

**TEACHERS AND STUDENTS' PERCEPTION OF THE CONTRIBUTIONS OF
MOBILE LEARNING TO THE TEACHING AND LEARNING OF BUSINESS STUDIES
IN SECONDARY SCHOOLS IN EKITI STATE, NIGERIA**

Felicia Bosede Kehinde FASAE*

0000-0002-0407-0423

fasae.felicia@coeikere.edu.ng

&

Olutope John EGUNJOBI

0000-0002-0254-3047

egunjobi.john@coeikere.edu.ng

**BUSINESS EDUCATION DEPARTMENT
BAMIDELE OLUMILUA UNIVERSITY OF EDUCATION, SCIENCE AND
TECHNOLOGY, IKERE-EKITI**

Abstract

The study investigated teachers and students' perception of the contributions of mobile learning to the teaching and learning of Business Studies in secondary schools in Ekiti State, Nigeria. The research design for the study is a descriptive research of the survey type. The population for the study comprised teachers and students in 10 Junior Secondary Schools in Ikere Local Government Area, Ekiti State. The sample size was 80 students and 25 teachers, randomly selected across four Junior Secondary Schools in Ikere Local Government Area of Ekiti State. The research instrument used was a self-designed questionnaire titled "Teachers' and students' perception of the contributions of mobile learning to the teaching and learning of business studies in secondary schools in Ekiti State, Nigeria", which was validated by experts in Business Education. The reliability of the instrument was ensured using cronbach alpha method of reliability coefficients of 0.77 and 0.79 were obtained for teachers and students respectively. t-test statistics was used for testing the hypotheses at 0.05 levels of significance. Findings revealed that both students and teachers were aware of the possibility of using mobile learning devices for teaching and learning; it also revealed their perceived contributions of mobile-learning to the effective teaching and learning of business studies in junior secondary schools. Based on the findings, it was concluded that mobile learning is necessary for effective teaching and learning of business studies in secondary schools. It was recommended that school authorities should encourage teachers and students to make use of mobile devices to enhance teaching and learning; Government should encourage and finance the use of mobile learning by teachers and students of business and provide the needed facilities such as stable electricity power supply, conducive classrooms and improve students' learning.

Keywords: Perception, Mobile Learning, Teaching and Learning, Business Studies, Technology Acceptance

*Corresponding Author

Introduction

Education is important to life and a potent tool of change for any societal transformation. However, according to Mostafa, Elsherif and Shaalan (2015), education nature has been changed 360° due to the rapid development of mobile computing devices and internet capabilities. They opined that Mobile learning (M-learning) is a new trend in research that attracts many researchers to explore this technology, study its impacts on students and educators, and develop the required infrastructure. M-learning makes it possible for students to learn, collaborate, and share ideas among each other with the aid of internet and technology development. Kukulska-Hulme (2006) averred that mobile devices have opened up a vast range of possibilities for learning in ways that are convenient and suited to the needs of an individual within the context of their lifestyle. Everyday innovation happens when a person discovers a way of using his or her mobile device to enhance an existing activity, to replace it with something more valued, or to undertake something that would not have been possible before.

Business Studies is one of the basic educational subjects that will enable students acquire further skills which are common and fundamental to personal and occupational activities. Akintola and Alao (2015) noted that at the junior secondary school level, Business studies is presented as relatively integrated subjects. The components are Keyboarding, Shorthand, Commerce, Book keeping and Office Practice. It was opined that the teaching and learning of Business Studies at the junior secondary school level has not achieved its aims and objectives because majority of the students were not equipped with the necessary knowledge, skills, values and attitudes to empower themselves. Consequently, they could neither raise their socio-economic standards nor contribute to nation building. Akintola and Alao's (2015) study evaluated the content and the delivery of Business Studies at the junior secondary school level and found that the curriculum content was partially appropriate but was weak in its methods of implementation. It was also reported that most schools lacked adequate facilities and equipment students needed for effective teaching and learning that will provoke the acquisition of the self-employable entrepreneurial knowledge, skills and attitudes that engenders national economic development.

Ogunduyile (2015) citing Goh and Kinshuk (2003) observed that teaching and learning through Mobile Technologies (MT) is called M-learning. It allows learning in no fixed location or time of learning. It is a type of teaching and learning that allows for flexibility and ubiquity. It allows for a more student centred approach in learning where the student is more active in acquiring, processing and using information and also allows for increased interactivity between teachers and students, thereby making teaching and learning a more

personal activity.

Kukulska-Hulme (2006) maintained that the widespread ownership of mobile devices such as cellphones, personal media players, personal digital assistants (PDAs), smartphones and wireless laptops means that 'mobile learning' is no longer in the preserve of technical experts and researchers with specialist knowledge. It was noted that teachers and learners have begun to integrate mobile technologies into everyday practices and there is evidence of efforts to invent exciting new scenarios of use. Learners can make good use of the facilities to record and to listen to audio at any time, supported by the rising availability of podcasts and the 'always on' characteristics of portable devices which encourage spontaneous interactions. Kukulska-Hulme (2006) affirmed that mobile devices may be used for learning at home, in a classroom, in a social space, on field trips, in museums and art galleries, in work contexts or as part of everyday learning. Schools have demonstrated that mobile devices can be a very worthwhile tool to enhance and enrich the teaching and learning of many subjects. He noted four main ways in which mobile devices are typically used at the moment to be: (i) to support communication where collaborative learning helps learners to work in groups and are able to communicate verbally while performing a task that is introduced or coordinated through their mobile devices; (ii) for content delivery and creation, i.e. up-to-date content may be delivered more rapidly to learners, just when needed; when learning material needs to be accessed little by little over a period of time; the creation of material by learners themselves in forms of portfolios and personal useful resources; in online activities such as social networking, publishing and bookmarking, spontaneous virtual chats and meetings, access to content feeds and the sharing of digital resources. (iii) personal engagement: alongside social interaction, more intensely personal uses of portable devices promise greater levels of engagement with learning; (iv) Contextual learning: Mobile devices have a very special role in achieving a closer relationship between a physical location, the information it offers and the learning that is enabled by the availability of the device.

In spite of the usefulness of m-learning, **Ismail, Bokhare, Azizan and Azman (2013)** observed that the emergence of evolving technologies leaves a significant impact on educational development and confirmed that a research by Ngozi, Ngozi, and Joy (2010), reported that, even though the teachers could identify the specific technological tools which are useful for education, they however were not aware of in what way the tools can be used. Level of motivation among teachers was also seen to be related to a successful implementation of technology within education system. It is also undeniable that institutional factor also plays a key role in determining teachers' well acceptance towards technology.

Cheung, Yuen, and Tsang (2011) in Ismail, et al (2013) named three key factors to a successful mobile learning adoption, which are technological feasibility, students' needs and pedagogical benefits. From a Malaysian perspective, Chong (2011) investigated the key factors that influence the attitude towards using m-learning. The key factors include perceived ease of use,

perceived usefulness, quality of services, and cultural factors. In Malaysia, although still in infancy, m-learning is also being studied, particularly with respect to users' readiness for consideration of implementation into higher education. According to Kahveci, Sahin and Genc (2011), device ownership determines teachers' perceptions toward its benefits for education.

Ogunduyile (2015) applied the mobile learning to English language study and found that M-learning is cooperative, collaborative and learner centred. It enhances active involvement of the students in the acquisition of linguistic knowledge as it gives the learners the chance through networks and different forums to gather, post and share ideas and other resources. The opportunity given by M-learning afforded the learners the chance of using authentic English language that made it possible for them to construct their own knowledge. The integration of M-learning in to the teaching of English in secondary schools would afford the learners the opportunity of having a method that is 21st century compliant and availing the learners the digital age benefits. To fully enjoy the benefits offered by this innovation, the schools must be given some infrastructural face lifts in terms of good network connection and stable electricity.

This study was based on the constructivism theory by Bruner (1966) in Aggarwak (2004) that learning is an active process in which learners construct new ideas or concepts based upon their current or past knowledge. In the constructivist classroom, teachers are encouraged to let students discover principles by themselves. The curriculum is built in a spiral manner so that students are constantly building on knowledge that they acquire (Aggarwak, 2004). **Using what the students like and know how to use, such as mobile devices such as cellphones, personal media players, personal digital assistants (PDAs), smartphones, wireless laptops, among others, to teach them will help them to construct new ideas and concepts.**

Furthermore, students actually create their own learning based on their previous experience when they take what they are being taught and add it to their previous knowledge and experiences, this creates a unique reality that is just for them. Teachers can utilize constructivism to help understand that each student will bring their own past to the classroom everyday. Teachers act as more of a guide to helping students create their own learning and understanding, help them create their own process and reality based on their own past. This helps students to take their own experiences and include them in their learning (www.wgu.edu/blog/five-educational-learning-theories2005.html).

Mobile Learning

Ahmed and Kabir (2018) noted that over the past two decades, technology devices have become mobile – portable and networked in such a way that they have become pervasive in everyday life. Significant investments have been made to provide infrastructure, content, and resources related to the integration of mobile devices into learning environments and researchers have long had an interest in this evolving landscape (Kukulka-Hulme, Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, 2009); however, several limitations exist, such as lack of theoretical and

pedagogical underpinnings, sustainable integration into formal educational contexts, and, particularly, lack of teacher support and training (Kukulka-Hulme & Donohue, 2015; Peng, Su, Chou, & Tsai, 2009).

Gaudry-Perkins and Dawes, (2011) opined that mobile learning ranges from simple SMS messaging, MMS live classroom sessions, web and podcasting to audio-to-text or text-to-audio applications, and it can provide enriched learning experiences via “educational video, logical reasoning and problem solving aptitude games, and even mobile whiteboards for interactive discussions. It bridges the gap between formal and informal learning. Similarly, it allows an increased mobility of population and lifelong learning, thereby creating opportunities for constant practice anywhere and anytime. Kukulka-Hulme, Shield and Hassan (2010) added that it allows the student to be more responsible in his acquisition of information; he is more active in getting his own education.

Al-Emrana, Elsherif and Shaalan (2015) highlighted some studies which describe teaching and learning through the mobile technologies as a very good way of making the students active participants in the acquisition and dissemination of knowledge by taking the outlook of the teachers and students attitude and perceptions in its implementation. For instance, Al-Emran and Shaalan (2014) demonstrated that M-learning facilitates knowledge sharing among students and educators while interacting with each other. Matias and Wolf (2013) expressed that M-learning is not only the learning that is based on the use mobile devices but also the learning that is mediated across multiple contexts using portable mobile devices. Hartnell-Young and Heym (2008), Perkins and Dawes (2011) have examined the benefits of using mobile technologies for pedagogical purposes.

Technology Acceptance by Secondary School Teachers and Students

There is no doubt that Mobile phones have become very popular as many people can afford them. Even children now have access to the use of mobile communication devices, hence its possibility in aiding teaching and learning. Ogunduyile (2015) averred that the advent of ICT comes with its attendant students' accessibility to information. Teaching these digital age 21st century learners requires adaptive and technological induced methods by educators. The Global Satellite Mobile (GSM) provides learners greater accessibility to the internet which makes it easier for them to learn under certain controlled situations. Ahmed and Kabir (2018) citing Newhouse, Williams, & Pearson (2006) said the use of mobile devices has gone to optimum among a wide range of age groups due to affordability and easy accessibility.

Teo (2011) defined technology acceptance as a user's willingness to employ technology for the task it is designed to support. Thus, some of issues that relate to technology acceptance might be teachers' acceptance in terms of their awareness and motivation towards the use of technology in teaching and learning process. Teachers' awareness on pedagogical usage of technology plays important roles in determining whether they will use it in classrooms or not. In a research by Ngozi,

Ngozi, and Joy (2010), it was reported that, even though the teachers could identify the specific technological tools which are useful for education, they however were not aware of in what way the tools can be used. Level of motivation among teachers was also seen to be related to a successful implementation of technology within education system.

Another important factor that may affect technology acceptance in schools is the institutional factor. Buabeng-Andoh (2012) noted its undeniable fact that institutional factor such as school setting plays a key role in determining teachers' acceptance towards technology. Other factors identified by Bingimlas (2009) in Ismail, et al (2013) include lack of confidence, lack of competence, and lack of access to resources. Ismail et al (2013) study revealed that the level of technology acceptance among respondents in terms of awareness and motivation, training and courses, training design and supports and facilities was generally high but that despite this positive acceptance of technology, teachers' readiness for the use of mobile phone in teaching and learning was found to be at a considerably low level. However, the study identified a significant correlation between respondents' awareness and motivation towards technology with their readiness for the pedagogical usage of mobile phone.

Before covid-19, the adoption of m-learning was restricted to learners, especially at the secondary school level, even though, some researches has been conducted to study the potential of mobile technologies in enhancing classroom teaching-learning activities in Nigeria Secondary schools. Huang *et al*, (2010) confirmed that mobile learning applications can facilitate students, not only learning contents conveniently but also interacting with others collaboratively anytime and anywhere. Hence, the development of mobile learning as a new strategy for education has implications for the way students and tutors in educational institutions interact.

Utulu's (2012) study in Nigeria revealed that mobiles phones were used by students for communicating with lecturer in charge of the courses to collect data (recordings), sending emails to lecturers, access Online Public Access Catalogue and share knowledge. However, mobile phone uses for teaching and learning purposes in primary, secondary and tertiary education in Nigeria is highly limited (Nihukia, 2011). Kafyulilo, (2012) adds that, although mobiles phones are the most accessible technological tools in schools and colleges their use in teaching and learning is among the lowest both in Nigeria. The study on adoption of mobile learning in developing world by Iqbal and Qureish (2012) revealed that perceived enjoyment does not influence students' intention to adopt mobile learning.

Factors influencing readiness for mobile learning in Nigeria secondary schools

Al-Emrana, et al (2015) averred that mobile learning (M-learning) makes it possible for students to learn, collaborate, and share ideas among each other with the aid of internet and technology development. However, M-learning acceptance by learners and educators is critical to the employments of M-learning systems. Attitudes towards M-learning technology is an important

factor that helps in determining whether or not learners and educators are ready to use M-learning. Such attitudes will serve to identify strengths and weaknesses and facilitate the development of the technology infrastructure. Their study explored students and educators' attitudes towards the use of M-learning in higher educational universities within Oman and UAE using 383 students and 54 instructors from five universities. Findings revealed significant differences among the students' attitudes towards M-learning with regard to their smartphone ownership, country and age. Furthermore, results indicated that M-learning can be one of the promising pedagogical technologies to be employed in the higher educational environments within the Arab Gulf countries.

Ahmed and Kabir's (2018) study attempted to explore the main aspects of UTAUT2 model constructs by studying the acceptance of smartphones as an m-learning because it is still in the early stage in the context of Bangladesh. The results clearly indicated that there is a high degree of acceptance of smartphone indicating all the constructs as significant predictors of acceptance in Bangladesh context. Hence, the strategies of integrating smartphone as a mobile learning tool can be successfully designed and implemented. Also, both women and men see the acceptance of smartphone on equal footing and hence the integration and dissemination of smartphone as a learning tool can be done homogeneously.

Al-Fahad (2009) study on student attitude and perception toward mobile learning at King Saud University, Saudi Arabia reveal the advantage of mobile learning and that it would enhance students' communication and enrich learning experience of the learners.

Effects of Mobile Learning on Teaching and Learning

Several studies have been conducted on the effects of mobile learning on the potential benefits of teaching and learning. According to Al-Emrana, et al (2015), Gikas and Grant (2013) highlights the effects of mobile technologies on learning and teaching in accordance with social media in the form of Skype, Twitter, and Blogs for providing better learning; Glackin, Rodenhiser, and Herzog (2014) addressed the integration of mobile devices and E-Books in order to raise the students' familiarity with digital library; Azar and Nasiri (2014) pointed out the adoption of Mobile Assisted Language Learning (MALL) in listening classrooms in teaching English language and how that facilitates listening to the topics of interest using cellphones; mobile phones have been used as a learning tool for teaching French language at Princess Nora University, Saudi Arabia (Jaradat, 2014); De Pablos, Tennyson, and Lytras (2015) conducted two studies at the American University of Sharjah, UAE, for undergraduate students in order to examine the usage of iPads during one semester in Mathematics course. These studies point to the effectivity of mobile devices in effective teaching and learning.

Ogunduyile (2015) investigated the possibilities of using mobile technologies in the teaching and learning of the English language in secondary schools. The data was obtained from a three-week field experiment involving an English teacher and purposively selected twelve Senior Secondary School II students of the Federal University of Technology, Secondary

School, Akure. Participants took part in activities involving different digital formats in the teaching and learning processes and were also interviewed to assess their perception and attitude towards the mode of teaching. The paper analyses, within the framework of Communicative Language Teaching (CLT) approach to teaching and the Constructivist Theory of Learning, the collected data. The analysis revealed that the students and the teacher found teaching and learning very flexible and essential to their needs in this 21st century and concluded that M-learning promotes cooperative and collaborative learning through the enhancement of learners' use of authentic English language that would make it possible for them to construct their own knowledge.

Akintola and Alao (2015) justified the responses of most teachers who agreed that the use of Information and Communication Technology (ICT) is both relevant and indispensable to the effective teaching and learning of Business Studies. Sithole (2010) advocates that Information Communication Technology (ICT) has immense potential to motivate and engage students in meaningful learning. Innovations in technology can be used in enhancing existing teaching and learning tools in the classroom in order to facilitate the development of computer-related competencies in Business Studies (Joshi & Chugh, 2009). Information and communication technology has considerable potential in the business classroom (Borrington, 2004) because, through the use of ICT, students acquire skills in the use of word processing, spreadsheet, database, desktop publishing, website design, and presentation and multimedia software that meet current business standards and that are transferable to the workplace. The two skills-oriented objectives that are expected to be achieved having gone through the teaching and learning of the Business Studies curriculum are; to provide the orientation and basic skills with which to start an occupation for those who may not have the opportunity for further training; and to develop basic skills in the occupations; but, it is pathetic to discover that these basic skills are almost outright lacking in students at the completion of the curriculum content delivery. The aspects of spreadsheets and E-commerce including running of mini-business enterprises by students are yet to become actualised and achieved.

The present situation, as at the time of this study, shows that the graduates of junior secondary schools will have little or no positive influence on Nigerian economy since they have nothing productive to offer. They are like parasite, contributing to the unemployment problem of our nation.

Statement of the Problem

The world has gone technological and attention of learners have been shifted from book/hardcopy reading and studying to manipulation of technologies. It has been observed that interest towards technology manipulation has caught too much of students' attention, not only in higher institutions but also in the secondary schools. This seems to be affecting teaching and learning in schools. There is, therefore, the need to move into the technology learning mode, using what the students like and know how to use, such as mobile devices such as cellphones, personal

media players, personal digital assistants (PDAs), smartphones, wireless laptops, among others, to teach them. There is also the need for a better way to achieve the aims and objectives of the Business Studies curriculum. This study therefore investigated into teachers' and students' perception of the contributions of mobile learning to the teaching and learning of business studies in Nigerian schools.

Purpose of the Study

This study investigated teachers and students' perception of the contributions of mobile learning to the teaching and learning of business studies in Ekiti State Junior Secondary Schools.

Specifically, the study examined:

- i. teachers and students' awareness of the importance and usability of mobile learning in the teaching and learning of Business studies.
- ii. the factors that influence acceptance of technologies in schools, and
- iii. teachers and students' perception of the contributions of Mobile Learning to the teaching and learning of Business Studies.

Research Hypotheses

1. There is no significant difference in the mean responses of teachers and students on their awareness of the importance and possibilities of mobile learning in the teaching and learning of business studies.
2. There is no significant difference in the mean responses of teachers and students on the factors that influence acceptance of technologies in schools.
3. There is no significant difference in the mean responses of teachers and students on the perceived contributions of mobile learning to teaching and learning of business studies in schools.

Methodology

The research design for the study is a descriptive research of the survey type. The population for the study comprised teachers and students in 10 Junior Secondary Schools in Ikere Local Government Area, Ekiti State. The sample size was 80 students and 25 teachers, randomly selected across four Junior Secondary Schools in Ikere Local Government Area of Ekiti State. The research instrument used was a self-designed questionnaire titled "Teachers and students' perception of the contributions of mobile learning to the teaching and learning of business studies in secondary schools in Ekiti State, Nigeria", which was validated by experts in Business Education. The reliability of the instrument was ensured using cronbach alpha method of reliability and coefficients of 0.77 and 0.79 were obtained for teachers and students' questionnaires respectively. t-test statistics was used for testing the hypotheses at 0.05 levels of significance. Findings revealed that both students and teachers were aware of the possibility of using mobile learning devices for teaching and learning; it also revealed the perceived contributions of mobile-learning to the effective teaching and learning of business studies in junior secondary schools. Based on the

findings, it was concluded that mobile learning is necessary for effective teaching and learning of business studies in secondary schools. It was recommended that school authorities should encourage teachers and students to make use of mobile devices to enhance teaching and learning; Government should encourage and finance the use of mobile learning by teachers and students of business and provide the needed facilities such as stable electricity power supply, conducive classrooms and improve students' learning.

Results

Hypothesis 1: There is no significant difference in the mean responses of teachers and students on their awareness of the importance and possibilities of mobile learning in the teaching and learning of business studies.

Table 1: Summary of t-test statistics for the mean responses of teachers and students on their awareness of the importance and possibilities of mobile learning

Variables	N	\bar{X}	SD	df	t-cal	t-tab
Students	80	17.42	2.12	103	1.04	1.96
Teachers	25	16.92	2.08			

P > 0.05 (Significant)

The result of analysis in table 1 revealed that t-cal (1.04) was lesser than t-tab (1.96) at df= 103, 0.05 level of significance. This makes null hypothesis 1 not to be rejected. Therefore, there was no significant difference in the mean responses of teachers and students on their awareness of the importance and possibilities of mobile learning in the teaching and learning of business studies.

Hypothesis 2: There is no significant difference in the mean responses of teachers and students on the factors that influence acceptance of technologies in schools.

Table 2: Summary of t-test statistics for the mean responses of teachers and students on the factors that influence acceptance of technologies in schools

Variables	N	\bar{X}	SD	df	t-cal	t-tab
Students	80	20.11	2.48	103	0.86	1.96
Teachers	25	19.64	2.05			

P > 0.05 (Significant)

The result of analysis in table 2 revealed that t-cal (0.86) was lesser than t-tab (1.96) at df= 103, 0.05 level of significance. This makes null hypothesis 2 not to be rejected. Hence, there was not significant difference in the mean responses of teachers and students on the factors that influence technology acceptance in schools.

Hypotheses 3: There is no significant difference in the mean responses of teachers and students on the perceived contributions of mobile learning to teaching and learning of business studies in schools.

Table 3: Summary of t-test statistics for the mean responses of teachers and students on perceived contributions of mobile learning to the teaching and learning of business studies

Variables	N	\bar{X}	SD	df	t-cal	t-tab
Students	80	41.48	3.55	103	0.80	1.96
Teachers	25	42.16	3.94			

P > 0.05 (Significant)

The result of analysis in table 3 revealed that t-cal (0.80) was lesser than t-tab (1.96) at df= 103, 0.05 level of significance. This makes null hypothesis 4 not to be rejected. Therefore, there was no significant difference in the mean responses of teachers and students on the perceived contributions of mobile learning to teaching and learning of business studies in schools.

Discussion

The finding of this study revealed that both students and teachers are aware of the possibility of using mobile devices for teaching and learning. This supports the findings of Kukulska-Hulme, Shield & Hassan, (2010) that learning through mobile phone would allow the students to be more responsible in his/her acquisition of information and be more active in getting his own education.

The study also showed the barriers of using mobile learning as there is electrical instability in achieving teaching and learning with computer related devices, people reject the use of mobile learning due to their individual differences in attitude, belief, skills and potential, Age and students' background contribute to students' attitude to use of mobile technologies in education, the cost of mobile-learning tools is too high and it is a major problem affecting learning and teaching, inequality of access to technology is a major challenge of mobile-learning among Secondary School Teachers and students in Nigeria and Nigeria has no stable internet provider to support easy and fast learning and teaching. This in line with Bingimlas (2009) who identified several barriers to successful Mobile learning integration in teaching and learning environment, which include lack of confidence, lack of competence, and lack of access to resources.

The findings of the study revealed the perceived contributions of Mobile-learning as it increases collaboration learning and interaction, offers flexibility and equity because it can be obtained anytime, anywhere and by anyone, with Mobile-learning, educational objectives and goals can be achieved, Mobile-learning can reduce the level of illiteracy and ignorance among students, Mobile-learning helps to improve educational attainment and raise standard of Education, it is a very good way of making students active participants in the acquisition and dissemination of knowledge, it helps to produce new opportunities for self-directed learning, it is a catalyst for improving access to quality education, it enhances the presentation of classroom work, Students can view their teachers' web page or access some other online English learning resources via mobile phones and they can also take online tests among others. This support Ferry, (2009) who describes that modern mobile learning can be used to help students to access web based contents, remix it,

share it, collaborate with others and create media rich deliverable for the classroom teachers as well as global audience.

Conclusion

Based on the findings of this study, it was concluded that mobile learning is a must for effective teaching and learning of business studies and other subjects in our secondary schools. Furthermore, the use of mobile devices will enhance classroom performance of students and teachers in secondary schools.

Recommendations

Based on the findings of this study, it was recommended that:

1. School authorities should encourage the teachers and students to make use of mobile devices to enhance the teaching and learning.
2. Government should allow and finance the use of mobile learning by teachers and students of business and provide the needed facilities such as stable electricity power supply, conducive classrooms to foster effective teaching and improve students' academic performance.
3. Federal government should assist both private and public secondary schools with relevant devices such as mobile phone/tablet, mini laptop and others for teaching and learning of business students.
4. Students should be encouraged and motivated to develop positive attitude towards mobile learning in schools so as to improve their academic performance.
5. Parents should be encouraged to control and monitor their children's use of mobile devices to ensure strict adherence to educational purpose.

References

- Aggarwal, J. C. (2004): *Teacher and Education in a Developing Society*. Fourth Edition. Delhi. Jitendra Printing Press.
- Akintola, O. A. & Alao, O. E. (2015). Business studies curriculum content delivery at Junior Secondary Schools in Lagos, Nigeria. *Delta Business Education Journal*. 5(1), 13-19.
- Ahmed, M. S. & Kabir, A. (2018). The Acceptance of Smartphone as a Mobile Learning Tool: Students of Business Studies in Bangladesh. *Malaysian Online Journal of Educational Technology*. 6(2), 38–47.
- Al Emran, M., & Shaalan, K. (2014). *E-podium technology: a medium of managing knowledge at Al Buraimi University College via M-learning*. InBCS international IT conference.
- Al-Fahad, F. N. (2009). *Students' attitudes and perceptions towards the effectiveness of mobile learning in King Saud University, Saudi Arabia*. Online Submission, 8(2).
- Azar, A. S., & Nasiri, H. (2014). Learners' attitudes toward the effectiveness of mobile-assisted language learning (MALL) in L2 listening comprehension. *Procedia Social and Behavioral Sciences*, 98, 1836-1843
- Bingimlas, K.A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. *EURASIA Journal of Mathematics, Science and Technology Education*, 5(3), Special Issue: Australia 235-245.
- Bruner, J.S. (1966). *Toward a theory of instruction*. Boston MA: Belknap Press (Harvard University Press).
- Chen, L-D. and Nath, R. (2004) 'A framework for mobile business applications', *International Journal of Mobile Communications*, 2(4), 368–381.
- Chen, Y.S., Kao, T.C. & Sheu, J.P. (2003). A mobile learning system for scaffolding bird watching learning. *Journal of Computer Assisted Learning*, 19, 347–359. doi: 10.1046/j.0266-4909.2003.00036.x

- Cheung, S. K. S., Yuen, K. S., & Tsang, E. Y. M. (2011, 2011). A study on the readiness of mobile learning in open education. Paper presented at the IT in Medicine and Education (ITME), International Symposium on. 9-11 Dec.
- Chong, J.-L., Chong, A. Y.-L., Ooi, K.-B., & Lin, B. (2011). An empirical analysis of the adoption of m-learning in Malaysia. *International Journal of Mobile Communications*, 9(1), 1-18. doi: 10.1504/ijmc.2011.037952
- De Pablos, P. O., Tennyson, R. D., & Lytras, M. D. (2015). Assessing the role of Mobile technologies and distance learning in higher education. *Advances in Mobile and Distance Learning (AMDL)*, Information Science Reference, IGI-Global, 60e77
- Gaudry-Perkins, F & Dawes, L. (2011). A powerful tool for addressing MDGs. Retrieved 2012 from www.mdg-review.org.
- Gikas, J., & Grant, M. M. (2013). Mobile computing devices in higher education: students' perspectives on learning with cellphones, smartphones & social media. *The Internet and Higher Education*, 19, 18e26.
- Glackin, B. C., Rodenhiser, R. W., & Herzog, B. (2014). A library and the disciplines: a collaborative project assessing the impact of e-books and mobile devices on student learning. *The Journal of Academic Librarianship*.
- Goh, T., & Kinshuk (2002). *A discussion on mobile agent based mobile web-based ITS*. Paper presented at the International conference on computer in education, Auckland, New Zealand.
- Jaradat, R. M. (2014). Students' attitudes and perceptions towards using m-learning for French language learning: A case study on Princess Nora University. *International Journal of Man-Machine Studies*, 2(1), 33e44.
- Kahveci, A., Sahin, N., & Genc, S. (2011). Computer perceptions of secondary school teachers and impacting demographics: A Turkish perspective. *The Turkish Online Journal of Educational Technology*, 10(1), 71 – 80.
- Kukulka-Hulme, A., Sharples, M., Milrad, M., Arnedillo-Sánchez, I., & Vavoula, G. (2009). Innovation in mobile learning: A European perspective. *International Journal of Mobile and Blended Learning*, 1(1), 13–35.

- Kukulka-Hulme, A. and Donohue, L. N. J. (2015). Mobile pedagogy for English language teaching: a guide for teachers. *British council*. London.
- Mostafa, A. M.; Elsherif, H. M. & Shaalan, K. (2015). *Investigating attitudes towards the use of mobile learning in higher education*. Elsevier Ltd. All rights reserved. www.elsevier.com/locate/comphumbh
- Naismith, L., Lonsdale, P., Vavoula, G. & Sharples, M. (2004) Literature Review in Mobile Technologies and Learning, Report 11 for Futurelab. Retrieved October 15, 2006 from: http://www.nestafuturelab.org/research/lit_reviews.htm#lr11
- Ngozi, O.D, Ngozi, A.E, & Joy, E.O. (2010). Teachers' awareness of the existence and the use of technology to promote children's literacy instruction. *African Journal of Teacher Education*, 1(1), 115-125.
- Ogunduyile, A. O. (2013). Towards the integration of mobile phones in the teaching of English language in secondary schools in Akure, Nigeria. *Theory and Practice in Language Studies*, 3(7), 1149-1153, July. ISSN 1799-2591
- Peng, H., Su, Y.-J., Chou, C., & Tsai, C.-C. (2009). Ubiquitous knowledge construction: Mobile learning redefined and a conceptual framework. *Innovations in Education & Teaching International*, 46(2), 171–183.
- Sharples, M. (ed.) (2006) Big issues in mobile learning. Report of a workshop by the Kaleidoscope Network of Excellence Mobile Learning Initiative. University of Nottingham.
- Shih, Y., & Mills, D. (2007). Setting the new standard with mobile computing in online learning. *The International Review of Research in Open and Distance Learning*, 8(2), 1-16.
- Teo, T. (2011). Technology acceptance in education. Retrieved August 27, 2012, from <https://www.sensepublishers.com/files/9789460914874PR.pdf>
- The five educational learning theories (2020). *Teaching and Education*. www.wgu.edu/blog/five-educational-learning-theories2005.html
- Utulu, C. S. (2012). Use of mobile phones for project based learning by undergraduate students of Nigerian private universities. *International Journal of Education and Development using Information Communication and Technology*. 8(1), 1 – 15.