

Empowering Business Education Students through Effective Utilization of M-Learning Technologies

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Abstract: A descriptive survey design was used in this study. A survey of business teachers and students in Nigerian universities was carried out to collect data on their opinion on whether effective utilization of m-learning technologies empowers students' job skills. The population of the study consisted of 450 business education students in 300 level classes from ten universities in Nigeria. Thirty students from each university were randomly selected. There was no sampling of the teachers. A questionnaire was used to gather data. Data was analyzed with means and standard deviation to answer the research question, while the t-test statistics were employed to test the hypothesis. The study found that teachers and students agreed that, when effectively utilized, these technologies can empower students' job skills. It therefore implies that m-learning technologies need to be used while teaching business education. Unfortunately, the benefits of these m-learning technologies are not fully realized due to non-availability, lack of skill to use, and infrastructure decay.

Keywords: Empowering Business Education Students, Job Skills, M-learning Technologies

Introduction

Business education is one of the programmes in the universities believed to have the capacity to equip business education students with skills and attitudes required to contribute

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of living successfully in the world. For this reason, the (Federal Government of Nigeria 2004), through its policy on education, specified the objectives of Vocational and Technical Education which Business Education is part of, to include:

- i. Equipping the business education graduates with the right skills that will enable them to engage in a life of work in the office as well as for self-employment.
- ii. Empowering the individual with skills, knowledge and value to perform specific functions so as to become self-reliant.
- iii. Helping him appreciate the world around him and contribute maximally to the social and economic development of his nation.
- iv. Helping the individual become a judicious spender and develop proper values for the growth of the nation.
- v. Empowering the individual in such a way that he will develop his intellectual capacity that would help him to make informed decisions in all spheres of life.

According to (Nannasy, Malsbury and Tonne 1977), business education is that aspect of the total educational programme that provides the knowledge, skills, understanding and aptitudes needed to perform in the business world as a producer or consumer of goods and services that business offers. (Osuala 2004) added that it is a vocational education program leading to employability and advancement in office occupations and which provides students with information and competencies needed in managing personal business affairs and in using the services of the business world. It is very clear therefore, that business education is a course of instruction aimed at inculcating in the youth the skills, attitudes and competencies which are necessary to empower them to be gainfully engaged so that they will be useful citizens and contribute to the development of Nigeria and the society. As a field of study, business education provides skills in business practices covering accounting, marketing, office occupations and

management. More significantly, these skills needed for effective and efficient business practices could be acquired more easily using m-learning technologies while studying all the business education subjects than studying the subjects without applying m-learning technologies.

M-learning, according to (MOB *Ilearn* 2003, 6) is “any sort of learning that happens when the learner is not at a fixed, predetermined location, learning opportunities offered by mobile technologies.” While (Peters 2007) views mobile learning as a useful component of the flexible learning model, Brown 2005, 299) saw it as “an extension of e-learning.” M-learning therefore, means learning in specialized contexts – learner is not at a fixed location, when to access learning materials and when learner actually has the device. Mobile learning takes place through computer mediated formats some of which are SMS, MMS, e-mail, chatting, etc. (Wallace 2008) subsumed these conditions under the term computerized-mediated communication which (McQuail 2005) defined as any communicative transaction that occurs through the use of two or more network computers.

M-learning technologies refer to all handheld devices and teaching and learning possibilities offered by them such as SMS, MMs, GPRS, Bluetooth, 3G and 4G, WAP, MP3s, PDAs, Tablets, eBook, and Video Cameras (VCMs) which are now embedded in mobile phones and PDAs. (Kukulska-Hulme & Traxler 2005) added that typical examples of the devices used for mobile learning include cell phones, smart-phones, palmtops, and handheld computers; tablet PCs, laptops, and personal media players can also fall within this scope. According to (Park 2011), recent innovations in programme applications and social software using Web 2.0 technologies (e.g., blogs, wikis, Twitter, Youtube) or social networking (such as Facebook and MySpace) have made mobile devices more dynamic and pervasive and also promise more educational potential. New technologies have brought dynamism into today’s workplace. It therefore, implies that when there are changes new learning is required to meet challenges posed by these changes. Since business education students are trained to meet the challenges presented in the work place, their learning activities must be influenced by these new technologies so that a firm transition between classroom and workplace can be achieved.

There is the need to incorporate the learning effect, not only on the machine scheduling problems, but also on the application of new technologies to learning (Bai et al. 2012; Umoru 2012. and Rudek 2011). Multiple studies have been conducted to show how the power of technology enhances the learning process and student motivation as well as demonstrating that technology utilization improves the quality of the learning environment. The fact that technologies enhance the learning environment was substantiated by (Mo 2011) in his study on how learning process could be enhanced by the use of blackboard vista while (Muianga 2004) showed how technologies in the form of platforms enabled students to engage actively in the construction of learning rather than being passive recipients of knowledge.

But few instructional design guidelines with solid theoretical framework on m-learning exist and there are not many widely used pedagogical models or principles that sufficiently explain facilitation of the learning process by teaching interventions. However, while the imperativeness of a design has become obvious, business educators, according to (Clyde 2004, 46), “need to identify the forms of education and training for which m-learning is particularly appropriate, the potential students who most need it and the best strategies for delivering mobile education.”

Meanwhile, an environment for m-learning to thrive is necessary because (Luminita 2010) believed that by constructing flexible learning environments mobile technologies may be able to bridge the gap between the classroom and traditional community members. As (Park 2011, 5) advised, “instructional designers, teachers and individual learners will continue to incorporate mobile technologies into their teaching and learning effectively and will pursue their educational purposes in the pedagogical framework of mobile learning.” M-learning technologies are now widely used especially in developed countries as an interactive platform for learning as many researchers have incorporated them into their learning environments. M-learning applications range widely from k-12 to higher education and corporate learning settings, from formal and

informal learning to classroom learning, distance learning, and field study (Park). Despite the many forms of an increasing services offered by mobile learning, it is still immature (especially in Nigeria), in terms of its technological limitations and pedagogical considerations (Traxler 2007).

Unfortunately, the application of m-learning technologies to the learning of business education subjects in Nigeria universities seems fragmented and in most cases a mere expression of intent. Therefore, the main purpose of this study was to provide a better *understanding* on how effective use of m-learning technologies could empower students with job skills.

Research Question

How can m-learning technologies be effectively utilized to empower students with job skills?

Research Hypothesis

Lecturers and students do not differ significantly in their views regarding how effective utilization of m-learning technologies can empower students with job skills.

Methods

Descriptive survey design was used in this study. A survey of business teachers and students offering business education in Nigeria universities was carried out to collect data on their opinion on whether effective utilization of m-learning technologies empowers students with job skills.

Population of the Study

The population of the study consisted of all the 450 students in their 300 level of study from ten universities out of 15 universities in Nigeria offering business education and accredited by the Nigerian Universities Commission. The population distribution is as follows:

Table 1: Population Distribution Table

Universities	Students	Teachers
University of Nigeria, Nsukka.	48	6
Ebonyi Stata University, Abakaliki	42	7
Rivers State University of Science and Technology, Port Harcourt.	51	8
Nnamdi Azikiwe University, Awka.	64	12
Ahmadu Bello University, Zaria.	41	7
University of Lagos.	45	4
Kwara State University, Malete.	32	7
Olabisi Olabanjo University, Ago Iwoye.	35	1
University of Benin.	40	7
Delta State University, Abraka.	52	6
Total	450	65

Sampling Techniques

Thirty 300 level students from each university were randomly selected. In the case of the teachers, there was no sampling as all of them were included in the study. It was believed that 300 level students were most suited for this study because they have concluded their general

education subjects and all their professional courses at this level can be studied alongside m-learning technologies.

Instrument

The questionnaire was the instrument used to gather data. It was constructed after review of literature related to the study. A reliability coefficient of 0.76 was obtained using Product Moment Coefficient. All items in the questionnaire were stated in a Likert format from Strongly Agree:5; Agree:4; Undecided:3; Disagree:2; to Strongly Disagree:1. The questionnaire contained a total of 36 items. A total of 365 questionnaire items were administered to the respondents during the National Conference of the Association of Business Educators of Nigeria held at the Federal Polytechnic, Nekede Owerri, Nigeria from 12th to 16th October, 2012. All the questionnaires were duly completed and retrieved with the help of ten colleagues.

Techniques for Data Analysis

Data obtained were analyzed with means and standard deviation to answer the Research Question while the t-test statistics was employed to test the Hypothesis at 0.05 level of significance. A mean value of 3.50 and above indicated respondents' agreement with an item while a mean value of 3.49 and below indicated respondents' disagreement with an item. A calculated t-value that was equal or greater than the table value was considered significant and the null hypothesis rejected while a calculated t-value that is less than the table value was considered non-significant and the null hypothesis not rejected.

Results

Table 2: Respondents' view on whether effective utilization of m-learning technologies empowers students with job skills

S/No	Skill items	X	σ	Decision
1.	Lectures are downloaded in audio and video formats.	4.1	0.78	Agree
2.	Exchange of information between students on course work, project and revision	4.1	0.87	Agree
3.	Teachers use to provide visual direction to students.	3.9	1.1	Agree
4.	Used to access e-mail and web.	4.3	1.0	Agree
6.	Audio, video and flash movies are played back.	4.5	0.8	Agree
	Used to send IM and SMS text messages.	3.6	0.6	Agree
7.	Mass storage devices used.	4.8	0.6	Agree
8.	Displaying and editing texts.	3.7	0.9	Agree
9.	Improve interactive learning	4.1	0.4	Agree
10.	Read and listen to audio book.	3.4	0.7	Disagree
11.	Used for research activities.	4.5	0.4	Agree
12.	Collaboration by sharing files.	3.7	0.6	Agree
13.	Used to present projects.	3.4	1.3	Disagree
14.	Create and edit assignments.	4.2	6.5	Agree
15.	Students log on to the course work from a distance.	3.7	1.0	Agree
16.	Students can access quizzes	4.2	0.8	Agree
17.	Global information sharing.	4.2	0.5	Agree
18.	Audio, video and gaming.	3.8	1.1	Agree
19.	Voice-to-text conversion	2.7	0.5	Disagree
20.	Combination of Internet, computing and networking	4.3	0.6	Agree

	capabilities.						
21.	Integrated voice recorder and line-in recording used.	2.7	0.5	Disagree			
22.	Play music and audio files.	4.5	0.5	Agree			
23.	Effective and immediate support utilization.	3.7	0.6	Agree			
24.	Creative opportunities for learning.	4.1	0.5	Agree			
25.	Flexible use, anytime anywhere.	4.0	0.5	Agree			
26.	Improved communication among students and teachers.	2.6	0.5	Disagree			
27.	Used for quick method of learning.	2.7	1.3	Disagree			
28.	Used as quick means of feedback.	4.1	0.6	Agree			
29.	Used for self-study.	3.9	0.7	Agree			
30.	Interesting learning usages.	4.2	0.8	Agree			
31.	Exhibit students' work.	3.6	1.2	Agree			
32.	Lectures can be broadcast live.	3.6	1.1	Agree			
33.	Use of voice-based cell Casting (podcasting).	3.7	0.6	Agree			
34.	Social interactivity improved.	4.2	0.7	Agree			
36.	Individualized learning is enhanced.	4.1	0.8	Agree			

Result in Table 2 above showed that all the items except items 10, 13, 19, 21, 26, and 27 have mean values well above 3.50 which was our stipulated positive decision rule. Eighteen items stood out with mean scores above 4.00. This indicated an overwhelming consensus of the respondents' opinion regarding the high utility values of the constructs. Six items were rejected as having utility values and this can be explained. This could be attributed to the fact that both teachers and students have no deep insight of the purposes of these m-learning technologies or due largely to their non-availability or non-application. While standard deviation scores which ranged from 0.4 to 0.9 indicated low variability of the opinion of the respondents, those that ranged from 1 to 1.3 showed slight high variability of the respondents' opinion.

Table 3: T-test result of lecturers and students on whether effective utilization of m-learning technologies empowers students with job skills

Groups	Number	σ	mean	Degree of Freedom	t-cal.	t-crit.	Level of Sign.	Decision
Lecturer	65	0.37	4.11	363	5.35	1.96	0.05	Reject
Students	300	0.43	3.91					

Result in Table 3 above showed that the calculated t-value of 5.35 was greater than the table t-value of 1.96. This indicated the rejection of the null hypothesis of no significant difference between the mean opinion of lecturers and students on whether effective utilization of m-learning technologies empowers the students with job skills.

Discussion of Findings

The study was carried out to ascertain whether effective utilization of m-learning technologies empowers students with job skills. One of the major findings of this study was that m-learning technologies have varied utility value for the learning of business education subjects. Both lecturers and students are unanimous that m-learning technologies are valuable in learning business education subjects as can be seen in their high rating of 30 items. This finding agrees with that of (Walker 2006) which recognized that m-learning is not just about the use of portable devices but also about learning across contexts. According to Klopter and Squire (2008, 95) "portability, social interactivity, context, and individuality" are the frequently cited affordances of mobile learning. On affordances of mobile learning, (Pea and Maldonado 2006, 428) affirmed,

that the features of handheld device use within schools and beyond include: “portability, small screen size, computing power (immediate starting-up), diverse communication networks, a broad range of applications, data synchronization across computers, and stylus input device.” Still on the pedagogical benefit, (Peter 2007) also viewed mobile learning as a useful component of the flexible learning model. It implies therefore, that business education teachers and students should endeavour to apply m-learning technologies in learning business subjects as they have the power to enhance understanding without losing grip of the subject matter. Regarding adoption, (Wallace 2012. stated that different technologies had different levels of penetration. Ipad and eReaders shared the same penetration rates but differed greatly in initial adoption indicators with the former being viewed favourably than the later. (Sherblom 2010) explained that this situation may be due to the Ipad’s better fit for both higher social information processing – and higher presence. (Crowe 2007) believed that m-learning technologies allow us to envision a classroom in which the teacher remains focused on his or her field or expertise, while still utilizing technology to enhance student learning. Similarly, (Wong et al. 2006) found out that technologies can play a part in supporting face-to-face teaching and learning in the classroom. Another important finding of this study was that benefits of using m-learning technologies have not been fully understood or appreciated. (Bingimlas 2009) in a separate study found that m- learning technologies could be positive forces in classroom for a deeper understanding of the principles and concepts of science and could be used to provide new, authentic, interesting, motivating and successful educational activities. Even then, m-learning technologies on their part do not have magic effects. According to (S ángra and Gonz áles 2004, 73), “new roles and competencies are needed for university teaching to be able to respond better to the challenges faced by a society of knowledge.” Moreover, teachers need to pay attention to the choice of m-learning technologies used in teaching business education subjects because no device is suitable for all purposes. Supporting this, (BECTA 2003) reported that even the most sophisticated PDAs are not yet suitable for all of a school’s mobile computing needs. The tools that could be used according to (Osborne and Hennessy 2003) are those for data capture, multimedia software for simulation, publishing and presentation tools; digital recording equipment and computer projection technology. When teachers effectively utilize these technologies in teaching business subjects using teaching methods that fit, such as simulation, role playing and consensus building for instance, the required motivation and interest in subject being learned would be generated. This was supported by (Grabe and Grabe 2009) in their study that technologies can play a role in student skills, motivation and knowledge. Many respondents disagreed with some of the benefits not because the benefits are not tangible but because they lacked deep insight into their utility value. Secondly, they may lack the skills to use them or there may be no infrastructure such as broadband width or power to support their effective usage. On the other hand, it may well be that both students and teachers are skeptical about the benefits of using m-learning technologies in studying business education subjects. In some cases, these m-learning technologies are not even available. Substantiating this finding, (Empirica 2006) believed that teachers who are not using new technologies in the classroom are still of the opinion that their use has no benefits or unclear benefits. Furthermore, while the study by (Schoepp 2005) found that there was more than enough technology available, teachers did not believe that they were being supported, guided, or rewarded in the integration of technology in their teaching. Another plausible reason against embracing m-learning technologies according to (Earle 2002) include lack of technical support, teacher expertise, or time for planning as opposed to power of new developments, rapid availability, creativity, Internet access, or ease of communication. This finding obviously supports the current study because lack of teacher expertise, absence of instructional design for m-learning usage and infrastructural decay are common features in Nigeria and this explains the slow pace of m-learning utilization in Nigeria universities.

Conclusion

This study was conducted to determine whether effective utilization of m-learning technologies in teaching and learning business education subjects would likely result in empowering business education students with job skills since the graduates of business education are among the teeming unemployed youth in Nigeria. Furthermore, business education graduates are reported to lack the requisite job skills to fill the few job spaces. The study found that these technologies when effectively utilized in teaching and learning business education subjects could empower the students with job skills. Even though few instructional design guidelines with solid theoretical framework on m-learning in Nigeria exist, report of increasing innovation in programme applications and social software by many Nigerians is promising and this makes it feasible for designers and teachers to improvise so that utilization of m-learning technologies in teaching and learning would be achieved. It therefore means that m-learning technologies need to be used in learning business education subjects especially in this information age when changes are the only constant feature in our working environment and it seems that no job can be accomplished without the use of technologies. The implication therefore, is that when students are well equipped with skills and competencies, they would fit into the world of work and also provide jobs for themselves and others.

Recommendations

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

1. Every effort should be made by the Government, teachers and students to ensure that m-learning technologies are continuously used so that the students will be well equipped with job skills especially in this information age when changes are the only constant feature in our working environment.
2. Business education teachers should accept new roles, not only as teachers and knowledge professionals but also learning environment designers so that the content of business education subjects would be amenable to m-learning technology application.
3. Teachers should ensure that devices that match the needs of individual classroom setting should be mapped with corresponding curriculum.
4. Teachers need to be provided with training and continuous technical support to enable them use m-learning technologies effectively in all their classroom activities.
5. Teachers of business education subjects should constantly upgrade their skills so that they can competently apply m-learning technologies in their teaching.
6. Both teachers and students need to raise their awareness level of the importance of m-learning technologies so that the values of using them will be appreciated and pursued by all.
7. Teachers should pay attention to the choice or selection of m-learning technologies to be used as none has universal application.

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