neutral", meaning he/she does not take a particular position in the discussion. However, the mobile learning mode exposes students’ learning processes and their learning outcomes with pedagogical possibilities illustrated to display the channel of interaction between the learner, student and the environment (Huang, Chiu, Liu, & Chen, 2011).

In the same manner, business education is a discipline that trains its recipients to be self-reliant and employable; to achieve these objectives, work/business environment must be considered. Modern work/business environment is increasingly becoming electronic based. Hence, it is very important for today's workers to become lifelong learners in order to be competitive in the job market. Therefore, for business education to achieve its objectives, it has to increasingly employ technology-based training methods, such as online simulation, mobile learning, social network and podcasts to complement traditional methods (Patel, 2010).

Additionally, Business Education courses at the Nation Open University of Nigeria (NOUN) include subjects which impact knowledge on education for business and education about business. The courses are in form of Accounting, Commercial law, Career Development, Economics, Entrepreneurship, Information Technology, Management and Marketing. The courses enable student to identify strength, opportunities weakness and treat, analyse risk, solve problem, make decision, present information and communicate. The courses also provide intellectual development skills, research and development skills, interaction skills, forecast skills and economizing skills.

Therefore, National Open University of Nigeria is a Federal Open and Distance Learning (ODL) institution, popularly referred to as 'NOUN'. It operates over 75 Study Centres throughout the country, offering over 50 programmes and 750 courses including business education (NOUN 2011). It does not provide lectures to students in normal classrooms except in a few study centres; iLearn portal was adopted as alternative. Computer-Based-Test (CBT) form of examination is adopted for first and second year students while Pen-On-Paper examinations (POP) form of examinations is adopted from third year till the end of the programme.

Nevertheless, Patel (2002) found that although the face-to-face teaching efforts in online settings were almost non-existence (except for the rare occasion of helping the student

on the phone), the online instruction required much effort in areas of communicating via e-mail, interacting with the proctor, updating and administering the Web site, grading students' assignments, and preparing examinations. Learning experience can be presented in various forms which include written information posted on a server as lecture notes, web pages, video images, audio segments, or dialogues with other students and the facilitator through discussion rooms.

Similarly, evaluation and assessment are done with paper form; however it is just that they are done with web-based forms. Feedback in this contest is of two ways, which are learner to facilitator and facilitator to learner, which must be provided in a timely manner. It was ascertained by Chaka and Govender (2014) that literature has clearly established that mobile learning is viable and fast gaining grounds across the globe but its adoption rate in Nigeria is slow. Although the efforts of researchers are commendable, they all aimed at introducing mobile learning at the university level of education. Colleges of Education have their peculiar learning environments and objectives but no effort has been made towards m-learning influences on teaching and learning after implementation of mobile learning It is on this background that this study was conducted to study the Perceived Influence of M-Learning on the Teaching and Learning of Business Education Courses in National Open University of Nigeria Study Centres.

Statement of the Problem

The pressure to catch up with the developed world in global competitiveness has magnified the importance of education in Nigeria. There is however limited educational resources to catch up since traditional education system is characterised by limitation in number of student intakes and high rate of absenteeism from the workplace by the working students during the period of their study. Mobile learning has however provided a panacea to many of the challenges created by traditional system.

However, Nigeria has fallen far behind the developed and many developing nations in the adoption of mobile learning strategies and implements in its education service delivery. It appears that Nigeria is not taking optimum advantage of mobile learning, as evidence in the fact that mobile learning solutions have not yet been widely integrated into everyday educational practices.

National Open University of Nigeria (NOUN) was created with the stated purpose of increasing university education access especially for working adults. For several years, university education opportunities were limited to conventional universities to the detriment of young men and women who had full-time employment. E – Learning facilities have been the major implement of education delivery in National Open University of Nigeria. However, much of the e - learning have been by lap top and desk top computers (mobile learning). The use of mobile devices for educational purpose appears to be in infancy not only in National Open University of Nigeria but also throughout the educational system in Nigeria.

Nigeria has grown from the low teledensity status of the early 2000s to high density status. It was estimated that over 127million Nigerian including the youth have access to mobile telephone, which makes Nigeria's teledensity the highest ranked in Africa. However, they often use mobile telephone for social and other activities. 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.

Since mobile devices provide cheap, flexible and accessible alternative to conventional computer system as instrument of teaching and learning. It is important that teacher and student became aware of m-learning utility as a business education instrument. If the real and potential influences of m-learning in teaching and learning of business education course are not

determined, student and teachers may be unable or unwilling to take full advantage of m-learning for the improvement of teaching and learning in business education.

To the best knowledge of the researcher, no study has recently been conducted on the perceived influence of m-learning on the teaching and learning of business education courses in National Open University of Nigeria Study Centres. The study was inspired by the need to fill this gap.

Purpose of the Study

The main purpose of this study is to investigate the perceived influence of mobile learning on the teaching and learning of business education courses. The specific purposes of the study were to:

1. identify the extent to which mobile learning platforms are perceived as useful to business education students and facilitators in National Open University of Nigeria Study Centres.
2. identify the extent to which mobile devices are being used by business education students and facilitators in National Open University of Nigeria Study Centres.
3. determine the perceived benefits obtainable from mobile learning by business education students and facilitators in National Open University of Nigeria Study Centres.
4. establish the extent to which mobile learning is perceived to enhance interaction of students and facilitators in National Open University of Nigeria Study Centres.
5. determine respondents perception on the extent to which mobile learning enhances students' academic performance in National Open University of Nigeria Study Centres.

Research Questions

The questions that the study addressed were:

1. To what extent are mobile learning platforms perceived to be useful to business education students and their facilitators in National Open University of Nigeria Study Centres?
2. To what extent are mobile devices perceived to being used by business education

students and their facilitators in National Open University of Nigeria Study Centres?

3. What benefits are perceived to be obtained from mobile learning by business education students and their facilitators in National Open University of Nigeria Study Centres?
4. To what extent do students perceive mobile learning as enhancing interaction among them and their facilitators in National Open University of Nigeria Study Centres?
5. To what extent do students perceived mobile learning as enhancing their academic performance in National Open University of Nigeria Study Centres?

Research Hypotheses

H_{01}: 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.

$H_{02:}$ There is no significant difference between the mean responses of business education students and their facilitators on the extent of usage of mobile devices in National Open University of Nigeria Study Centres.

$H_{03:}$ There is no significant difference between the mean responses of male and female respondents on the benefits derived from mobile learning in National Open University of Nigeria Study Centres.

$H_{04:}$ 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.

$H_{05:}$ There is no significant difference between respondents in Kwara and Oyo study centres on the extent to which mobile learning is perceived to enhance students' academic performances in National Open University of Nigeria Study Centres.

Significance of the Study

It is the hope of the researcher that the findings and recommendations of this study would be of benefit to students, teachers, policy planners, management of National Open University of Nigeria and government officials in the ministry of education. The researcher expects that the findings of the study would be useful to students, especially students of National Open University in their studies by highlighting mobile learning possibilities open to them in the course of their studies. It will further enlighten them on how to optimally utilize benefits of mobile learning to their learning outcomes.

The study will be useful to teachers/facilitators as it would explore the perceived benefit of mobile learning in their teaching, which may improve the teachers/facilitators efficiency in business education courses. Policy planners such as curriculum planners will find this study useful as it would enhance their understanding of benefits of mobile learning and enable them to incorporate mobile learning into the curriculum.

The management of National Open University of Nigeria will benefit from the findings of the study. The university would know the perceptions of their students and facilitators towards their programmes which will enable them to improve services rendered where necessary for effective teaching and learning.

The study will be of benefit to government officials in the ministry of education as it would provide them with perceived benefits of mobile facilities for teaching and learning. This may encourage them to organise workshops for teachers and creating more awareness of benefits of mobile learning in Nigeria.

The study will also serve as reference materials for present and future researchers in the field of mobile learning and in the identification of students' academic performance.

Scope of the Study

This research sought to determine the perceived influence of mobile learning in the teaching and learning of business education course in National Open University of Nigeria Study Centres. The study was restricted to business education students and their facilitators in National Open University of Nigeria Study Centres in Kwara and Oyo States. The researcher narrowed the scope of the study to two selected study centres in Kwara and Oyo States. These are Ibadan Study Centre, Ijokodo and Ilorin Study Centre, Kulede. The choice of the study centres was because they are the largest centres in Oyo and Kwara states respectively and business education is offered as a discipline at the study centres.

Operational Definition of Terms

Facilitator: The person employed by National Open University of Nigeria to give guidance to the learner.

Learners/Students: These are business education students in National Open University.

Mobile devices: These are telephone devices used in communicating among learners and facilitators anywhere, anytime.

Performance: How well or badly a learner does in the achievement of academic goal.

Platforms: An internet environment for purposes of discussion and interactions.

Student Centre Learning: also learner centred learning. This approach to teaching views learners as active participants in their own learning.

CHAPTER TWO
REVIEW OF RELATED LITERATURE

This chapter reviewed theoretical issues, concept and empirical studies related to this study. The chapter is organized under the following sub-headings:

Theoretical Framework

- Learning by Doing Theory by Dewey, 1938
- Purposive behaviourism Theory by Tolman 1932

Conceptual Framework

- Mobile Devices and Its Learning Usage
- Mobile Learning Platforms
- Benefits of Mobile Learning
- Concept of Business Education
- Benefits of Mobile Learning To Business Education

Review of Related Empirical Literature

Appraisal of Literature Reviewed

Theoretical Framework

Theoretical framework of this study was based on constructive and cognitive learning theory.

Learning by Doing Theory by Dewey, 1938

The theory of learning by doing was propounded by John Dewey in 1938. The theory sought to describe how educators should understand the nature of how people think and process information. At the core of his theory was the concept of reflective thinking, which he described as “the kind of thinking that consists in turning a subject over in the mind and giving it serious and consecutive consideration”. Dewey (1938) criticized traditional education as “passive and receptive learning” as students receive knowledge from the teacher and

knowledge are assumed to be bodies of information and skills that have been worked out in the past with standards and rules of conduct. He also elaborated on the process he described as the recitation. In traditional as well as constructivist classrooms this often takes place through teacher-guided questioning, although the traditional behaviourist classroom merely focuses on the rote learning of facts and memorization of simple answers. If utilized to its full extent, questioning leads learners to think reflectively and process information in such a way that "thinking is inquiry, investigation, turning over, probing or delving into, so as finding something new or to see what is already known in a different light"

Instead of traditional, he proposed active learning principle in his discussion of progressive education, allowing students to be more active in their learning. While Dewey (1938) insisted that learning new materials and concepts was predominantly the responsibility of the learner, he also described the role of the teacher as one who must stimulate curiosity and fully engage students in the learning process as well as teach students how to think and process information: Dewey saw the classroom as a microcosm of a democratic society. The only way to increase the learning of students is to augment the quantity and quality of real teaching. The teacher would model democratic ideals and the students would learn by experience. Since learning is something that the student has to do himself and for himself, the initiative lies with the learner. The teacher is a guide and director; he steers the boat, but the energy that propels it must come from those who are learning. The more a teacher is aware of the experiences of students, of their hopes, desires, chief interests, the better will he understand the forces at work that need to be directed and utilized for the formation of reflective habits. He described the mind as a verb, as something which does rather than something to be filled like a sponge. He believed that students needed to interact with their environment in order to think and therefore every student should be involved in lively activities around a project. The project method or

scientific method of problem solving was Dewey's alternative to the traditional method and included this concern of teaching for students being active in learning.

Dewey (1938) explicitly proposed principles of active learning in progressive education, as opposed to non-active education as follows:

> If one attempts to formulate the philosophy of education implicit in the practices of the new education, we may, I think, discover certain common principles amid the variety of progressive schools now existing. The imposition from above is opposed to the expression and cultivation of individuality, external discipline is opposed to learning through experience; the acquisition of them as a means of attaining ends which make direct vital appeal; the preparation for a more or less remote future is opposed to most opportunities of present life; static aims and materials are opposed to acquaintance with a changing world.

Following these principles, the nature of active learning has three aspects, the nature of knowledge, learning and teaching. According to Dewey, in active leaning knowledge is individual experience organized and constructed through learning. Similarly, learning is the acquisition of knowledge and skills through individual experience neither from texts nor from teachers. Teaching is facilitating the learning environment to allow students to acquire knowledge through active involvement in the learning activity. Thus, in active learning students` learning involves physical and mental action. Physical activities are needed on learning in order that students have their own experience with objectives. Mental activities are needed in learning in order for students to process their learning experience to become knowledge. In other words, education is a process of modification of personal experience. This modification affects subsequent experiences, so that something learned in one situation will help understand and action in future situations, and also person and environment interactions lead to a continual reconstruction of though. Constructivism gives teachers another perspective to rethink how students learn and to focus on process and provide ways of documenting change and transformation.

The theory is relevant to this study in the sense that, the theory is premised on assumptions which state that students are transformed from passive recipients of information to active participants in the learning process. Always guided by the teacher, students construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the textbook. They become engaged by applying their existing knowledge and real-world experience. Constructivist methods of instruction with using mobile devices have developed to meet the instructional goals and conditions. One of the most powerful and versatile tools is m-learning. M-learning provides learners with optimal learning environment. They can be exposed to multiple perspectives through collaborative social negotiation within peers or facilitators. In order to improve the problem-solving skills, it is important for learners to be exposed to complex environments.

Purposive behaviourism Theory by Tolman 1932

The purposive behaviourism theory was introduced by Tolman 1932. The theory states that individuals not only respond to stimuli but also act on beliefs, thoughts, attitudes, feelings and strive towards goals. In other words, an individual creates a cognitive map in his mind; an image of the external environment preserves and organizes information gathered, as a result of the consequences of events encountered during the learning process.

Purposive behaviourism theory is based on the cognitive model of human behaviour that emphasizes on the free will and positive aspects of human behaviour. Cognition refers to the individual's thoughts, feelings, ideas, knowledge and understanding about himself and the environment. An organism applies this cognition in learning which results in not merely the response to a stimulus, but the application of internal image of the external environment, so as accomplishing the goal. Purposive behaviourism theory focuses on how information is received, organized, stored, and retrieved by learners. One technique behind Purposive behaviourism is

based on dual coding, which argues that recall and recognition are better if both verbal and visual channels are engaged.

In relation to this study, theory of Purposive behaviourism is a type of learning that is active, constructive and long lasting. It engages students in the learning process, teaching them to use their brain more effectively to make connections when learning new things. It offers a lens for investigating how information is absorbed, processed, and retained during learning. Emphasis was placed on how students integrate new knowledge with what they have already learned or what they already know. Thus, the Theory is related to the study as it analysed how students perceive or become conscious of the use mobile devices in teaching-studying-learning processes.

Conceptual Framework

The Mobile Devices and its Learning Usage

Umoru (2015) listed Devices that can be used for m-learning by business education students which includes IPods, MP3, Personal Digital Assistants (PDAs), USB Drive, E-Book Reader, Ultra-Mobile PC (UMPC), Smart Phones and Tablets. The following were the usage of the mobile devices:

IPod

IPod is a portable media player that allows a user to download music, podcasts, audio books and other video. Students can thus download lecture materials, audio and video lectures. With bigger screen iPods the users can read even e-books. It enables students to share information and work together. It also helps in teaching support, as the facilitator can audio or video lecture to the registered students as a free download.

MP3 Player

MP3 player is a digital audio player which plays music and audio files. This could be used by students to listen to audio lectures. Audio lecture note can be sent to students and accessed through MP3 player

Personal Digital Assistant (PDA)

PDA forms a good combination of digital storage along with computing power, internet access, wireless network access through Wi-Fi or Bluetooth, and pen or stylus input interface, along with other word processing tools. It lets user's access email and web content and can play audio and video files. It supports interactive and group learning.

USB Drive

The USB Drive is a mass storage device which attaches easily to many computers and other devices. The portable drive finds great use by students to transport files easily between university and home. Being portable and handy, it helps to be to carry files while on the move.

E-Book Reader

It is a mobile electronic device that is designed primarily for the purpose of reading digital e-books. It main advantage over printed books is portability: an e-reader is capable of holding thousands of books while weighing less than one

Laptop or Tablet PC

Laptop or Tablet PC is the most functional of all the mobile devices and it has all the features of a workstation PC. It comes with the network support for Bluetooth, Wi-Fi and internet. Tablet PCs also integrate handwriting recognition, voice to text conversion etc. for input. These computing nodes could support email, web surfing, word processing, Instant Messaging, VoIP connections and many other application programs. Lot of interactivity and collaboration in research can be thus supported.

Smart Phone

Smart phone integrates telephone features, along with camera, PDA and MP3 player. It also supports access to Internet. Users can download audio or video lectures, flash movies, edit text documents, send IM and use the phone for storing data. It supports interactive learning as it enables global collaboration.

In view of the above, Quality Improvement Agency (2008) mentioned out that most mobile devices are useful in the field of education. Here are some of the main advantages:

- Learners can interact with each other and with the practitioner instead of hiding behind large monitors.
- It's much easier to accommodate several mobile devices in a classroom than several desktop computers.
- PDAs or tablets holding notes and e-books are lighter and less bulky than bags full of files, papers and textbooks, or even laptops.
- Handwriting with the stylus pen is more intuitive than using keyboard and mouse.
- It's possible to share assignments and work collaboratively; learners and facilitators can e-mail, cut, copy and paste text, pass the device around a group, or beam the work to each other using the infrared function of a PDA or a wireless network such as Bluetooth.
- Mobile devices can be used anywhere, anytime, including at home, on the train, in hotels - this is invaluable for work-based training.
- These devices engage learners - young people who may have lost interest in education - like mobile phones, gadgets and games devices such as Nintendo DS or PlayStation Portable.
- This technology may contribute to combating the digital divide, as this equipment (for example PDAs) is generally cheaper than desktop computers. (Quality Improvement Agency, 2008)

Mobile Learning Platform

Below are brief overviews of some mobile learning platform

Weblogs

These can be created and used easily on the internet and students as well as teachers can communicate through it. It is a form of online journal that have a single or several authors. Blogs has become one of the popular tools of online discourse. A blog is a website, usually maintained by an individual. For academic purposes blogs can be created for individual students, for a group of students or for the entire class as well as their facilitators. There are many blog hosting services available on the internet, the most popular of these include Blogger, Yahoo! 360, MSN Spaces, Livejournal, Edublogs, ESL Blogs, Blogmeister among others. It appears that blogging is a popular tool among students in education. Students use blog as a platform to share their ideas and comments (Osman, 2013).

Wikis

It is web space where adding and editing of the content published is very easy for users. Arreguin (2004) defined Wiki as a group of web pages that allows users to add content. Wikis are often used for creating collaborative websites among users. Wiki is another favourite online tool. Wiki is a good platform for collaboration. Users can use wiki to work with each other in a group.

Twitter

Twitter is a powerful tool for connecting with others and sharing content easily. Twitter allows users to keep updating each other by sending short text messages with a maximum of 140 characters in length. This technology gives quick update to the user. In a study conducted by Elavsky, Mislan, and Elavsky (2011) it was found that students' class participation and enthusiasm improved. The study reviled that students use Twitter for in-class feedback and

asking questions during lectures, where the customary method of asking questions by raising hands could have interrupted the flow of the class.

YouTube

YouTube is a popular video sharing website where users can upload, view, and share video clips. It isn't just a place for viral online videos and entertainment. YouTube is no longer a place for entertainment alone. Now, it has become a house of learning as it can be used for video-sharing platform, to make mobile Learning course more engaging and immersive for students and their facilitators audience. Facilitators can create their own lectures and uploading it to YouTube for students' consumption. This approach is ideal for more complicated tasks and topics because they can be broken down to their most basic components.

Google Hangout

Google Hangout is an instant messaging, video chart platform developed by google. The services can be accessed online through the Gmail or google+ websites or through mobile applications available for android. Hangouts are not only good for general chat purposes. It could also be used by teachers to have a virtual classroom. The Google Hangouts allow teachers to interact virtually with learners in real time (Afrianto, 2016). Google Hangouts can be used to provide lectures to an unlimited amount of Students. Here is what can be done with Google Hangouts:

- Call anyone with a Google account.
- Use webcam for video calls.
- Chat using the chat box.
- Share your screen.
- Embed YouTube videos.
- Use a whiteboard (through an application called Cacoo).

- Record the hangout.

WhatsApp

WhatsApp instant messaging is a cross-platform smartphone messenger that employs users' existing Internet data plan to help them network socially in real time (WhatsApp, 2010). It is used for making voice calls, one-to-one video calls; sending, text messages, images, video, documents, user location, audio files, phone contacts and voice notes. The WhatsApp platform has the following collaborative features (WhatsApp, 2010).

- Provide online students with the ability to exchange text messages, images, videos, and voice notes to their social network or group and contacts.
- Provide students or instructors with the ability to create a group (social network group) that supports the social interactions. Members can engage in discussion forums.
- WhatsApp Messenger provides the ability for students to send messages without limits. The application uses a 3G/EDGE Internet data plan or Wi-Fi to ensure continuous data transmissions across the WhatsApp mobile system.
- Students using WhatsApp through a variety of mobile devices, such as smartphones, tablets, and so on can message one another through texts, images, videos, and so on.

Skype

Skype is the most used option when it comes to facilitating one-to-one lessons, and is actually the main advantage of using Skype as most of the potential students will either have it or will have heard of it. Skype saves text chats; this gives the ability to look at what have been done with students in the past, and also helps you when you're trying to figure out who an old contact is. These experiences allow students a chance to apply what they are learning in the classroom to real-life experiences and it also achieves further learning opportunities (Quillen, 2011).

Benefits of Mobile Learning

The following are the benefits of mobile learning as adopted form UNESCO, (2013).

Expands the Reach and Equity of Education

Today mobile technologies are often common even in areas where schools, books and computers are scarce. As the price of mobile phone continues to decline, more and more people, including those in extremely impoverished areas, are likely to own and know how to use a mobile device. A growing number of projects have shown that mobile technologies provide an excellent medium for extending educational opportunities to learners who may not have access to high-quality schooling (UNESCO, 2013). In relation to this, the case of Nigeria where number of students seeking for admission is higher than the number of students that can be admitted due to limited facilities. Mobile learning is suitable in providing solution to the situation, since it does not require many physical amenities.

Facilitates Personalized Learning

Because mobile devices are generally owned by their users, highly customizable and carried throughout the day, they lend themselves to personalization in a way that shared and tethered technologies do not. Applications on mobile phones and tablets can, for example, select among harder or easier texts for reading assignments depending on the skills and background knowledge of an individual user. Mobile technologies, by virtue of being highly portable and relatively inexpensive, have enormously expanded the potential and practicability of personalized learning.

Additionally, as the amount and type of information mobile devices can collect about their users increase, mobile technology will be better able to individualize learning. Over time, personal technology will supersede one-size fits- all models of education. Cumulatively, intelligent mobile devices, many of which are already in the pockets of millions of people, can

give students greater flexibility to move at their own pace and follow their own interests, potentially increasing their motivation to pursue learning opportunities (UNESCO, 2013).

Provides Immediate Feedback and Assessment

A number of projects have demonstrated that mobile technologies can streamline assessments and provide learners and teachers more immediate indicators of progress. While historically learners have had to wait days or weeks to get guidance regarding their comprehension of curricular content, mobile technologies, thanks to their interactive features, can provide instant feedback. This allows learners to quickly pinpoint problems of understanding and review explanations of key concepts. A number of educative applications available for smartphones as well as basic mobile devices show learners, step-by-step, how to correctly solve questions they might have answered incorrectly. This functionality helps to ensure that assessments were used to advance student learning rather than simply rank, reward and punish performance.

Mobile technologies can also make educators more efficient by automating the distribution, collection, evaluation and documentation of assessments. For example, a number of mobile applications make it easy for teachers to administer short quizzes to ensure that learners completed a given reading assignment. These programs typically support multiple operating systems, allowing learners to complete the quiz using their personal mobile device, rather than one provisioned by an institution. The quizzes can be assessed instantaneously and, when desired, synched to a grade book – no paper, red pens or laborious data entry necessary. By speeding up or eliminating tedious logistical tasks, educators can spend more time working directly with students (UNESCO, 2013).

Enables Anytime, Anywhere Learning

Because people carry mobile devices with them most of the time, learning can happen at times and in places that were not previously conducive to education. Mobile learning applications commonly allow people to select between lessons that require only a few minutes to complete and lessons that demand sustained concentration over a period of hours. This flexibility allows people to study during a long break or while taking a short bus ride.

Mobile devices also have a track record of reinforcing retention of essential information. A number of applications building on theories that human forgetfulness follows certain patterns employ carefully calibrated logarithms to schedule reviews of concepts at optimal times, after information has been learned and just before it is likely to be forgotten, thereby facilitating the movement of information from short-term to long-term memory. In order for these programmes to work effectively, learners need to carry the technology with them throughout the day; mobility is crucial (UNESCO, 2013).

Ensures the Productive Use of Time Spent in Classrooms

UNESCO's investigations have revealed that mobile devices can help instructors use class time more effectively. When learners utilize mobile technology to complete passive or rote tasks such as listening to a lecture or memorizing information at home, they have more time to discuss ideas, share alternative interpretations, work collaboratively, and participate in laboratory activities at school and other learning centres. Far from heightening isolation, mobile learning allows people increased opportunities to cultivate the complex skills required to work productively with others.

Learners watching informational lectures outside of school usually on mobile devices carried with learners wherever they are so useful that more class time can be devoted to the application. Tasks that were once schoolwork become homework, and schoolwork places greater emphasis on the social aspects of learning (UNESCO, 2013)

Builds New Communities of Learners

Mobile devices are regularly used to create communities of learners where they did not exist before. Massive open online course systems have experimented with a variety of methods to encourage productive communication between learners taking the same class. Other platforms provide focused job training to students with similar vocational interests. Apart from making first-rate instruction available to far more people than traditional brick-and-mortar institutions can support, these systems which are increasingly tailored for use on mobile devices help students pose and answer questions, complete collaborative projects, and, more generally, engage in the social interactions foundational to learning (UNESCO, 2013).

Assists Learners with Disabilities

Thanks to the integration of text-enlargement, voice-transcription, location-aware and text-to-speech technologies, mobile devices can dramatically improve the learning of students with physical disabilities, in resource-poor and resource-rich communities alike. The Cambridge to Africa Network, for example, recently launched a programme that encourages the participation of deaf children enrolled in Ugandan schools. Students use mobile devices and an innovative SMS system to gain access to the curriculum and interact with peers. For visually impaired learners, freely available software can, for example, turn a mobile phone equipped with a camera into a tool that reads text aloud. Mobile technology can also aid students with learning disabilities.

Researchers at the Harvard-Smithsonian Centre for Astrophysics recently discovered that text can be reformatted on small-screen digital devices to improve the reading speed and comprehension of individuals with dyslexia. Findings like these have prompted the creation of mobile applications tailored for people who struggle to read due to a disability (UNESCO, 2013).

Supports Situated Learning

While formal education has historically been confined to the four walls of classrooms, mobile devices can move learning to settings that maximize understanding. Mobile devices can, in essence, give literal meaning to the maxim 'the world is a classroom'. Relying on location-aware technology, devices reveal processes and structures in the physical world that cannot be seen (UNESCO, 2013).

Enhances Seamless Learning

Cloud computing and cloud storage streamline education by providing students continuous and up-to-date learning experiences regardless of the hardware they use to access content. Because educational resources and information about a learner's progress are stored on remote servers rather than on the hard drive of a single device, students can access similar material from a wide variety of devices (including desktop computers, laptops, tablets and mobile phones), utilizing the comparative advantages of each. For example, a tethered computer with a large screen and full-sized keyboard might be better for composing essays and conducting extensive internet research, whereas a mobile device might be superior for inputting bits of information collected in the field and noting exploratory ideas. Software is able to synchronize work across devices, so students can pick up on a mobile device where they left off on a desktop computer and vice versa, thereby ensuring continuity of the learning experience. Also, because computing is increasingly moving to the cloud, devices do not necessarily need expensive processors to utilize sophisticated software; they simply need to provide a learner a connection to the internet (UNESCO, 2013).

Bridges Formal and Informal Learning

Mobile devices facilitate learning by blurring boundaries between formal and informal education. Using a mobile device, students can easily access supplementary materials in order

to clarify ideas introduced by a classroom instructor. Mobile technology helps to ensure that learning which happens inside and outside classrooms are mutually supportive (UNESCO, 2013). In relation to this, most educational institutions provide students with theoretical aspect of education than practical aspect; with the help of mobile learning more practical aspects of the courses can be enhanced.

Maximizes Cost-Efficiency

When weighed against the costs of comparable educational resources, mobile technology can offer good value. For example, Thailand recently launched an initiative to provide students with tablet computers and plans to gradually phase out traditional textbooks. While this project is expensive in absolute terms, it must be balanced against the costs of purchasing, procuring, delivering and updating physical textbooks. Similarly, the functionality and limitations of tablet devices versus paper books need to be compared and contrasted. Although long-term cost-benefit analyses still need to be conducted to compare the total costs of paper versus digital textbooks, early signs indicate that mobile devices may maximize cost-efficiency by offering rich feature sets at increasingly low prices. Many governments have successfully expanded educational opportunities by leveraging the technology people already own, rather than providing new devices. Initiatives that transform ubiquitous mobile devices into tools for learning, while ensuring equity of opportunity for students who cannot afford them, generally provide affordable solutions to educational challenges.

Minimizes Educational Disruption in Conflict and Disaster Areas

Because mobile infrastructure is generally easier and quicker to repair following a disaster or conflict than other infrastructure, such as roads and physical schools, mobile learning holds special application for learners living in post-crisis areas. For example, in the aftermath of war students can in many instances utilize educational resources and connect with

teachers and peers via mobile devices, even when traditional schools and universities are closed or unsafe. Research has indicated that mitigating educational disruptions in post conflict and post-disaster areas speeds up recoveries and helps heal fragile societies. Mobile devices can help to ensure the continuation and continuity of education during times of crisis (UNESCO, 2013). Relating this to the case of Nigeria and the security insurgence, mobile learning can be a perfect substitute to traditional system of education in the affected areas.

Improves Communication and Administration

Because messages sent by mobile devices are generally faster, more reliable, more efficient and less expensive than alternative channels of communication, learners and educators are increasingly using them to facilitate the exchange of information. Besides being more likely to reach intended recipients than paper and ink leaflets, messages sent via mobile technology can be used to elicit as well as disseminate information. Teachers can ask students to provide feedback on assignments, and parents can request up-to-the minute information about the academic progress of a child (UNESCO, 2013).

Concept of Business Education

Business education is an aspect of total educational programme which provides the recipient with knowledge, skills, understanding and attitude needed to perform well in the business world as a producer or consumer of goods and services. According to Osuala, (2003) Business Education is a type of training which, while playing its part in the achievement of the general aims of education on any given level, has its primary objective as the preparation of people to enter into a career, to render efficient service and to advance from their present level of employment to higher levels. Furthermore, Osuala, (2004) is of the opinion that Business education is a broad area of knowledge that deals with a nation’s economic system and also

identifies and explains the rate of business contentment and experience that prepare individuals for effective participation as citizens, workers and consumers.

Objectives of Business Education

The objectives of business education are as follows:

i. Train individuals to be self employed

ii. Train individuals toward successful establishment of their own business

iii. Equip individual in order to contribute to the economy

iv. Create employment by being an employer of labour

v. Provide basic education needed to sustain it recipients in the competitive market

However, business education is the broad area of knowledge that deals with the economy. It Identifies and explains the role of business as an economic institution and provides content and experience that prepare the individual for effective participation as a citizen and consumer (Odunaike & Amoda, 2013). NOUN (2008) also defined Business education as an aspect of vocational education that equips people with necessary skills and theoretical knowledge needed for performance in business world either for job occupation or self-employment.

Furthermore, Business Education is a programme of study that prepares students to be self-reliant in their society after graduation. It also provides graduates with necessary skills and capacities which will make them perform very well in business and also as a teacher. With courses in accounting education, marketing education and office technology; individual will acquire saleable skills to be self-employed and also employers of labour.

Benefits of Mobile Learning to Business Educations

Indeed, many researchers and other scholars believe that the benefits that m-learning offers are credibly immeasurable. For instance, for most companies, mobile learning helps to

reduce the traditional training infrastructure, facilitates the learning process of employees, and improves their productivity and effectiveness whilst on the move (Grohmann, Hofer, & Martin, 2005; Donnelly in Boakye, 2016**)**. In addition, in a survey conducted by the Educes Centre for Applied Research (ECAR) in Gikas and Grant (2013), which suggests that students are driving the adoption of mobile computing devices, such as cell phones, smartphones, and tablet computers, in higher education, and 67% of surveyed students believe mobile devices are meaningful to their academic success and use their devices for academic activities. It can be said then that these mobile communication devices offer university students the opportunity to carry their university in their own hands (Taleb & Sohrabi, 2012).

El-Hussein and Cronje (2010) opined that the use of mobile devices for learning can enlarge the scope of tertiary education and allow it to better reach students. The use of these technologies for learning is equally capable of providing more interactive and effective type of learning to meet individuals' learners' needs. Mobile technology can be beneficial for higher education due to its ubiquitous nature and ability to shape information processes (Schepman, Rodway, Beattie & Lambert, 2012). Mobile technology offers the ability to engage in learning activities such as communication and content material sharing between students and lecturers, students and subject experts, and among students and their environments.

In addition, mobile technologies have the ability to bridge pedagogically designed learning contexts, facilitate learners' generated contexts and content (both personal and collaborative) while providing personalization and ubiquitous social connectedness which makes it to be different from the traditional learning environment (Cochrane & Bateman, 2009) in Adegbija and Bola (2015). This is why mobile technology can be referred to as social technology which provides social learning environment for learners.

The benefits of mobile learning in business education for teaching and learning are immense. Shawe (2013) identified some benefits of m-learning devices to include the following:

- Access to content, peers, experts and previous thinking on relevant topics.
- Performance of knowledge.
- Increased collaboration with access to the cloud, all data sources and project materials are constantly available.
- Transparency through natural products of connectivity, mobility and collaboration.
- Learning by doing.
- Asynchronous learning which allows educational environment to move anywhere, anytime.
- Self-actuated where learners plan topic, sequence, audience and application.
- Divergent thinking where audiences are diverse, thinking is diverse as are the environment.
- Evidence storage and management where learners adopt these technologies, store files, compare and evaluate, publish, think and connect learners.
- Blending the learning style through physical movement, personal communication, learning styles and digital interaction.
- Always-on-classroom never full where 24hr learning is self-activated, spontaneous and interactive.
- Authentic learning which enables experiences that are truly personalized.

Review of Related Empirical Literature

Several research studies have been conducted on influence of mobile learning on teaching and learning. Adegbija and Bola (2015) undertook a study on perception of undergraduates on the adoption of mobile technologies for learning in selected Universities in

Kwara state, Nigeria. The researcher formulated three purposes for the study which were to investigate the perception of undergraduates on the adoption of mobile technologies for learning. The study was conducted using descriptive survey research design. The population which formed the sample of the study comprised three universities in Kwara state. The sample was 182 undergraduates, they were purposively selected. A structured questionnaire was used to analyse the data from the respondents. The frequency counts, percentages and mean score were used to analyse answers to the three research questions and t-test to test the null hypothesis. The findings of this study showed that the undergraduates have personal access to cell phone, Android, Smart phones, Mp3 players and laptops in the study area and they are favourably disposed to the adoption of mobile technologies for learning. The undergraduates also showed their willingness to procure their own mobile technology devices if they are introduced for learning. The findings of the study further showed that there is no significant difference in the extent to which male and female undergraduates perceived the adoption of mobile technologies for learning in the three Universities in Kwara State, Nigeria. This research is different from the present study in research purposes and also focuses on learning alone but is related to the study because it also focuses on mobile devices for learning. The study also adopted survey research design and t-test in testing the hypothesis which is the same with the present study. The instrument and statistical tools were also the same

In a related research study Chaka and Govender (2017) considered Students' perceptions and readiness towards mobile learning in Nigeria Colleges of Education, The researcher formulated five purposes for the study which were to determine Students' perceptions and readiness towards mobile learning, the purposes were turned to research questions. The study was conducted using the survey research design. The study population comprised 13,427 students from three colleges of education. A sample of 323 respondents was drawn using clusters and stratified proportionate sampling technique. A structured questionnaire was used to

collect data from the respondents. The research questions on the questionnaire were analysed using Wilcoxon signed rank test. The findings of the study showed that although m-learning has not yet been implemented in colleges of education in Nigeria, the results have shown that students are optimistic that it will be useful to them, and have therefore expressed their readiness to adopt it. The mobile learning conditions seem to be conducive to m-learning. For this reason, the students are willing to adopt m-learning if introduced in the institutions. This research is related to the present study because it has similar number of purposes and sampling techniques but it differs as it does not have any hypothesis and also differs in statistical tools used. It is also differs as it looked into readiness not result after adoption. The present study will use frequency, percentages, mean and standard deviation.

In a study conducted by Umoru (2015) on analysis of m-learning utilization challenges, learning purposes and benefits for improved business education outcomes in Nigerian Universities, the researcher raised one purpose for the study. The population comprised 1010 business education teachers 760 students. 281 and 262 teachers and students respectively were sampled using Taro Yamane formula. A structured questionnaire was used to collect data from the respondents. The data collected were analysed using mean, standard deviation and One Way Multivariate Analysis of Variance (MANOVA). The study discovered that mobile devices when utilized purposefully by students and teachers would improve the intended outcomes. The study is similar to the present study, but differs in term of location of the respondents, the study used conventional university while the present study used Open University it also differs in the number of purposes and there is a slight differences in the statistical tools used. The previous study used mean, standard deviation and MANOVA, while the present study will use frequency, percentage, mean, standard deviation and t-test.

Amiaya and Ranor (2015) carried out a study on challenges and benefits of mobile learning adoption in OTM programme in Delta State Polytechnics. Descriptive statistics was

used to carry out the study. The researcher formulated two purposes for the study. The population of the study was 55 lecturers and 210 HND II students drawn from the three public polytechnics. The entire population was studied because of the size. A structured questionnaire was used to collect data from the respondents. The research questions were analysed using mean and standard deviation and t-test. The findings showed that whether or not mobile learning will be adopted and sustained by lecturers and students of OTM will greatly depend on how efficient and necessary they consider the services and features. For example, if lecturers could facilitate their courses while being at home or while travelling, it will make life easier for them. In the same vein, students currently travelling to their state capitals for information about their studies and facilitation will happily accept enjoying such facilitation from the comfort of their homes. In addition, the level of access to OTM which will be boosted by the introduction of mobile learning in the country cannot be imagined. It was concluded that quality and functional access to OTM will be guaranteed especially in the rural communities which lack basic amenities. The study is relevant to the current study because it studied benefits of mobile learning on lectures and students. The research is different from the present study but is related to it, as it differs in aspect of business education discipline. The study focused on OTM while the present study focused on all accepts of business education discipline which includes Accounting, Marketing and Office Technology Management. It also differs in the numbers of purpose and research questions from the present one, the statistical tools is also slightly different, frequency and percentages were additionally adopted by the present study.

Hlagala (2015) conducted a study on mobile educational technologies currently used as a means to enhance teaching and learning in a privileged high school. The purpose was to study mobile learning, attempting to understand how mobile learning is currently used in a privileged high school; learner's experiences and their perceptions about mobile learning was also

studied, three research questions were formulated. The population of the study was over 4800 learners where two teachers and fifteen learners in Grade eleven were selected. Face-to-face, unstructured interviews were used to collect data from the respondents. The results of this study show that participants in this case study believe that using mobile technology in education is both necessary and possible from the device usability aspect; they found the social technology to be highly useful for communication purposes. Learners and teachers at that school are familiar with learning and teaching using technology, teachers have been teaching using the projector and the whiteboard whereas learners have had access to computer labs equipped with desktop computers and ICT subjects are being taught at that school for grade ten to grade twelve learners. Technology was introduced at that school to enhance the current teaching practices and outcomes, instead of teaching using the whiteboard teachers now use the interactive whiteboard and the Edu-pads were introduced to support the current learning methods to empower learning beyond the classroom. This study is different from the present study, but it also focuses on mobile devices for teaching and learning which make it relevant to the study. It differs as the study was conducted in a privileged high school while this study was conducted in Open University.

Adedoja and Abimbade (2016) investigated on the influence of mobile learning training on pre-service social studies teachers' technology and mobile phone self-efficacies. The objective of the research was to examine the influence of mobile learning training on pre-service social studies teachers' mobile phone and technology self-efficacies. The study used one group pre-test-post-test design. The population consisted of 200 and 300 level pre-service Social Studies teachers where 103 pre-service Social Studies teachers were selected using purposively Sampling techniques. The Pre-service Social Studies teachers were trained on mobile learning using the following: Mobile learning training manual, mobile learning training package and Training workshop. A structured questionnaire was administered to the pre-

service Social Studies teachers. Mean, Standard Deviation and t-test were used for data analysis. The findings established that through adequate and proper training, the pre-service Social Studies teachers can acquire the skills to effectively use the mobile phone for instructional purposes. An effective training on mobile learning helped enhance the mobile phone self-efficacy and Technology self-efficacy of the pre-service Social Studies teachers. It also relied that technology self-efficacy; mobile phone self-efficacy can be profound factors in using mobile phones for teaching and learning. It was concluded that whatever mobile learning training is designed for the pre-in service teachers, promoting technology self-efficacy and mobile phone self-efficacy must be incorporated into such a training as it could influence the effective adoption of mobile learning The study was relevant to the present study because it was concerned with mobile learning for teaching. The study differs in research design but similar in the instrument for data collection. There is also a slight difference in the statistical tools adopted by this study as frequency and percentages were additionally adopted by the present study. It also differs in the subject of the study, the study focused on social study teachers while the presents focused on business education students and teachers.

Elfeky and Masadeh (2016) investigated on the effect of mobile learning on students' achievement and conversational skills. Two research questions were formulated. The study used experimental approach design. The sample of the study were 50 students who were enrolled in two equal groups i.e. control and treatment group. Control group was taught by face-to-face learning while the other one represented the experimental group studied the course content via Mobile Learning. Both groups were subjected to the experiment for fourteen weeks. Achievement test containing three main parts which are essay, multiple-choice, True/False items were administered to the students. Mean, standard deviation and t-test were used for data analysis. The study proved that by using mobile learning, students were more successful in their academic achievement and conversation. Results were quite positive and encouraging for

students and teachers because of mobile learning ability to wipe out time and place difficulties in learning. Students can access their lessons and deliver their assignments via their mobile sets whenever and wherever. Teachers, on the other hand, can upload the teaching material, assign the roles, determine discussions and receive students' assignment electronically. The study is relevant to the present study because it was concerned with the effect of mobile learning on students' academic performance. The same statistical tool was used for data analysis just that the present research have adopted additional tools which are frequency and percentages. It also differs in the survey design adopted, the study adopted experimental design while the present study adopted descriptive survey design.

Huang (2016) conducted a study on using mobile phones for teaching and learning in Chinese traditional undergraduate education. Five research questions were formulated. Six students, four faculty members, and two administrators, a total of 12 participants were selected using Purposeful sampling technique. One-on-one face-to-face interviews were used to collect data from the respondents. The results show that mobile phone integrated learning presents both opportunities and challenges which usually exist side by side. Students and faculty members used their mobile phones in a variety of ways to support their learning and teaching, but they had different perceptions about the use. Overall, students were more active in using mobile phones for learning and more optimistic about the future of mobile phone integrated learning. Faculty members and administrators, on the other hand, held mixed views of mobile phone integrated learning and had more concerns about the integration. This study is quite different from the present study, but it also focuses on mobile devices for teaching and learning which makes it relevant to the study. It also differs in term of respondents, the study focused on traditional undergraduates while the present study focused on undergraduates of Open University.

Ifinedo (2013) carried out a study on mobile learning for instructional purpose in Nigeria. The purpose of the study was to examine the learning habits of students and identify ways in which improvement can be made by the introduction of mobile devices in learning. Four research questions were formulated. 135 students were randomly selected from two universities. Questionnaire was used to gather data for the study. The research question were analysed using mean rating and standard deviation, while the hypothesis was tested using Pearson's chi – square. The study concluded that a greater number of the courses required the use of internet for completion of course assignments and also a high percentage of the students in this study obtained information about m- learning via the internet which confirms the constant desire for information. The study is relevant to the present study because it focused on learning through mobile learning. It differs as it focus on the use of mobile learning as an instructional purpose and improvement that will be enhanced when adopting while the present study focused on mobile learning for teaching and learning and the influence after adoption

Donaldson (2011) carried out a study on student acceptance of mobile learning. The purpose of the study was to test the determinants of the acceptance and use of mobile learning by community college students. The researcher formulated four purposes for the study. The purposes of the study were turned into research questions. The population of the study was 10491 students attending a North Florida community college with a full-time enrolment. The sample size was 215 students. Descriptive statistics was used to carry out the study. Interview was used to collect data from the respondents. The data collected were analysed using means and standard deviation. The data from this study suggests that there is student interest in mobile learning. Given the integration of mobile devices into students' daily lives, faculty and instructional design staff can support mobile learning by identifying ways in which mobile devices can be utilized to support both classroom and remote learning. The study differs from the present study in the number of purposes and instrument for data collection and has no

hypothesis but is relevant to the present study as it considered the usage of mobile learning. It also differs as it focused on acceptance determination.

Abu-Al-Aish (2014) conducted research study toward mobile learning deployment in higher education. The purpose of the study was to study and analyse the factors that affect the adoption and deployment of M-learning in the higher education environment in order to develop a successful and sustainable M-learning model. Five purposes were formulated; the purpose was also turned to research questions. Descriptive statistics was used to carry out the study. Online questionnaire was used to collect data from the respondents, 82 students volunteered to participate. Data collected were analysed using mean and standard deviation, while (AMOS) multiple-group analysis and t-test were used to test the null hypotheses. The findings of the study showed that students were not familiar with M-learning and they were not fully ready to implement this technology due to the issues of the infrastructure support and the compatibility in converting courses materials to the mobile devices system. Other issues identified by the students included whether the lecturers accept the adoption of M-learning. Lecturers' attitudes towards this new format, and their vision and skills, play a significant role in the successful implementation of M-learning. The study concluded that Students might get advantages of M-learning in the near future if a strategy is tailored to their readiness and that of their lecturers. The study is similar to the present study, the only differences is that two statistical tools were used for the hypotheses. The study had (AMOS) Multiple-Group Analysis as additional tool. The study differs as it seeks to determine the factors for the adoption of mobile learning.

Appraisal of Literature Reviewed

The review of literature was done to provide the researcher with guidance to arrive at a theoretical framework for this study. The theoretical framework was based on Learning by Doing and Purposive behaviourism theory that explain how information is absorbed,

processed, and retained during learning stages of learning. It stipulated that it is important for learners to be exposed to complex environments. Furthermore, the chapter discussed mobile devices, mobile learning platforms and their benefits to business education.

Eleven empirical studies related to the present study were reviewed. Based on the reviewed empirical studies, the researcher has observed the reviewed study is about adoption of mobile learning, it was noted that none talked about m-learning influences on teaching and learning after implementation of mobile learning; this is the main gap the study wants to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter describes the research design, population of the study, sample and sampling technique, instrument for data collection, validation of instrument, reliability of the instrument, procedure for data collection and procedure for data analysis

Research Design

Descriptive survey research design was used for this study. According to Patel, (2010) a survey uses questionnaire and interview to collect information about people, attitudes, beliefs, feelings, behaviours and lifestyles. This design was found most appropriate for this study since it seeks to investigate the perceived influence of mobile learning on the teaching and learning of business education courses.

Population of the Study

The population of this study comprises business education students and facilitators in selected National Open University of Nigeria Study Centres. There are 656 subjects made up of students and facilitators of business education in the study centres. The details of the population of the study are as given in Table 1.

Table 1: Population of the Study

S/No.	State	Study Centres	Number Of Business Education Students	Number Of Business Education Facilitators	Total
1.	Kwara State	Ilorin Study Centre, Kulende	402	3	405
2.	Oyo State	Ibadan Study Centre, Ijokodo	222	29	251
	Total		**624**	**32**	**656**

Source: Administrative Office (National Open University of Nigeria), 2018.

Sample and Sampling Technique

A total sample of 248 respondents was selected from a total population of 656 respondents. This comprised 236 students and 12 facilitators of business education. The sample was drawn proportionately from the two study centres respectively. The sample for the study was obtained using Taro Yamane formula

In order to ensure that population of the study is properly representative, stratified random sampling technique was used for the selection of samples from the population. Each of the study centres was selected based on its size, using students and facilitators as strata. Simple random sampling was used to select respondents from each study centre. The details of the sample size of the study are as given in Table 2.

Table 2: Sample Size of the Study

S/No.	State	Study Centres	Number Of Business Education Students (37.8%)	Number Of Business Education Facilitators (37.8%)	Total
1.	Kwara State	Ilorin Study Centre, Kulende	152	1	**153**
2.	Oyo State	Ibadan Study Centre, Ijokodo	84	11	**95**
	Total		**236**	**12**	**248**

Source: Researcher's design

Instrument for Data Collection

Structured online and offline questionnaires were used; students and facilitators had different structure of questionnaire under the same heading. The reason for designing two questionnaires is because there were slight variations in the questions. The instrument was titled "Perceived Influence of M-Learning on the Teaching and Learning of Business Education Courses Questionnaire (PIMLTLBECQ)". The questionnaire is made up of two parts. Part A: consists of bio-data of the respondents. Part B: consisted of section A to E,

Section A contains seven (7) constructs on mobile learning platforms usefulness to business education students and their facilitators, Section B contains ten (10) constructs on mobile devices usefulness to business education students and their facilitators, Section C contains ten (10) questionnaire items on students constructs and five (5) questionnaire items on facilitators constructs on benefits obtained from mobile learning by business education students and their facilitators, Section D contains eight (8) questionnaire items on students constructs and six (6) questionnaire items on facilitators constructs on mobile learning interactions among students and their facilitators, Section E contains eight (8) constructs on mobile learning and students' academic performance.

4-points rating scale of High Extent (HE) 4 points, Moderate Extent (ME) 3 points, Low Extent (LE) 2 points, No Extent (NE) 1 point was used for Section A, B, D and E, while 4-points rating scale of Strongly Agreed (SA) 4 points, Agreed (A) 3 points, Disagreed (D) 2 points, Strongly Disagreed (SD) 1 point was used for Section C.

Validity of the Instrument

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. To establish content validity of the test items, validates were requested to ascertain the clarity of items, simplicity of vocabulary and relevance of items to the study. Copies of the research topic, purpose of the study, research questions and research hypotheses together with the draft questionnaire were given to the experts. The experts examined and scrutinized the contents, based on relevance, suitability, item clarity and coverage of what the study purported to cover. They made necessary corrections and suggestions which formed the basis for the modification of the draft and final production of the instrument which was approved by the project supervisor.

Reliability of the Instrument

The researcher conducted a pilot study at National Open University of Nigeria Study Centre, Osogbo. Twenty copies of questionnaires were administered on students and their facilitators in National Open University, Osogbo Study Centre. The reason for this choice is because the study centre is outside Kwara and Oyo State but shared similar characteristics with the study area. Data generated from the pilot study was used to determine the reliability of the instrument and was analysed using Cronbach Alpha reliability method to determine the internal consistency of the instrument.

The Cronbach Alpha coefficient calculated for the study was 0.76. This coefficient was high and positive, therefore, the instrument was adjudged reliable for this study based on the position of Amoor (2014) that a test result with a coefficient value of 0.75, should be adjusted as reliable, internally consistent and valid for the study.

Procedure for Data Collection

An introductory letter was collected from the Department of Business and Entrepreneurship Education, College of Education, Kwara State University, Malete, to seek permission from the selected study centres where the data for the study was collected. Online questionnaire was used for the facilitators while offline questionnaire was adopted for the students.

Procedure for Data Analysis

The data collected was 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.

Decision Rule

For the research questions, responses was analysed as follows;

0.00	-	1.49	No extent
1.50	-	2.49	Low extent
2.50	-	3.49	Moderate extent
3.50	-	4.00	High extent

For the test of hypotheses, if the observed alpha level is equal or greater than the fixed alpha level, the hypothesis was to be rejected, if the observed alpha level is less than the fixed alpha level; the hypothesis is to be accepted, meaning that there is no significant difference.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This research work was conducted to determine the perceived influence of m-learning on the teaching and learning of business education courses in National Open University of Nigeria study centres. A total 248 copies of the questionnaire were distributed while 241 copies of the questionnaire were retrieved. The breakdown of the retrieved questionnaires was 236 (100%) students and 5 (42%) facilitators of business education. The presentations were organized according to research questions and null hypotheses that guided the study. They were presented under the following sub-headings:

- Analysis of Demographic data
- Analysis of Research Questions
- Hypotheses Testing
- Summary of the Major Findings
- Discussion of Major findings

Analysis of Demographic data

The demographic data for the study were analysed in Table 3 to 5 as follows:

Table 3: Percentage distribution of respondents by gender

Gender	Students		Facilitator		Total	
	Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**	**Frequency**	**Percentage (%)**
Male	107	45.3	5	100	112	46. 47
Female	122	51.7	-	-	122	50.62
Not Specified	7	3.0	-	-	7	2.91
Total	**236**	**100**	**5**	**100**	**241**	**100**

Source: Field survey, 2018.

Table 3 reveals the frequency and percentages of male and female students and facilitator used for the study. There are 107 (45.3 %) male and 122 (51.7%) female students, while 7 (3%) respondents did not specify their sex. The table also reveals that five (100 %) male and zero (0%) female facilitators of business education at Ibadan and Ilorin centres responded to the questionnaires. This implies that the female students were more than the male students offering business education in National Open University of Nigeria in Ibadan and Ilorin study centres while male facilitators were more than the female facilitators teaching business education courses in the selected study centres.

Table 4: Percentage distribution of respondents by study centre

Study Centre	Students		Facilitator		Total	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Ilorin	152	64.4	1	20	153	63. 49
Ibadan	84	35.6	4	80	88	36.51
Total	**236**	**100**	**5**	**100**	**241**	**100**

Source: Field survey, 2018

Table 4 shows the frequency and percentages of respondents from Ibadan and Ilorin study centres. 84 (35.6%) business education students were in Ibadan study centre, 152 (64.4%) business education students in Ilorin study centre while four (80%) business education facilitators at Ibadan study centre and one (20%) business education facilitator at Ilorin study centres responded to the questionnaires. This implies that students at Ilorin study centre were more than students at Ibadan study centre while facilitators at Ibadan study centre were more than facilitators at Ilorin study centre.

Table 5: Percentage distribution of respondents by Category

Category	Frequency	Percentage (%)
Students	236	98
Facilitators	5	2
Total	**241**	**100**

Source: Field survey, 2018.

Table 4 revealed 236 (98%) students responded to the questionnaire, while five (2%) facilitators responded to the questionnaire.

Analysis of Research Questions

The data to answer the research questions of the study were analysed and the results presented in tables 6 to 15 as follows:

Research Question One: To what extent are mobile learning platforms perceived to be useful to business education students and their facilitators in National Open University of Nigeria Study Centres?

Table 6: Mean and standard deviation of responses on the extent to which mobile learning platforms are perceived to be useful to 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
	Grand mean	**3.29**	**1.22**	**Moderate extent**

Source: Field Survey, 2018.

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

Table 7: Mean and standard deviation of responses on the extent to which mobile learning platforms are perceived to be useful to 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
	Grand mean	**2.74**	**1.11**	**Moderate extent**

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 ($\overline{X}$ = 3.60). Five of the items listed were rated as moderate extent. These include: Weblogs ($\overline{X}$ = 2.60), Wikis ($\overline{X}$ = 2.60), Twitter ($\overline{X}$ = 3.00), YouTube ($\overline{X}$ = 2.60) and Skype ($\overline{X}$ = 2.60). One of the listed items was rated as Low extents which is Google Hangout ($\overline{X}$ = 2.20). The grand mean is 2.74 which fall within the range of moderate extent.

Research Question Two: To what extent are mobile devices perceived to being used by business education students and their facilitators in National Open University of Nigeria Study Centres?

Table 8: Mean and standard deviation of responses on the extent to which mobile devices perceived to being used by business education students

S/No	Item Statements	Mean	SD	Remark
1.	I prefer to read soft copy lecture notes using 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 ideas	3.53	0.75	High extent
6.	I use mobile devices in order to be 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 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
	Grand mean	**3.51**	**0.78**	**High extent**

Source: Field Survey, 2018

Seven of the items listed were rated as being used to High extent. These included: "I use mobile devices to share online assignment" ($\overline{X}$ = 3.63), "I use mobile devices for receiving instant feedback" ($\overline{X}$ = 3.61), "I use mobile devices in constructing new ideas" ($\overline{X}$ = 3.53), "I use mobile devices in order to be creative" ($\overline{X}$ = 3.52), "I use mobile devices to enhance my learning" ($\overline{X}$ = 3.56), "I use mobile devices to access the web" ($\overline{X}$ = 3.61) and "I use mobile devices to make learning enjoyable" ($\overline{X}$ = 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” ($\overline{X}$ = 3.33), “I use mobile devices to improve my interest in the subject content” ($\overline{X}$ = 3.43) and “I use using mobile devices to play educative digital music files” ($\overline{X}$ = 3.31). The grand mean is 3.51 which fall within the range of high extent.

Table 9: Mean and standard deviation of responses on the extent to which mobile de vices perceived to being used 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
	Grand mean	**3.48**	**0.77**	**Moderate extent**

Source: Field Survey, 2018

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” ($\overline{X}$ = 3.60), “I use mobile devices to share online assignment” (mean 3.60), “I use mobile devices for receiving instant feedback” ($\overline{X}$ = 3.80), “I use mobile devices in order to be creative” ($\overline{X}$ =

3.60), "I use mobile devices to access the web" ($\overline{X}$ = 3.80) and "I use mobile devices to make learning enjoyable" ($\overline{X}$ = 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" ($\overline{X}$ = 3.00), "I use mobile devices in constructing new ideas" ($\overline{X}$ = 3.40), "I use mobile devices to enhance my teaching" ($\overline{X}$ = 3.20) and "I use using mobile devices to send educative digital music files" ($\overline{X}$ = 3.00). The grand mean is 3.48 which fall within the range of moderate extent.

Research Question Three: What benefits are perceived to be obtained from mobile learning by business education students and their facilitators in National Open University of Nigeria Study Centres?

Table 10: Mean and standard deviation of responses on benefits perceived to be obtainable from mobile learning by business education student

S/No	Item Statements	Mean	SD	Remark
1.	Mobile learning expands the reach and quality of my learning	3.59	0.57	Strongly Agreed
2.	Mobile learning provides me immediate feedback and assessment	3.60	0.56	Strongly Agreed
3.	Mobile learning ensures productive use of my time spent on my study	3.47	0.67	Agreed
4.	Mobile learning provides me with student centred learning approach	3.42	0.69	Agreed
5.	Mobile learning brings me new opportunities of learning.	3.62	0.61	Strongly Agreed
6.	Mobile Learning helps me learn anytime anywhere	3.78	0.49	Strongly Agreed
7.	Mobile Learning increases my motive to learning	3.54	0.67	Strongly Agreed
8.	Mobile learning helps me understand the subject content more in-depth, quicker and better	3.38	0.69	Agreed
9.	Mobile learning enables me to tackle problems that are completely new	3.39	0.73	Agreed
	Grand mean	**3.53**	**0.63**	**Strongly Agreed**

Source: Field Survey, 2018

Five of the items listed were rated as Strongly Agreed. These included: "Mobile learning expands the reach and quality of my learning" ($\overline{X}$ = 3.59), "Mobile learning provides me immediate feedback and assessment" ($\overline{X}$ = 3.60), "Mobile learning brings me new opportunities of learning" ($\overline{X}$ = 3.62), "Mobile Learning helps me learn anytime anywhere" ($\overline{X}$ = 3.78) and "Mobile learning increases my motive to learning" ($\overline{X}$ = 3.54). Four of the items listed were ranked as agreed. These included: "Mobile learning ensures productive use of my time spent on my study" ($\overline{X}$ = 3.47), "Mobile learning provides me with student centred learning approach" ($\overline{X}$ = 3.42), "Mobile learning helps me understand the subject content more in-depth, quicker and better" ($\overline{X}$ = 3.38) and "Mobile learning enables me to tackle problems that are completely new" ($\overline{X}$ = 3.39). The grand mean is 3.53 which fall within the range of strongly agreed.

Table 11: Mean and standard deviation of responses on benefits perceived to be obt ainable from mobile learning by business education facilitators

S/No	Item Statements	Mean	SD	Remark
1.	Mobile learning complements my teaching	3.80	0.45	Strongly Agreed
2.	Mobile learning allows me to bring current information into my teaching	3.80	0.45	Strongly Agreed
3.	Mobile learning increases my productivity	3.80	0.45	Strongly Agreed
4.	I use mobile devices to support my teaching	3.80	0.45	Strongly Agreed
5.	Mobile learning provides variety in instruction and in content for my teaching	3.80	0.45	Strongly Agreed
	Grand mean	**3.80**	**0.45**	**Strongly Agreed**

Source: Field Survey, 2018

All of the items listed were rated as Strongly Agreed. These included: "Mobile learning complements my teaching" ($\overline{X}$ = 3.80), "Mobile learning allows me to bring current information into my teaching" ($\overline{X}$ = 3.80), "Mobile learning increases my productivity" ($\overline{X}$ =

3.80), "I use mobile devices to support my teaching" ($\overline{X}$ = 3.80) and "Mobile learning provides variety in instruction and in content for my teaching" ($\overline{X}$ = 3.80). The grand mean is 3.80 which fall within the range of strongly agreed.

Research Question Four: 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 12: 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 will improve 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
	Grand mean	**3.50**	**0.76**	**High extent**

Source: Field Survey, 2018

Three of the items listed were rated as High extent. These included: "Mobile learning will improve communication between students and facilitators" ($\overline{X}$ = 3.59), "Mobile learning is a quicker method of getting feedback in learning" ($\overline{X}$ = 3.60) and "M-learning helps me to

share information with other students" ($\overline{X}$ = 3.65). Five of the items listed were ranked as Moderate extent. These included: "Mobile learning helps to solve the problems caused by the absence of students" ($\overline{X}$ = 3.41), "Mobile learning breaks down psychological barriers between students and facilitators" ($\overline{X}$ = 3.40), "Mobile learning is a way of encouraging more interaction by students and facilitator" ($\overline{X}$ = 3.48), "Mobile learning reduces the distance between teacher and students, thereby reducing students' pressure" ($\overline{X}$ = 3.43) and "Mobile learning enables me to play back audio and video lecture Interactions" ($\overline{X}$ = 3.45). The grand mean is 3.50 which fall within the range of High extent.

Table 13: Mean and standard deviation of responses on the extent to which mobile learning perceive to enhance interaction among students and facilitators (FACILITATOR)

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 will improve 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
	Grand mean	**3.63**	**0.53**	**High extent**

Source: Field Survey, 2018

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" ($\overline{X}$ = 3.60), "Mobile learning will improve communication between student and facilitators" ($\overline{X}$ = 3.60), "Mobile learning is a quicker method of getting feedback in teaching" ($\overline{X}$ = 3.80), "M-learning breaks down psychological barriers between students and facilitators" ($\overline{X}$ = 3.60), "Mobile learning is a way of encouraging more interaction by students and facilitators" ($\overline{X}$ = 3.60) and "Mobile learning reduces the distance between teacher and students, thereby reducing facilitator's pressure" ($\overline{X}$ = 3.60). The grand mean is 3.63 which fall within the range of High extent.

Research Question Five: To what extent do students perceived mobile learning as enhancing their academic performance in National Open University of Nigeria Study Centres?

Table 14: Mean and standard deviation of responses on the extent to which mobile l earning was perceived to enhance students' academic performance (STUDENT)

S/No	Item Statements	Mean	SD	Remark
1.	I found mobile learning useful in my learning	3.73	0.55	High extent
2.	Mobile learning enables me to accomplish learning activities more quickly.	3.57	0.63	High extent
3.	Mobile learning increases my learning productivity.	3.56	0.65	High extent
4.	Mobile learning increases my chances of getting a better grade	3.41	0.71	Moderate extent
5.	Using mobile in teaching increases academic achievement for students	3.45	0.80	Moderate extent
6.	Mobile learning helps in my educational attainment	3.46	0.64	Moderate extent
7.	Using mobile learning make it easy for me to become skilful in business	3.50	0.74	High extent
8.	Mobile learning establishes a bridge between the formal and informal learning spaces which affords learners the opportunity to interpret and apply what is learnt	3.40	0.77	Moderate extent
	Grand mean	**3.51**	**0.69**	**High extent**

Source: Field Survey, 2018

Half of the items listed were rated as High extent. These included: "I found mobile learning useful in my learning" ($\overline{X}$ = 3.73), "Mobile learning enables me to accomplish learning activities more quickly" ($\overline{X}$ = 3.57), "Mobile learning increases my learning productivity" ($\overline{X}$ = 3.56) and "Using mobile learning make it easy for me to become skilful in business" ($\overline{X}$ = 3.50). Other half of the items listed were ranked as Moderate extent. These included: "Mobile learning increases my chances of getting a better grade" ($\overline{X}$ = 3.41), "Using mobile in teaching increases academic achievement for students" ($\overline{X}$ = 3.45), "Mobile learning helps in my educational attainment" ($\overline{X}$ = 3.46) and "Mobile learning establishes a bridge between the formal and informal learning spaces which affords learners the opportunity to interpret and apply what is learnt" ($\overline{X}$ = 3.40). The grand mean is 3.51 which fall within the range of High extent.

Table 15: Mean and standard deviation of responses on the extent to which mobile l earning was perceived to enhance students' academic performance (FACILITATOR)

S/No	Item Statements	Mean	SD	Remark
1.	I found mobile learning useful in my students learning	3.60	0.55	**High extent**
2.	Mobile learning enables my students to accomplish learning activities more quickly.	3.60	0.55	**High extent**
3.	Mobile learning increases my students' productivity.	3.60	0.55	**High extent**
4.	Mobile learning increases my students chances of getting a better grade	3.60	0.55	**High extent**
5.	Using mobile learning in teaching increases academic achievement of my students	3.40	0.55	**Moderate extent**
6.	Mobile learning helps in my students educational attainment	3.40	0.89	**Moderate extent**
7.	Using mobile learning makes it easy for my students to become skilful in business	3.40	0.89	**Moderate extent**
8.	Mobile learning is a way to enhance/encourage my stu dents self-directed learning	3.60	0.55	**High extent**
	Grand mean	3.53	0.64	**High extent**

Source: Field Survey, 2018

Five of the items listed were rated as High extent. These included: "I found mobile learning useful in my students learning" ($\overline{X}$ = 3.60), "Mobile learning enables my students to accomplish learning activities more quickly" ($\overline{X}$ = 3.60), "Mobile learning increases my students' productivity" ($\overline{X}$ = 3.60), "Mobile learning increases my students' chances of getting a better grade" ($\overline{X}$ = 3.60) and "Mobile learning is a way to enhance/encourage my students' self-directed learning" ($\overline{X}$ = 3.60). Three of the items listed were ranked as Moderate extent. These included: "Using mobile learning in teaching increases academic achievement of my students" ($\overline{X}$ = 3.40), "Mobile learning helps in my students' educational attainment" ($\overline{X}$ = 3.60) and "Using mobile learning makes it easy for my students to become skilful in business" ($\overline{X}$ = 3.60). The grand mean is 3.53 which fall within the range of High extent.

Hypotheses Testing

The five null hypotheses of the study were tested using independent t-test. The null hypotheses were tested at 0.05 level of significance. The summary of the test of hypotheses are presented in Tables 16 to 20 as follows:

H_{01}: 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.

Table 16: 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				

Source: Field survey, 2018. P>0.05

The data in Table 16 reveals that there are 236 students and five facilitators of national Open University of Nigeria Study Centres. The students and facilitators responses showed that there is moderate perceptive of business education students and their facilitators on the mobile learning platforms usefulness (mean = 3.29; SD = 1.21) and (mean = 2.74; SD = 1.11). Their responses are close to the mean as the standard deviations are very low. The table reveals 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 (t_{239} = 0.892, P=0.423). Therefore, 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. Though there was a slight difference between their mean responses with students having higher mean but the difference was not statistically significant (mean difference = 0.55).

$H_{02:}$ There is no significant difference between the mean response of business education students and their facilitators on the extent of usage of mobile devices in National Open University of Nigeria Study Centres.

Table 17: 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				

Source: Field survey, 2018. P>0.05

The data in Table 17 reveals that there are 236 students and five facilitators of national Open University of Nigeria Study Centres. 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). Their responses are close to the mean as the standard deviations are very low. The table reveals that there is no significant difference between the mean responses of business education students and their facilitators on the extent of usage of mobile devices in National Open University of Nigeria Study Centres. (t_{239} = 0.881, P=0.428). Therefore, 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 usage of mobile devices in National Open University of Nigeria Study Centres was supported. This 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. Though there was a slight difference between their mean responses with students having higher mean but the difference was not statistically significant (mean difference = 0.03).

$H_{03:}$ There is no significant difference between the mean responses of male and female respondents on the benefits derived from mobile learning in National Open University of Nigeria Study Centres.

Table 18: Summary of t-test on the difference between the mean responses of male and female respondents on the benefits derived from mobile learning

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Male	112	3.45	0.54				
				0.204	232	0.838	NS
Female	122	3.55	0.65				

Source: Field survey, 2018. P>0.05

The data in Table 18 reveals that there are 112 males and 122 females of both students and facilitators of National Open University of Nigeria Study Centres. The male and female responses shows that benefits are moderately derived from mobile learning (mean = 3.45; SD = 0.54) and (mean = 3.55; SD = 0.65). Their responses are close to the mean as the standard deviations are very low. The table reveals that there is no significant difference between the mean responses of male and female respondents on the benefits derived from mobile learning in National Open University of Nigeria Study Centres.(t_{239} = 0.204, P=0.838). Therefore, the null hypothesis that stated that there is no significant difference between the mean responses of male and female respondents on the benefits derived from mobile learning in National Open University of Nigeria Study Centres was supported. This implies that male and female did not differ majorly in their responses regarding the benefits derived from mobile learning. Though there was a slight difference between their mean responses with female having higher mean but the difference was not statistically significant (mean difference = 0.10).

$H_{04:}$ 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 19: 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				

Source: Field survey, 2018. P>0.05

The data in Table 19 reveals that there are 112 males and 122 females of both students and facilitators of national Open University of Nigeria Study Centres. The male and female responses showed that there is high perceived influences of mobile learning on interaction among students and facilitators (mean = 3.55; SD = 0.63) and (mean = 3.51; SD = 0.78). Their responses are closed to the mean as the standard deviations are very low. The table revealed 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 (t_{232} =0.433 , P=0.666). Therefore, the 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. This implies that male and female did not differ significantly in their responses regarding perceived influences of mobile learning on interaction among students and facilitators. Though there was a slight difference between their mean responses with male having higher mean but the difference was not statistically significant (mean difference = 0.04).

$H_{05:}$ There is no significant difference between respondents in Kwara and Oyo study centres on the extent to which mobile learning is perceived to enhance students' academic performance in National Open University of Nigeria Study Centres.

Table 20: Summary of t-test on the between respondents in Kwara and Oyo study centres on the extent to which mobile learning is perceived to enhance students' academic performance

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Ibadan Study Center	88	3.55	0.67	0.636	239	0.527	NS
Ilorin Study Center	153	3.34	0.67				

Source: Field survey, 2018. P>0.05

The data in Table 20 reveals that there are 88 Ibadan Study Center respondents and 153 Ilorin Study Center respondents of both students and facilitators of national Open University of Nigeria Study Centres. The Ibadan Study Center respondents and Ilorin Study Center respondents responses showed that there is moderate influence of mobile learning on students' academic performance (mean = 3.55; SD = 0.67) and (mean = 3.34; SD = 0.67). Their responses are closes to the means as the standard deviations are very low. The table reveals that there is no significant difference between respondents in Kwara and Oyo study centres on the extent to which mobile learning is perceived to enhance students' academic performance in National Open University of Nigeria Study Centres (t_{239} = 0.636, P=0.527). Therefore, the null hypothesis that states that there is no significant difference between respondents in Kwara and Oyo study centres on the extent to which mobile learning is perceived to enhance students' academic performance in National Open University of Nigeria Study Centres was supported. This implies that Ibadan Study Center respondents and Ilorin Study Center respondents did not differ in their responses regarding the perception on influence of mobile learning on students' academic performance. Though there was a slight difference between their mean responses with Ilorin Study Center respondents having higher mean but the difference was not statistically significant (mean difference = 0.21).

Summary of the Major Findings

The following are the major findings of the study:

1. Mobile learning platforms were moderately useful to business education students and facilitators in National Open University of Nigeria Study Centres.
2. Mobile devices had been highly used by business education students and moderately used by facilitators in National Open University of Nigeria Study Centres.
3. Business education students and their facilitators strongly agreed on benefits obtainable from mobile learning in National Open University of Nigeria Study Centres.

4. Mobile learning highly enhances interaction among students and facilitators in National Open University of Nigeria Study Centres.
5. Mobile learning highly enhances students' academic performance in National Open University of Nigeria Study Centres.
6. There was 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.
7. There was no significant difference between the mean responses of business education students and their facilitators on the extent of usage of mobile devices in National Open University of Nigeria Study Centres.
8. There was no significant difference between the mean responses of male and female respondents on the benefits derived from mobile learning in National Open University of Nigeria Study Centres.
9. There was 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..
10. There was no significant difference between respondents in Kwara and Oyo study centres on the extent to which mobile learning is perceived to enhance students' academic performances in National Open University of Nigeria Study Centres.

Discussion of Major 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 benefits of m-learning on students' academic performance. Tables 6 and 7 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) 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 8 and 9 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 it 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 the course's learning content provided via Mobile Learning was much better.

Tables 10, 11 and 18 presented the perceived benefits obtainable from mobile learning by business education students and their facilitators in National Open University of Nigeria Study Centres. More than 73% of both facilitators and students agreed with all the benefits of mobile learning as listed in Research Question 3. However, Cheung (nd) had a divergent opinion; his findings claimed that respondents realized no perceived benefits by using Internet learning. More so, This study utmost benefits obtainable from mobile learning by business education students and their facilitators in National Open University of Nigeria Study Centres is the ability of mobile learning as it helps respondents to learn anytime and anywhere. Amiaya and Ranor (2015) claimed that the greatest benefits to the students to adopt m-learning in OTM was their perception in its mobility feature of anywhere, anytime as m-learning provides an atmosphere that takes learning outside the classroom and even remote places.

Tables 12 and 13 presented 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

Tables 14 and 15 presented the perception on the extent to which mobile learning enhances students' academic performance in National Open University of Nigeria Study Centres. The study reveals that mobile learning enhance students' academic performance in National Open University of Nigeria Study Centres to a high extent. It was also ascertained by Twum (2014) that there was also a moderately positive relationship between technologies and academic performance. The findings of the study revealed that m-learning establishes a bridge between the formal and informal learning spaces which affords learners the opportunity to interpret and apply what is learnt, the findings also was supported by Amiaya and Ranor (2015). However, Williams (2009) findings negate this as it found that participants in the Face-to-Face outperformed M-Learning students. This may be because participants were more familiar with face-to-face than mobile leaning.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter was presented under the following sub-headings:

- Summary
- Conclusion
- Recommendations
- Limitation of the study
- Suggestion for further study

Summary

The study was carried out to assess the perceived influence of m-learning on the teaching and learning of business education courses in National Open University of Nigeria Study Centres. In order to achieve the objective of the study, five specific purposes were raised which included, to determine the perceived benefits obtainable from mobile learning by business education students and facilitators in National Open University of Nigeria Study Centres, establish the extent to which mobile learning is perceived to enhance interaction of students and facilitators in National Open University of Nigeria Study Centres and to determine respondents perception on the extent to which mobile learning enhances students' academic performance in National Open University of Nigeria Study Centres. In line with these purposes, five research questions were raised to guide the study and five research hypotheses were tested at 0.05 level of significance. Descriptive survey research design was used for the study. A total sample of 248 respondents was selected from a total population of 656 respondents. This comprised 236 students and 12 facilitators of National Open University of Nigeria Study Centres. The sample was drawn proportionately from the two study centres respectively. Stratified random sampling technique was used for the selection of samples from the population. The results of the study were summarized as follows:

Mobile learning platforms 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 utmost benefits obtainable from mobile learning by business education students and their facilitators as it based on the fact that it helps respondents to learn anytime and anywhere. 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. The findings of the study revealed that m-learning establishes a bridge between the formal and informal learning spaces which affords learners the opportunity to interpret and apply what is learnt.

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 benefits to students' academic performance. This means that teaching and learning with the mobile devices and platforms positively influences the academic performance of business education students 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 conclusion drawn, the following recommendations were made:

1. There is need for government to conduct regular sensitization programmes on mobile learning for educational stakeholders in curriculum development.

2. There is need for curriculum planners to incorporate mobile devices usage right from the unset of education
3. Business education teachers should integrate the use mobile learning and devices as it enhances academic performance of business education students.
4. There is need for all publishers to incorporate digital academic textbooks and materials in their publishes

Limitation of the study

Despite thorough explanations made by the researcher and the research assistants concerning the filling of the questionnaires, some of the questionnaire items were not accurately filled by some respondents. Secondly all efforts made by the researcher and research assistants to ensure that the online questionnaire have the desired feedback was not effective as while 12 copies of the questionnaires were administered to the facilitators only five questionnaires were retrieved online which represents 42% of the questionnaires administered to the facilitator. The five completed and filled questionnaires were used to analyze the facilitator's data. However, these limitations did not significantly affect the quality of the study.

Suggestion for further study

1. Similar studies can be conducted in study centres in other parts of the country to serve as a basis for comparison of the findings of the study.
2. Similar studies can also be conducted in other educational institutions apart from the National Open University.
3. Studies can be conducted on the influence of m-learning in basic and secondary business education subjects.

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APPENDIX A

Letter of Introduction

Titus Amodu Umoru, PhD, (FABEN)
Associate Professor of Business Education
Head of Department
Department of Business & Entrepreneurship Education
COLLEGE OF EDUCATION
KWARA STATE UNIVERSITY, MALETE
The University for Community Development
P.M.B. 1530, Ilorin, Kwara State, Nigeria

Phone:
08033519030
08059272084
email:
umoruglo@yahoo.com
titus.umoru@kwasu.edu.ng

Date: 07/11/2017

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.....

.....

Dear Sir/Madam

Student's Dissertation Work in partial fulfillment of the requirement for the award of Postgraduate Degree in Business Education

This is to introduce to you MUTIYAT OMOLARA SALAM• (with matriculation no: 16/27/MBE024), a postgraduate student in the Department of Business and Entrepreneurship Education, Kwara State University Malete.

In partial fulfillment of the requirement for the award of M.Sc. in Business Education, the bearer is conducting a research on: Perceived Influence of Mobile Learning on the Teaching and Learning of Business Education Courses in National Open University in Kwara and Oyo State Study Centres.

We therefore solicit your assistance to enable him successfully conclude his investigation.

We assure you that any information given to the students will not be used for any other purpose except for the stated intention.

Thank you

Associate Professor T.A. Umoru
Head of Department

APPENDIX B

Letters to the Study Centres

Business and Entrepreneurship Education,
Kwara State University,
Malete, Kwara State.
5th December, 2017.

To The Study Center Director,
Ibadan Study Center.

Dear sir/ma,

Request for Data in Support of Students Dissertation Work in Partial Fulfillment of the Requirements for the Award of Postgraduate Degree in Business Education

I, Mutiyat Omolara Salam of the above university hereby embark on a research "Perceived Influence of Mobile Learning on the Teaching and Learning of Business Education Courses in National Open University in Ilorin Study Center, Kwara State".

I hereby request for the number of business education students in 100 Level to 400 Level and the number of their facilitators.

The researcher assures that any information provided by the institution will be strictly used for research purpose only.

I will be grateful if my request is granted.

Thanks.

Yours faithfully,

Mutiyat Omolara Salam.

NATIONAL OPEN UNIVERSITY OF NIG. IBSC REGISTRY
10 APR 2018
RECEIVED

10/4/18
SAR

Business and Entrepreneurship Education,
Kwara State University,
Malete, Kwara State.
13th December, 2017.

To The Study Center Director,
Ilorin Study Center.

Dear sir/ma,

Request for Data in Support of Students Dissertation Work in Partial Fulfillment of the Requirements for the Award of Postgraduate Degree in Business Education

I, Mutiyat Omolara Salam of the above university hereby embark on a research "Perceived Influence of Mobile Learning on the Teaching and Learning of Business Education Courses in National Open University in Ilorin Study Center, Kwara State".

I hereby request for the number of business education students in 100 Level to 400 Level and the number of their facilitators.

The researcher assures that any information provided by the institution will be strictly use for research purpose only.

I will be grateful if my request is granted.

Thanks.

Yours faithfully,

Mutiyat Omolara Salam.

'A'
Noted & Approved
14/12/17

APPENDIX C

Department of Business and Entrepreneurship Education

College of Education,

Kwara State University, Malete.

Date ----------

Dear Sir,

REQUEST FOR FACE AND CONTENT VALIDATION OF RESEARCH INSTRUMENT

I am a postgraduate student of Business Education in the Department of Business and Entrepreneurship Education, Kwara State University, Malete. I am presently carrying out a research on "Perceived influence of M-Learning on the teaching and learning of business education courses in National Open University of Nigeria Study Centers".

I sincerely hope you will consent to carry out face and content validation of the attached draft copies of the (PIMLTLBECQ) as your validation will be useful in this research, which is purely for academic purpose.

Thanks for your cooperation.

Yours faithfully,

Mutiyat Omolara Salam
RESEARCHER

APPENDIX D

Department of Business and Entrepreneurship Education,

College of Education,

Kwara State University, Malete.

Date ……..

Dear Sir,

CONFIRMATION OF FACE AND CONTENT VALIDATION OF RESEARCH INSTRUMENT

Your letter on the above mentioned subject matter refers. I_____ of the Department of _____

Kwara State University, Malete, hereby certified that I carried out face and content validity of the attached instrument on "perceived influence of m-learning on the teaching and learning of business education courses in National Open University of Nigeria Study Centres"

Thanks.

Yours Sincerely

Prof. T. A. Umoru
RESEARCH INSTRUMENT VALIDATOR

APPENDIX E

Department of Business and Entrepreneurship Education

College of Education,

Kwara State University, Malete.

June, 2018.

Dear Respondent,

REQUEST TO FILL QUESTIONNAIRE

I am a Master's Degree student (Business Education) of Kwara State University, Malete, conducting a research on "Perceived influence of M-Learning on the teaching and learning of business education courses in National Open University of Nigeria Study Centres".

The attached questionnaire is designed to gather data for the study and it is purely for academic purpose. Please, kindly complete the questionnaire and return to the researcher or research assistant.

The researcher assures that any information provided by the respondent will be strictly used for research purpose only.

Thank you for sparing time from your tight schedules to complete the questionnaire.

Yours faithfully,

_____

Mutiyat Omolara Salam
16/27/MBE024

REQUEST TO FILL QUESTIONNAIRE (Facilitator's Copy)

I've invited you to fill out a form:

Influence of M-Learning on the Teaching and Learning of Business Education Courses Questionnaire (IMLTLBECQ)

I am a Master's Degree student of Kwara State University, Malete, conducting a research on the above tittle. The questionnaire is designed to gather data for the study and it is purely for academic purpose. Please kindly complete the questionnaire, the researcher assures that any information provided by the respondent will be strictly used for research purpose only. Thank you for sharing time from your tight schedules to complete the questionnaire.

APPENDIX F

Perceived Influence of M-Learning on the Teaching and Learning of Business Education Courses Questionnaire (PIMLTLBECQ)

Students Questionnaire

PART: A Personal Data of Respondents (Please tick appropriately)

Gender: Male ( ) Female ( )

Study Centre: Ilorin ( ) Ibadan ( )

PART: B

Below are statements relating to perceived Influence of M-Learning on the teaching and learning of business education courses. (Please, tick in the column that best expresses your opinion about the statement using the opinions below)

HE - High Extent

ME - Moderate Extent

LE - Low Extent

NE - No Extent

Section A:

Mobile Learning Platforms Usefulness to Business Education Students

S/No	**Questionnaire Items**	HE	ME	LE	NE
Indicate to what extent the following mobile learning platforms are useful for your learning					
1.	Weblogs				
2.	Wikis				
3.	Twitter				
4.	YouTube				
5.	Google Hangout				
6.	WhatsApp				
7.	Skype				

Section B:

Mobile Devices Usefulness to Business Education Students

S/No	**Questionnaire Items**	HE	ME	LE	NE
Indicate to what extent the following statements are true					
1.	I prefer to read soft copy lecture notes using devices rather than hard copy because of its portability				
2.	I use mobile devices to improve my interest in the subject content				
3.	I use mobile devices to Share online assignment				
4.	I use mobile devices for receiving instant feedback				
5.	I use mobile devices in constructing new ideas				
6.	I use mobile devices in order to be creative				
7.	I use mobile devices to enhance my learning				
8.	I use using mobile devices to play educative digital music files				
9.	I use mobile devices to access the web				
10.	I use mobile devices to make learning enjoyable				

Section C:

Please tick as appropriate

SA - Strongly Agreed

A - Agreed

D - Disagreed

SD - Strongly Disagreed

Benefits Obtained from Mobile Learning by Business Education Students

S/No	Questionnaire Items	SA	A	D	SD
1.	Mobile learning expands the reach and quality of my learning				
2.	Mobile learning provides me immediate feedback and assessment				
3.	Mobile learning ensures productive use of my time spent on my study				
4.	Mobile learning provides me with student centred learning approach				
5.	Mobile learning brings me new opportunities of learning.				
6.	Mobile Learning helps me learn anytime anywhere				
7.	Mobile Learning increases my motive to learning				
8.	Mobile learning helps me understand the subject content more in-depth, quicker and better				
9.	Mobile learning enables me to tackle problems that are completely new				

Please tick as appropriate

HE - High Extent

ME - Moderate Extent

LE - Low Extent

NE - No Extent

Section D:

Mobile Learning Interaction among Students and Facilitators

S/No	Questionnaire Items	HE	ME	LE	NE
Indicate to what extent the following statements are true					
1.	Mobile learning helps to solve the problems caused by the absence of students				
2.	Mobile learning will improve communication between students and facilitators				
3.	Mobile learning is a quicker method of getting feedback in learning.				
4.	Mobile learning breaks down psychological barriers between students and facilitators				
5.	Mobile learning is a way of encouraging more interaction by students and facilitator				
6.	Mobile learning reduces the distance between teacher and students, thereby reducing students' pressure				
7.	M-learning helps me to share information with other students				
8.	Mobile learning enables me to play back audio and video lecture Interactions				

Section E:
Mobile Learning and Students' Academic Performance

S/No	Questionnaire Items	HE	ME	LE	NE
Indicate to what extent the following statements are true					
1.	I found mobile learning useful in my learning				
2.	Mobile learning enables me to accomplish learning activities more quickly.				
3.	Mobile learning increases my learning productivity.				
4.	Mobile learning increases my chances of getting a better grade				
5.	Using mobile in teaching increases academic achievement for students				
6.	Mobile learning helps in my educational attainment				
7.	Using mobile learning make it easy for me to become skilful in business				
8.	Mobile learning establishes a bridge between the formal and informal learning spaces which affords learners the opportunity to interpret and apply what is learnt				

Perceived Influence of M-Learning on the Teaching and Learning of Business Education Courses Questionnaire (PIMLTLBECQ)

Facilitators Questionnaire

PART: A Personal Data of Respondents (Please tick appropriately)

Gender: Male ( ) Female ( )

Study Centre: Ilorin ( ) Ibadan ( )

PART: B

Below are statements relating to Perceived Influence of M-Learning in the teaching and learning of business education courses. (Please, tick in the column that best expresses your opinion about the statement using the opinions below)

HE - High Extent

ME - Moderate Extent

LE - Low Extent

NE - No Extent

Section A:

Mobile learning platforms usefulness to business education facilitators

S/No	**Questionnaire Items**	HE	ME	LE	NE
Indicate to what extent the following mobile learning platforms are useful for your teaching					
1.	Weblogs				
2.	Wikis				
3.	Twitter				
4.	YouTube				
5.	Google Hangout				
6.	WhatsApp				
7.	Skype				

Section B:

Mobile devices usefulness to business education facilitators

S/No	Questionnaire Items	HE	ME	LE	NE
Indicate to what extent the following statements are true					
1.	I prefer to prepare soft copy lecture notes using devices rather than hard copy because of its portability				
2.	I use mobile devices to improve my interest in the subject content				
3.	I use mobile devices to Share online assignment				
4.	I use mobile devices for receiving instant feedback				
5.	I use mobile devices in constructing new ideas				
6.	I use mobile devices in order to be creative				
7.	I use mobile devices to enhance my teaching				
8.	I use using mobile devices to send educative digital music files				
9.	I use mobile devices to access the web				
10.	I use mobile devices to make teaching enjoyable				

Section C:

Please tick as appropriate

SA - Strongly Agreed

A - Agreed

D - Disagreed

SD - Strongly Disagreed

Benefits obtained from mobile learning by business education facilitators

S/No	Questionnaire Items	SA	A	D	SD
1.	Mobile learning complements my teaching				
2.	Mobile learning allow me to bring current information into my teaching				
3.	Mobile learning increases my productivity				
4.	I use mobile devices to support my teaching				
5.	Mobile learning provides variety in instruction and in content for my teaching				

Section D:

Mobile learning interaction among students and facilitators

S/No	Questionnaire Items	HE	ME	LE	NE
Indicate to what extent the following statements are true					
1.	Mobile learning helps to solve the problems caused by the absence of facilitators				
2.	Mobile learning will improve communication between student and facilitators				
3.	Mobile learning is a quicker method of getting feedback in teaching.				
4.	M-learning breaks down psychological barriers between students and facilitators				
5.	Mobile learning is a way of encouraging more interaction by students and facilitator				
6.	Mobile learning reduces the distance between teacher and students, thereby reducing facilitator's pressure				

Section E:

Mobile learning and my students' academic performance

S/No	Questionnaire Items	HE	ME	LE	NE
Indicate to what extent the following statements are true					
1.	I found mobile learning useful in my students learning				
2.	Mobile learning enables my students to accomplish learning activities more quickly.				
3.	Mobile learning increases my students' productivity.				
4.	Mobile learning increases my students chances of getting a better grade				
5.	Using mobile learning in teaching increases academic achievement of my students				
6.	Mobile learning helps in my students educational attainment				
7.	Using mobile learning makes it easy for my students to become skilful in business				
8.	Mobile learning is a way to enhance/encourage my stu dents self-directed learning				

Appendix G

Taro Yamane formula

$$n = \frac{N}{1+ N (e)^2}$$

Where:

n = total sample

N = total population

e = 0.05 level of significant

$$n = \frac{656}{1+ 656 (0.05)^2} = 248.485$$

$$\frac{248.485}{656} \times 100 = 37.8\%$$

APPENDIX H

Reliability Statistics

```
RELIABILITY
 /VARIABLES=a1 a2 a3 a4 a5 a6 a7 b1 b2 b3 b4 b5 b6 b7 b8 b9 b10 c1 c2 c3 c4 c5 c6 c7 c8
c9 c10 d1 d2 d3 d4 d5 d6 d7 d8 e1 e2 e3 e4 e5 e6 e7 e8

 /SCALE('ALL VARIABLES') ALL
 /MODEL=ALPHA.
```

Reliability

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.764	43