USE OF M-LEARNING APPLICATION IN PROMOTING EDUCATION ACCESS: CASE OF EDUCATIONAL ADMINISTRATION AND PLANNING DEPARTMENT, UNIVERSITY OF NAIROBI

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DECLARATION

This research project is my original work and has not been presented for an award of a degree in any other University

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DEDICATION

This project is dedicated to my beloved wife Fridah Kawira and my son Ryan Dylan for their encouragement and support. It is my prayer that this work will be an inspiration and encouragement to them as they pursue their education.

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

EFA	Education for All
E-Reader	Electronic Reader
ICT	Information and Communications Technology
M-Learning	Mobile Phone Learning
MP3	Moving Picture 3
ODE	Open and Distance Education
PDA	Personal Digital Assistant
SMS	Short Messaging Service
SPSS	Statistical Programme for Social Sciences
SSA	Sub Saharan Africa
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
VPN	Virtual Private Network
3G	Third Generation

ABSTRACT

Higher education teaching and learning have been shifted from traditional classrooms to technology-supported learning environment. In the University of Nairobi, department of Education Administration and Planning, there are various alternatives from the traditional method which include; evening, school based and e-learning programs. This however has not made the department reach on its target of annual enrollments to promote education access. This study assessed the use of m-learning application in promoting education access: case of the department of Educational Administration and Planning, University of Nairobi. The study was guided by the following objectives; To determine the extent to which social media chatting platform is being used, to examine how social media page discussion is being used and to assess the extent to which Short Messaging Service (SMS) texting is being used to promote education access in the department of Educational Administration and Planning in the University of Nairobi. The study employed case study as the research design and is built on demand theory. The target population for this study was master of education students in the department. The study used simple random sampling and purposive sampling. This study used questionnaires, interview schedules and observation schedules for students as tools of data collection. Descriptive statistics were used and data analysis and results presented using frequency tables, bar graphs, percentages and pie charts. The study concluded that all the students admitted in the masters program possessed a mobile device with majority using SMS texting service, internet and more specifically social media sites and emails. On the first objective, the study revealed that to a very large extent social media chatting platform is being used to promote education access in the department. Majority of the students in the department use facebook chart, twitter handle, gtalk and yahoo messenger applications in their mobile devices. On the second objective, the study found out that there is an extensive use of social media page discussions to promote education access in the department. Majority of the students use facebook page, blogs, you tube and emails frequently generally and for educational purposes. On the third objective, the study concluded that to a very large extent, the students in the department use SMS texting service. This demonstrates that M-learning application is being used to a large extent in the department as a blended way of instruction hence accounting for the current enrollments to some extent. This is why the study recommended that the department should launch M-learning mode of instruction to encourage more enrollments and also consider a blended mode with E-learning application that has not done any enrollments.

CHAPTER ONE

INTRODUCTION

1.1   Background of the Study

Information and Communication Technology (ICT) literate workforce is the foundation on which a nation will become a knowledge-based economy through offering a convenient, efficient and financially affordable information technology learning environment. Education is therefore a platform for equipping the nation with ICT skills in order to create dynamic and sustainable economic growth. With the popularity of Information and Communication Technologies, many people can communicate with each other by using different technologies, including mobile phones.

World Bank (2003) report on ICT and Millennium Development Goals cites the potential that Information and Communication Technology has to improve efficient transfer of knowledge needed to meet the Millennium Development Goals. The African Union (2004) in a strategic plan of the commission of African Union concur citing the potential for ICT to promote trade, improve health care, enhance good governance and make education more available. In this regard, World Bank (2003) report notes that ICT can increase access to education through distance learning, enable a knowledge network for students, train teachers, and broaden the availability of quality education materials.

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UNESCO (2014) on its annual release on ICT in education, mobile learning describes mobile learning as a mode of learning that offers modern ways to support learning process through mobile devices. These devices include handheld and tablet computers, Moving Picture 3 (MP3), smart phones and mobile phones. It is an aid to formal and informal learning and thus holds enormous potential to transform the delivery of education and training. Mobile learning is emerging as one of the solutions to the challenges faced by education.

By the end of the year 2012, there were over six billion mobile phone subscriptions worldwide, and for every one person who accesses the internet from a computer two do so from a mobile device given the ubiquity and rapidly expanding functionality of mobile technologies (UNESCO, 2012).

Additionally, more than one third of the world's adult population most living in the developing world has no access to printed knowledge, new skills, and technologies that could improve the quality of their lives. Inequalities in access to education continue to pose major barriers in the developing world, and the delivery of cost effective and quality education remains a persistent problem (Dhanarajan, 2009).

In a study by on cell phones and Personal Digital Assistants (PDAs) for Education in Kinjo Gakuin University in Japan Chris et al. (2002) found out that mobile devices perform many of the functions of desktop computers. This is with the

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advantages of simplicity (being easier to learn and use) and improved access (being usable anywhere, anytime). The researchers found cell phone email produced learning superior to desktop email, mobile web and paper. Through the introduction of m-learning in the University, the study identified an increment in enrollments by over 20%.

According to a study on issues in mobile learning in Ghana at Catholic University of Ghana Millham (2008) established that Computer based education requires access to a computer, which may be impractical especially during a student's commute. Mobile technology, which allows access to computer based learning anytime, may be a solution. In this study, Short Messaging Service (SMS) was used in a macro-economics class to teach students about markets and models. Students were given a hypothetical macro-economic situation to which they were given a limited number of options as a solution. Students would SMS their answers to the university where these answers were recorded and analyzed. SMS was the only realistic medium for distance training. The majority of those surveyed felt that training via SMS would not be boring and that besides providing information, quizzes on the material and feedback, using SMS should be provided in order to facilitate their learning. Given students' irregular schedules and the constraints of existing educational institutions in Ghana, mobile learning helped solve the problem with increased access to education.

Both Shah et al. (2011) and UNICEF (2011) in their studies on Social media skills agree that mobile phones have played a catalytic role in the social movements that arose in North Africa and the Middle East in 2011. Arguably, the Arab Spring ranks among the most significant informal mobile learning phenomena in 2011. In their studies, thousands of youth used social media accessed via their mobile phones as a space for self identification, self assertion, contestation and mobilization around democracy, human rights and civil liberties.

In a project on the establishment of the Dunia Moja project run at Stanford University Goldman (2009) found out that the use of mobile technologies to provide access to course materials was paramount. The study established that mobile device technologies enable field research and assignments, facilitate communication, interaction and knowledge sharing between students and faculty in different countries. The project took place in South Africa, Tanzania and Uganda. Dunia Moja, which means 'One World' in Swahili, was an environmental education pilot project launched in 2009. It found out that at Makerere University, Mweka College of African Wildlife Management, and University of the Western Cape, the use the cell phones to access the course web site, send text messages, and post media to mobile blogs was consequential in providing access to both information and education as a whole hence increased enrollments.

According to Anita et al. (2012), Social network sites are the fastest growing and most popular of the Internet-based technologies. Recent statistics show that many Facebook users are students and that a great deal of communication between students happens online. Many higher education institutions have started to communicate with their students via social network sites where they have set up their own Facebook page and seek to actively link with their students. Social media therefore provide opportunities for higher education institutes to increase their presence within the student community, their effectiveness in fulfilling their educational goals and increased education access.

Government of Kenya (2007) cites one of the challenges facing education as the expansion of access and equity in institutions of higher learning. At the University level, there is a serious shortage of capacity, both in public and private institutions, as only about 30 per cent of those with minimum entry requirements can be admitted. Among the strategies that are intended to address access in the universities is the introduction of open and distant learning, introduction of e-learning and blended learning as alternative delivery systems.

The Government of Kenya is committed to promoting Open and Distance Education (ODE), e-learning and virtual institutions, particularly in higher education and training. This is through training ICT educators and equipping ODE centers with ICT facilities. This is with a mission to integrate ICT in

education and training for improved access, learning and administration (Republic of Kenya, 2006).

In an annual report for 2013, University of Nairobi (2013) establishes the University's commitment to developing Open, Distance and E-learning materials for diversifying, enhancing and enriching their delivery modes in line with the university's vision. The University has interactive self learning materials on http://learning.uonbi.ac.ke anywhere, anytime. In a study on the preparedness of the implementation programs under e-learning in the University of Nairobi Ochogo (2012) found out that access to computers remains a big challenge in the University in e-learning implementation. The study however identified that there was a need for alternative mode of learning in the University of Nairobi, away from the traditional mode of instruction even though the level of preparedness to embrace e-learning was not up to standard.

The Department of Educational Administration and Planning launched an e-learning platform for offering online Master of Education degree on 19th June 2013. This is in line with the implementation of the College's strategic plan 2013-2018. The strategic plan calls for entrenchment in the use of ICT in the College's academic and administrative functions that will ensure effective use of ICT in teaching and research. One of the objectives in the strategic plan of the University of Nairobi is to actively promote diversified modes of delivery. The strategies involved in this achievement are encouraging use of technology in teaching and

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promoting open and distance education in all programs (University of Nairobi, 2013).

In 2012, the department of Educational Administration and Planning enrolled 587 while in 2013 it was approximately 400 Masters students. From these numbers only 20 students in 2012 and 12 in 2013 managed to enroll as full time students. The department's objective is to raise enrollment by 5% annually. The bigger number is the school based programme having approximately 550 out of 587 students in 2012 and over 350 students in school based programme out of 400 in 2013 (University of Nairobi, 2013). This demonstrates that the department's expectation in enrollments has not been achieved using the traditional regular, evening, school-based and e-learning programmes.

1.2   Statement of the Problem

The government budgetary allocation caters for approximately 44% of the University of Nairobi annual budget. The allocation is aimed at increasing enrollments in the University to ensure efficient usage of the amount allocated by the Kenyan government. However, this amount is also not sufficient to cater for the increasing wage bill currently at 46% of the University of Nairobi annual budget (University of Nairobi, 2013a). The current enrollments in the Department of Educational Administration and Planning have since dropped and this calls for an alternative method of instruction to increase enrollment and generate revenue

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for the University. If the enrollments go down then the government allocation to the University will be inefficient due to low rates of education access by students.

The Department of Education Administration and Planning objective to raise the enrollments by 5% has not been achieved because from 2012 the enrollment was to rise to over 616 students for masters demonstrating a drop by approximately 37%. Consequently, in 2012 over 93% and in 2013 over 87% could only afford to access education during school holidays. This demonstrates how the traditional method of instruction is slowly fading away and there is need to embrace on the new learning technologies where m-leaning is critically consequential. E-learning program that was launched on 19th June 2013 has not done any enrollments yet on Master of Education Program.

There is anecdotal evidence that m-learning is being used in the Department of Educational Administration and Planning. This is facilitated by increasing high end mobile devices possession and inadequate laptop and desktop possession amongst the students. It is not clear the extent to which the department is using this mode of instruction in promoting education access. However, there is limited literature on the assessment on the use of m-learning in promoting education access in the department.

There is need therefore to assess the use of m-learning application in promoting education access in Department of Educational Administration and Planning, University of Nairobi.

1.3 Purpose of the Study

The purpose of the study was to carry out an assessment on the use of m-learning application in promoting education access in Department of Educational Administration and Planning, University of Nairobi.

1.4 Objectives of the Study

The objectives that guided the study were:

1. To determine the extent to which social media chatting platform influence education access in Department of Educational Administration and Planning in University of Nairobi

2. To examine how social media page discussion affect education access in the Department of Educational Administration and Planning in University of Nairobi

3. To assess the extent to which Short Messaging Service (SMS) texting influence education access in the Department of Educational Administration and Planning in University of Nairobi

1.5 Research questions

To help attain the objectives the following questions were formulated;

1. To what extent is the social media chatting platform influencing education access in Department of Educational Administration and Planning in University of Nairobi?

2. How is the social media page discussion affecting education access in Department of Educational Administration and Planning in University of Nairobi?

3. To what extent is the use of SMS texting being influential to education access in department of Educational Administration and Planning in University of Nairobi?

1.6 Significance of the Study

The study would contribute significantly to the student who will learn on the new ways to search non print knowledge. Students can integrate m-learning to normal traditional mode of learning or those taking e-learning programs could use mobile phone learning when they are away from the computers or away from traditional classroom. They would also engage in discussions through social media with their colleagues and instructors. This would lead to an increment in the number of students seeking higher education.

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Lecturers may also benefit from the study by discovering on the new methods of discussions and new methods of disseminating knowledge. They would engage a class in a discussion especially under the e-learning programmes and even in the traditional classroom setup hence increasing the enrollments.

The University of Nairobi administration may find the outcome of the study available in implementation of various courses and integration with e-learning platform. This is through incorporating mobile device learning to launch new programs and support the existing e-learning programs for those learners and instructors who are not able access computers at a given time.

Introduction of an alternative mode of delivery in education sector will help address the increasing demand of education by the busy workforce which is a major concern in economics of education. This is by provision of education at any time in any place due to m-learning ability to be used in any place.

1.7 Limitations of the study

Firstly, the study was challenged by the unavailability of the respondents due to their busy schedules. The researcher made advance appointments with the respondents and ensured that at the appropriate and convenient timing, the information needed was gotten. The researcher also gave the respondents a whole week to give their responses comfortably.

Secondly, some respondents feared to display their mobile devices especially when they needed to check on their classification for fear of intimidation or embarrassment. The researcher however gave http://www.gsmarena.com/ as the website to confirm the classification and explained the importance of the study to assure the respondents of their confidentiality in classification of the devices to curb intimidation.

1.8 Delimitations of the study

The study was carried out in University of Nairobi, College of Education and External Studies, department of Educational Administration and Planning to assess the use of m-learning in promoting education access. The respondents included masters' students and their class representatives because they are the main participants in course content and material interaction in promoting education access in the department. The study was concerned with the masters' students in the department involving first year and second year in regular, school based and evening modes of learning.

1.9 Basic Assumptions of the study

The study was based on the following assumptions that:

1. The respondents honestly and trustfully gave the information after confidentiality and anonymity was guaranteed

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2. The respondents were aware and subscribe to the data bundles hence low cost of data access on the mobile devices

3. Those respondents with e-readers also possessed internet enabled mobile devices for downloads and chatting

1.10 Definition of significant terms

Access refers to widening enrollments in education by striving to ensure that students have equal and equitable opportunities to take full advantage of the university education.

Education access refers to increasing enrollments in education by providing additional services or removing any actual or potential barriers that might prevent some students from equitable participation in academic programs hence leading to increased enrollments.

E-reader refers to a device that facilitates or enhances the reading of electronic material.

M-learning refers to learning facilitated by mobile devices.

Smart phone refers to a cellular phone that is able to perform many of the functions of a computer like 3G internet and an operating system capable of running general-purpose applications.

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Social Media Chat refers to online service where a group of people sign in and can get together and interact in a particular subject or topic.

Social Media Page refers to a public profile specifically created to publicize the courses offered and discussions.

Short Message Service (SMS) refers to the transmission of short text messages to and from a mobile phone.

Participation refers to the enrolling at postgraduate education, performing successfully, transiting and graduating in the university educational cycle irrespective of their social economic, working schedule among other inequality factors.

Tablet refers to a portable computer that uses a touch screen as its primary input device.

1.11 Organization of the study

The study was organized into five chapters. The first chapter entails the introduction that is dividend into the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations and delimitations of the study, basic assumptions of the study, definition of significant terms and organization of the study.

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The second chapter encompass review of related literature with the following sub headings: introduction, the concept of m-learning, the education access concept, use of social media chatting and page in education, use of SMS texting in education, summary of literature review, theoretical framework and conceptual framework.

Chapter three covers the research methodology which contains the introduction, research design, target population, sample size and sampling procedure, research instruments, validity and reliability of research instruments, data collection procedures and data analysis techniques.

Chapter four presents the data analysis, interpretation and discussions. Chapter five focuses on the summary of the study, conclusions, recommendations and suggestions for further research studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, there is a clear overview of M-learning in relation to education access challenges as reviewed in various studies. It is broken down to the concept of M-learning, education access, the use of Social Media in education, use of SMS texting in education, summary of the reviewed literature, theoretical framework and conceptual framework.

2.2 The concept of M-learning

Mobile learning or M-learning has been defined differently in different studies, which indicates that m-learning is still in an evolving phase (Peng et al., 2009). M-learning has been defined as "e-learning using mobile devices and wireless transmission" (Hoppe et al., 2003; Chang et al., 2003). Two important aspects of m-learning are its ubiquity and mobility. Ubiquitous computing is access to computing technologies whenever and wherever they are needed and mobility can be defined as learning on the go (Peng et al., 2009). While e-learning is mostly dependent upon desktop personal computing technology, m-learning is dependent upon mobile devices (Orr, 2010).

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The educational use of the mobile devices is referred to as mobile learning (m-learning) with the focus on facilitating and extending the reach of the teaching and learning, such as the knowledge construction, the information collection and exchange, the collaborative learning, independent learning and Lifelong learning (Hine, Rentoul, & Specht, 2004).

Macallam and Jeffery (2009) claim that the concept of internet access comes about with multiple applications under it which include the use of social media chatting and page, blogging and access to much non-print knowledge mostly through search engines. Recorded audio and video clips and photos can also be seen through social media and more instantly on the use of WhatsApp application. All these materials indicate that all these applications can however be used for educational purposes. A review of the literature on m-learning reveals several initiatives, such as the implementation of m-portals (Mitchell, 2003), and practical scientific experimentation and teaching (Milrad et al., 2004).

M-learning is based upon a contemporary account of practices that can enable successful technology-supported learning and a theory of learning that is underpinned by the view that learning occurs outside classrooms and lecture halls as people initiate and structure their activities to enable educational processes and outcomes. It is based upon the notion that learning cannot easily be separated from other everyday activities, and these activities can be resources and contexts for

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learning. Instead, it is combined with personal purpose and entertainment needs in every day activity (Peng et al., 2009).

2.3 The concept of education access

Education access refers to the rising participation in education by providing additional services or removing any actual or potential barriers that might prevent some students from equitable participation in academic programs hence leading to increased enrollments. It is the ability of all people to have equal opportunity in education, regardless of their social class, ethnicity, place of residence or work, background or physical disabilities. Universal access to education encourages a variety of pedagogical approaches to accomplish the dissemination of knowledge across the diversity of social, political, cultural, economic, national and biological backgrounds (UNESCO, 2014).

Over the past three decades, the number of students attending postsecondary education has increased from five to six million resulting in tertiary enrollment annual average growth rate of 8.6% with Sub-Saharan Africa (SSA) recording the highest participation growth rate. Available statistics show that in SSA, enrollment rose by an annual growth rate of 10% between 2000 and 2005 (UNESCO Institute for Statistics, 2009).

In a study on m-learning adoption in Iqra University in Pakistan Iqbal and Qureshi (2012) found out that m-learning has the potential to become an effective

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manner for providing education along with traditional methods. Particularly, it can be a medium of interest in developing countries where the number of mobile users is very large. If any student fails to attend a class and he does not have access to an Internet-enabled PC, he can access the information delivered in the class using his mobile device. M-learning can be used to leap-frog over existing e-learning in developing countries in the quest to promote education access.

There is need for more effective teaching and learning processes geared towards social relevance which often require profound curricular and methodological innovation and for adequate quality assurance mechanisms. Quality assurance systems should encourage improved learning processes adapted to various categories of learners. They should encompass not only traditional Higher Education programmes, but also borderless, private and continuing education (UNESCO, 2009).

2.4 Use of social media chatting and page in enhancing education access

Social Media is categorized into six types: collaborative projects (e.g. Wikipedia), blogs and micro blogs (e.g. Twitter), content communities (e.g. YouTube, Flicker), Social Network Sites (e.g. Facebook), virtual game worlds (e.g. high school library game and the librarian free online game) and virtual social worlds (Kaplan & Haenlein, 2010).

Social network sites are the fastest growing and most popular of the Internet-based technologies; recent statistics show that many Facebook users are students and that a great deal of communication between students happens online (Anita & Mhlauli, 2012).

In a study on exploring the self-efficacy of m-learning amongst college students in National Formosa University Taiwan Yang (2012) found out that students are competent enough in using mobile devices to read the assigned texts, post questions, read and provide feedback to peers. This was done through the use of facebook page and chat, emails, you tube and blog applications. Students also took environmental pictures and filmed authentic scenarios related to what they had learned in textbooks. They then shared their pictures and films via the mobile devices. In other words, students possess high end mobile devices and thus they would relate the authentic material with the learned material.

Both Chisenga (2012) and Makori (2012) agree that the use of social media applications and mobile devices are two of the latest technologies that academic libraries are leveraging to enhance their overall service delivery. The implementation of social media and the use of mobile communication for service delivery are trends that are yet to be fully embraced by academic libraries in sub-Saharan Africa and other places in the developing world.

In a study carried by University of Development Studies Ghana (2014), Respondents were asked to indicate whether or not they owned a mobile device, the type of device they owned and whether their mobile devices provide Internet access. It was also deemed necessary to ascertain whether respondents used their mobile devices to access social media applications specifically. Nearly all of the respondents own at least one (or more) mobile device with Internet capabilities, and they use them for a wide variety of purposes, including the use of social media.

Use of SMS texting in promoting education access

There is wide scope for the institutional provision of text messaging in higher education. Garner et al. (2002) propose that SMS can be used to interact with people and influence their actions and understandings of situations. Also, uses of text messaging in higher education include: providing support, motivation and community; alerts and reminders (e.g. timetable changes, library loans); and delivering learning content and revision tips.

In a study on investigating the use of text messages in mobile learning in Charles Darwin University in Austraria Geng (2012) found out that text messaging can provide students with a flexible learning environment and access to create a communication channel to successful learning as long as they have a contemporary account of practices. As the vast majority of students in the study

had used text abbreviations on their mobile phones, it is clear that 21st generation of 'digital natives' both use this technology and it can be argued that expect to use it in their studies too. That students use mobile phones supports that in that tertiary students have easy access to m-learning devices and are fully able to use digital language such as text messages. This finding also demonstrates that text messaging can be used anywhere, any time by users and that it provides a communication channel for students for their learning and also for social networking purposes.

Previous trials have demonstrated that institutionally provided text messages can increase interactivity (Markett et al., 2006) and that students welcome text messages that are perceived as timely, appropriate and personalized (Garner et al., 2007).

Text messaging is one of the fastest growing types of information communication technologies and it is also a very important form of m-learning. Text messaging provides "anywhere, anytime" access to learners and a channel for communication with which they are generally familiar. Text messaging related applications have to date covered a number of areas. However, it does not always follow the standard rules of English grammar, nor usual word spellings. For example, students may use 'LOL' to represent "Laugh out Loud" and 'ASAP' to represent "As Soon As Possible". Text messaging is also a beginning to redefine the social networks of today's students (Bryant et al., 2006).

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By offering fast paced, inexpensive, online communication, text messaging allows for students' learning communities to form and evolve. Thus, given the increasing popularity of m-learning and popular usage of text messaging in m-learning, use of text messaging has been emphasized as a form of m-learning.

In Kenya there are various subscriptions to the SMS bundles with as low as four cents per sms or in other wise 25 SMSs per one (1) Kenya shilling. Masaa ya SMS is a service offered by Safaricom Limited that allows customers to get: 20 SMSs for only Ksh 5 per day, 200 SMSs for only Ksh 10 per day and 500 SMSs for only Ksh 20 per day (Safaricom, 2014).

2.6 Summary of Literature Review

Various scholars and studies agree on the use of Mobile devices for educational purposes hence the aspect of mobility. Mobile technologies are an attractive and easy means to maintain literacy skills and gain constant access to information. It 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. The discussion on use of social media in education and SMS usage as a medium of learning are key concepts that have had great influence in various studies.

In conclusion from the various studies and scholars input as indicated, m-learning plays a vital role in the provision of education as an alternative method of

education. It is also analyzed as the best practice to address the access and equity challenges in University education. This study however sought to investigate the use of M-learning application specifically in post graduate education in promoting education access in the department of Educational Administration and Planning in University of Nairobi, Kenya.

2.7   Theoretical Framework

This study adopted the demand theory which is a fundamental principle of micro-economics that was first raised by French economist notably Alfred Marshall (1842 – 1942), Italian Italian Vilfredo (1848 – 1923), Soviet Eugine Slutsky (1880 – 1948) and was further developed by American Kenneth Arrow (1921).

According to Alain (2008), a market exists where there are buyers and sellers of a particular good. Buyers demand goods from the market whilst sellers supply goods to the market. Demand is therefore the quantity of goods or services that will be bought at any given price over a period of time. The relationship between the price and quantity demanded has an inverse relationship. The price increases the quantity demanded decreases and vise versa. An increased demand leads to increased education access in higher education degrees.

Higher education demand for postgraduate degrees will be the market in this study where the buyers will be the learners. When increased number of learners demand higher education then there will be increased education access. The

_____ are the ones demanding education through seeking access and equity _____ in terms of quality education. There are various factors that will influence _____ demand and thereafter distinguish effective demand which in this case is the _____ enrolled and thereafter admitted.

The Sellers of this education service will be the lecturers and the university _____. They will be providing an avenue for enrollment, carrying out the _____ process and thereafter graduating the ones who have succeeded.

_____ theory will be considered appropriate due to the close link of demand of _____ and education access. For education access to be affected, demand for _____ has to influence it as an involved process. Demand theory was therefore _____ useful in determining the use of m-learning to promote education _____ university education putting into consideration the social media usage _____ of SMS.

2.8 Conceptual Framework

The use of M-Learning Application in promoting education access has been _____ to some specific factors which through demand for educational services _____ the university level education access. These factors are conceptualized in _____

Figure 2.1: Factors that assess the use of M-learning application in promoting education access

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+-------------------------------------------------+
|        Determinants of M-learning Application    |
+-------------------------------------------------+
        |                 |                 |
        v                 v                 v
+-------------+   +----------------+   +----------------+
| Social Media|   | Use of SMS     |   | Social Media   |
| posting     |   |                |   | paging         |
|             |   | • Bulk sms     |   |                |
| • Facebook  |   | • Broadcast    |   | • Blogs        |
|   Chat      |   |   Sms          |   |                |
| • Twitter   |   | • Advertisem   |   | • Facebook     |
| • Gtalk     |   |   ent SMS      |   |   page         |
| • Video chat|   | • Single Sms   |   |                |
|             |   |                |   | • You tube     |
+-------------+   +----------------+   +----------------+
        |                 |                 |
        +-----------------+-----------------+
                          v
        +-------------------------------------+
        |    Demand for University Education   |
        +-------------------------------------+
                          |
                          v
        +-------------------------------------+
        |         Access to Education          |
        +-------------------------------------+
```
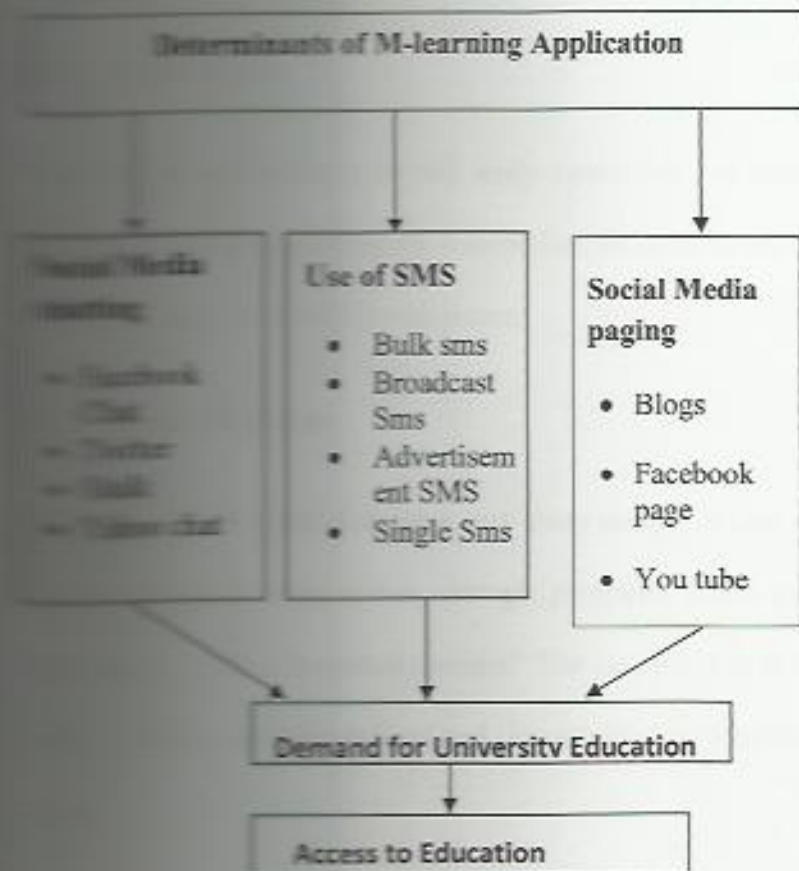
M-learning is characterized by various applications which include social media posting, use of SMS and Social media paging. These applications affect the demand for higher education where when applied, they increase the demand for university education. Increased demand for university education leads to increased access to education. Increased use of Facebook Chat, twitter, gtalk, gmail, you tube among other applications will promote education access.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

The research methodology in this study constituted the research design, target population, sampling techniques, sample size, research instrument, data collection procedures and data analysis techniques.

Research Design

The research was conducted using case study design. A case study is an in-depth analysis of one or more events, settings, programs, social groups, communities, individuals, or other "bounded systems." The case study is an investigation of one entity, which is carefully defined and characterized by time and place (McMillan, 2000).

This is a method of collecting data by interviewing or administering a questionnaire to a sample of individuals. Case study recognizes the complexity and embeddedness of social truths. By carefully attending to social situations, case study can represent something of the discrepancies or viewpoints held by participants (Cohen and Manion, 1989).

According to Cohen and Manion (1989), case study data paradoxically, is 'strong in reality' because they are down to earth and attention holding hence providing a

...... for generalization. Case study is a step to action meaning that they ...... in a world of action and contribute to it. Their insights may be directly ...... and put to use; for staff or individual development, for within-...... feed back; for formative evaluation and in educational policy making.

...... therefore adopted because it helped in answering the questions on ...... status of mobile devices usage in education and there appropriateness. ...... to address the current situation on this phenomenon and had the ...... data on a wide range describing it the way it was found.

Target population

...... of Educational Administration and planning in the University of ...... approximately four hundred (400) master of education students ...... the department (University of Nairobi, 2013). Table 3.1 illustrates the ...... population details.

Table 3.1:   Master of Education students population

Category	Regular	Evening	School based	Total
Masters students	12	12	376	400
Class Reps (Included in the student population above)				18
		Total target population		400

Source: University of Nairobi (2013)

The study targeted 18 class representatives and 400 master of education students giving a total target population of 400 respondents because the 18 class representatives are among the student population of 400.

3.4   Sample Size and Sampling procedure

Mugenda and Mugenda (2003) stipulate that when the sample size is large it is considered as adequate and quite representative. Simple random sampling was used to get the required sample size for all the students. Purposive sampling was used to get the respondents in the students' class representatives. The Krejcie (1970) model adapted by Morgan (1990) was used to determine the size as shown in Table 3.2 at 95% confidence level.

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Table 3.2: Sample sizes for given population sizes

Population Size	Sample Size	Population Size	Sample Size	Population Size	Sample Size
10	10	100	80	4000	351
20	19	150	108	5000	307
30	28	200	132	10000	370
40	35	250	162	20000	377
50	44	300	169	50000	381
60	52	400	196	100000	384
70	59	1500	306		
80	66	2000	322		
90	73	3000	341		

Source: Krejcie and Morgan (1990)

From the Table 3.2 the total number of the respondents was indicated in Table 3.2.

Table 3.3: Adopted Sample size

Category	Population size	Sample size
Master of education students	400	196
Master of Education student class representatives	18 (Included in the 400 figure above)	18
TOTAL	**400**	**214**

Research instruments

Questionnaires were administered to the students to collect data. They were used due to their nature of reaching a wide population and reduce interviewer bias significantly. Gay (1992) indicates that questionnaires offer considerable advantages in there administration and they give respondents freedom to express their views and make their suggestions. The questionnaires were advantageous because they were self administered, kept the confidentiality of the respondents and had improved accuracy of the respondents' responses. They sought information on their background in relation to their gender, year of study and age bracket, mobile devices possession, usage and opinions in relation to social media usage, social media chat and SMS texting.

interview schedules were administered to the students' class representatives and their deputies to get their views on the perception on mobile devices usage in education circles. The interview focused on the overall applicability of the use of M-learning as an alternative method of instruction in the department. The interview sought the information on the current situation on how the students are using their mobile devices for education purposes. According to Orodho (2008), interviews allow more detailed information about personal feelings, perceptions and opinions. They allow more detailed information to be asked.

3.6   Validity of the instruments

Validity is the degree to which empirical measures of concept accurately measure the concept under study (Orodho, 2008). It refers to the degree to which obtained results from the analysis of data represents the phenomenon under study. This study used content validity which is a measure to which data collected using a particular instrument represent a specific domain of indicators or content of a particular concept. To ascertain content validity, the instruments were subjected to analysis by a team of specialists in the area of economics of education to assess the relevance of the content used in them.

Construct validity is a measure to which data obtained from an instrument accurately represents a theoretical concept (Borg and Gall, 1999). This was

...through administration of counter questions that are meant to measure the same concept.

3.7 Reliability of the research instruments

Reliability is a measure of the degree to which a research instrument yields consistent result or data after repeated trial (Mugenda & Mugenda, 2003). A reliable instrument therefore, is the one that constantly produces the expected results when used more than once to collect data from two samples drawn from the same population.

Reliability was tested through test-retest method. Individuals who were randomly selected were asked to fill the questionnaire and then fill them again after two weeks. The results from the two tests were correlated to produce a stability co-efficient. The Pearson r is used as a measure of correlation, called Pearson Product Moment correlation (Mertens, 1998).

$$ r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}} $$

Where: x = results for the first test, $\sum x^2$ = A summation of the square of first test results, y = results for second test, $\sum y^2$ = A summation of the squares of the second test results, $(\sum x)(\sum y)$ = A product of the summation of first and second test results, $n\sum x$ = product of number of scores and summation of first test, $n\sum y$ = product of number of scores and summation of second test.

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...iability co-efficient was computed using the Pearson's moment as in the ...formula above giving a co-efficient r = 0.88. As indicated by Mugenda and ...Mugenda (2003), a correlation co-efficient of 0.7 will be considered reliable. ...Therefore, from the analysis reliability co-efficient of 8.8 indicated that the ...instruments were reliable.

Data collection procedure

...Permission to carry out the study was obtained from the University of Nairobi and ...the National Council for Science and Technology. A copy of the permit was given ...to the Chairperson Department of Educational Administration and Planning, ...University of Nairobi. The pilot study was then conducted and corrections made ...to the questionnaires. Thereafter, the researcher administered questionnaires ...personally to the respondents and the interviews were carried on at the convenient ...time of the class representatives and their deputies.

Data analysis techniques

...The completed questionnaires by the respondents were sorted out for ...completeness and accuracy thereafter, qualitative data was edited to eliminate ...inconsistencies, summarized and coded for ease of classification in order to ...facilitate tabulation and interpretation. Data from open headed questions was ...analyzed through content analysis and organized into themes and patterns

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corresponding to the research questions. This helped the researcher to detect and establish various categories in the data which was distinct from each other.

Orodho and Kombo (2002) indicate that qualitative data analysis varies from simple descriptive analysis to a more elaborate technique. The analytic techniques used in qualitative research are a quick impassionate summary which is used in situations that require urgent information to make decision, thematic analysis whereby data is analyzed thematically and also content analysis which systematically describes the content of written or spoken material.

Data analysis in this particular study was done using Statistical Programme for Social Sciences (SPSS) version 17.0 after being sorted, edited and coded. The findings were thereafter analyzed using statistical techniques which will include frequency tables, percentages, pie charts and bar charts.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, DISCUSSIONS AND INTERPRETATION

4.1 Introduction

This chapter presents the research findings as was collected from different respondents on the use of mobile learning to promote education access: a case of the department of Education Administration and Planning, University of Nairobi. The study findings are sub-divided into sub-topics based on the objectives of the study beginning with demographic characteristics of the respondents. Other findings are thereafter presented according to the key research questions which seek to determine; the extent to which social media chatting platform, examine how social media page discussions are being used and assess the extent to which Short Messaging Service (SMS) texting is being used to promote education access in the Department of Educational Administration and Planning in University of Nairobi.

4.2 Instruments response rate

The researcher sent out 196 questionnaires and received back the 196 representing 100% return rate. This was facilitated by the fact the researcher gave the questionnaire and requested the respondent to fill it immediately and those who

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were not available to fill at that particular time, appointment was made to be presented with the questionnaire at a later date. The researcher also sent out 18 requests for interview schedules for student representatives and their deputies and 17 were honored representing a 94.44% return rate and therefore provided the researcher with adequate data for analysis, discussion and for presentation.

4.3   Demographic characteristics of the respondents

The study revealed that gender, age and year of study were very important for this study. The researcher therefore sought the demographic profile of the respondents to provide the basis of current and future gender composition, age bracket and year of study in respect to mobile device learning program.

4.3.1   Gender composition of the respondents

The student gender distribution was important to the study establish the uniqueness of the mobile devices usage and therefore the researcher sought to know the distribution of students by gender and the findings were as represented in Figure 4.1.

Fig 4.1 Gender composition of student respondents
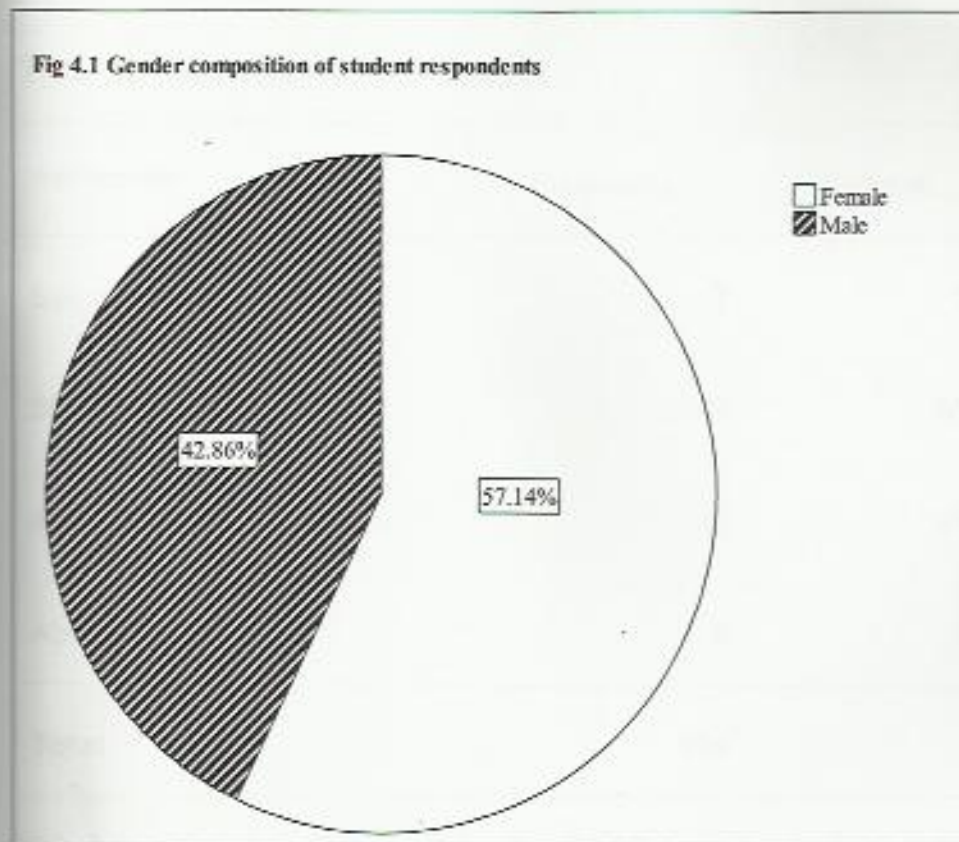
Majority of the respondents were female students with a 57.14% and male students constituted 42.86%. It can be urged out that the department of Educational Administration and Planning has a large population of female postgraduate students as compared to male students.

4.3.2 Age bracket of the student respondents

The study sought to group the respondents in four age brackets as below 30 years, between 30 and 39 years, between 40 and 50 years and above 50 years. The findings were as presented in Table 4.1.

Table 4.1 Age bracket of the students

Age bracket	Frequency	Percent
Below 30 Yrs	2	1.02
30-39 Yrs	99	50.51
40-50 Yrs	90	45.92
Above 50 Yrs	5	2.55
Total	**196**	**100**

Majority of the respondents aged between 30-39 years constituting of 50.51%, followed by the category that aged 40-50 years which constituted 45.92%. This demonstrated the right group of respondents who are said to be seeking master's education in the department. Those below 30 years and above 50 years constituted of 3.57% in total demonstrating the group that is not supposed to be in the ideal masters' class. Majority of the students in the department can be urged to be the group that is actively using the mobile devices in social media sites and SMS texting. They are the majority of those who are out of the traditional usage of mobile device calling only as the main purpose of the devices.

4.3.3 The students year of study

The study sought to find out the year of study of the respondents. This was important to help understand the use of mobile devices for educational purposes. The findings were as presented in Figure 4.2.

Fig 4.2   Degree year of study for the students

Year of study
☐ First
▨ Second

47.96%   52.04%
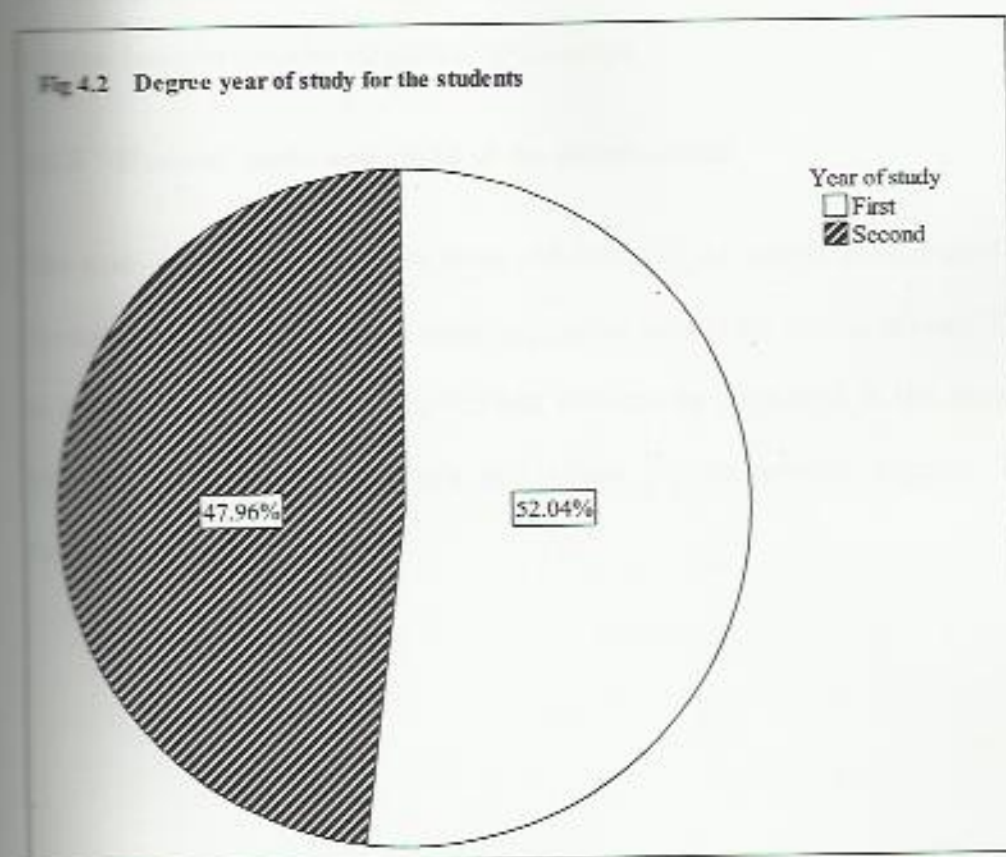
From the findings, 52.04% of the respondents were first year students undertaking their master of education program while 47.96% were second year students. This represents a close presentation of the two years hence reduced biasness in the representation of mobile device usage in the department. Even though the

majority of the students were in first year, their mobile device usage in social media sites and SMS was enhanced most likely by the fact that they had already done introduction to Educational Management Information System course. This course is offered by the department as introduction to practical use of internet and technological devices for educational purposes and this therefore could have been a major factor to consider on mobile device usage.

4.3.4 Students' make and model of the mobile device

The study sought to identify the make and model of the mobile devices used by the student so as to identify the operating system used in the mobile devices. This is also vital to deduce the applications that can be supported in the devices including exceptional certificates and virtual private network support. The findings were as in Figure 4.3.

Fig 4.3 Mobile device make and model
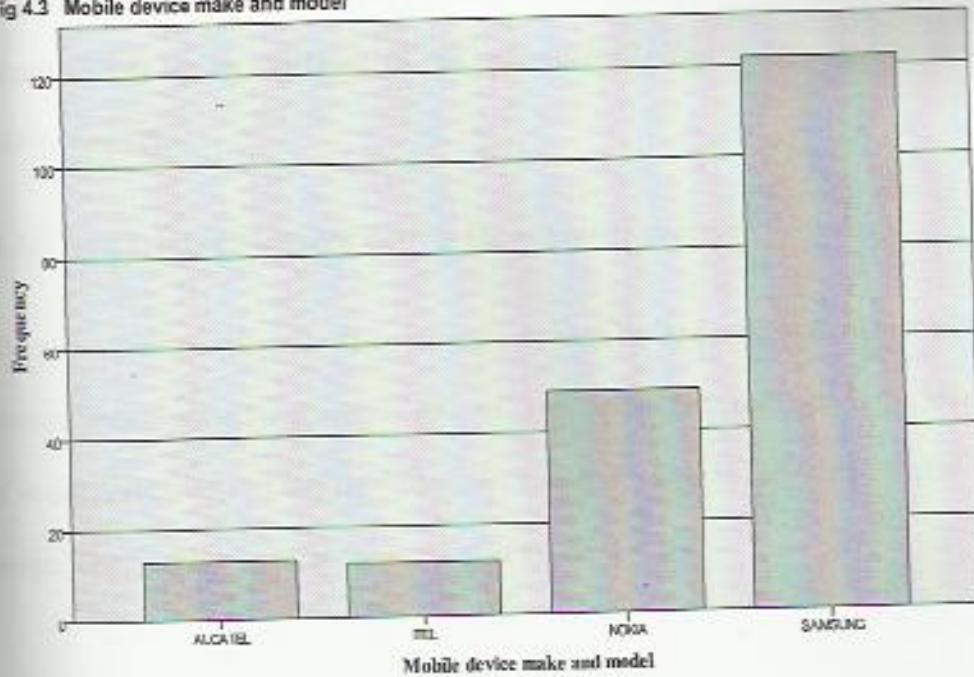
From the presentation, the mobile device make and model came in four categories which include Alcatel, Itel, Nokia and Samsung. Samsung devices were possessed by majority taking a frequency of 122 which represents 62.2% followed by Nokia devices which had a frequency of 49 representing a 25% share. Alcatel was third represented by a frequency of 13 representing 6.6% while Itel devices followed with a frequency of 12 representing a 6.1% of the total devices possession in the study. All the 196 respondents possessed a mobile device. The class representatives in there interview confirmed that all the students in their classes possessed mobile devices and majority could connect to the internet. The class representatives could not classify all the types of mobile devices available in their class indicating that many of the devices were from Samsung Limited.

These findings are in line with the findings by University of Development Studies Ghana (2014) where nearly all of the respondents owned at least one or more mobile devices.

4.3.5 Importance of mobile devices for academic success

The respondents were given an opportunity to rank the importance of the mobile devices they possess for academic success. This was vital to distinguish the level of importance of use of mobile devices for academic success and other general usage. The findings were as represented in Figure 4.4.

Fig 4.4 Level of cell phone importance
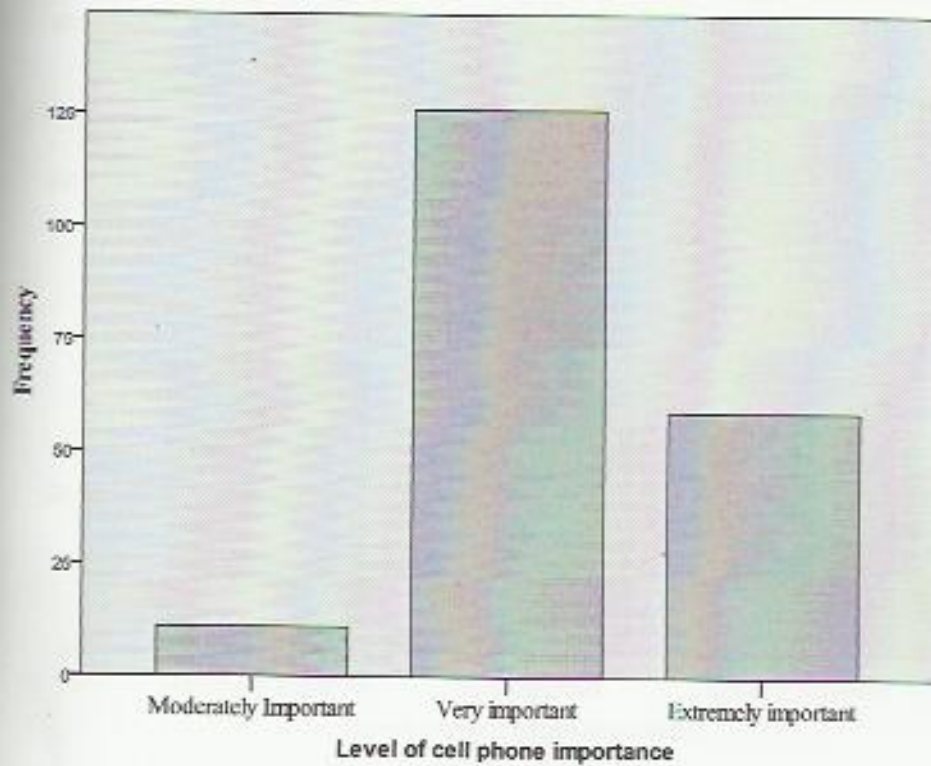
Figure 4.4 indicates that 126 respondents representing 64.3% stated that their

mobile phones were very important and 59 respondents representing 30.1% stated

that their mobile phones were extremely important. Of the total number of

respondents 11 of them, representing 5.6% indicated that their cell phones were

moderately important with none stating that their mobile phones were not very

important and not at all important.

Fig 4.5 Level of smart phone importance
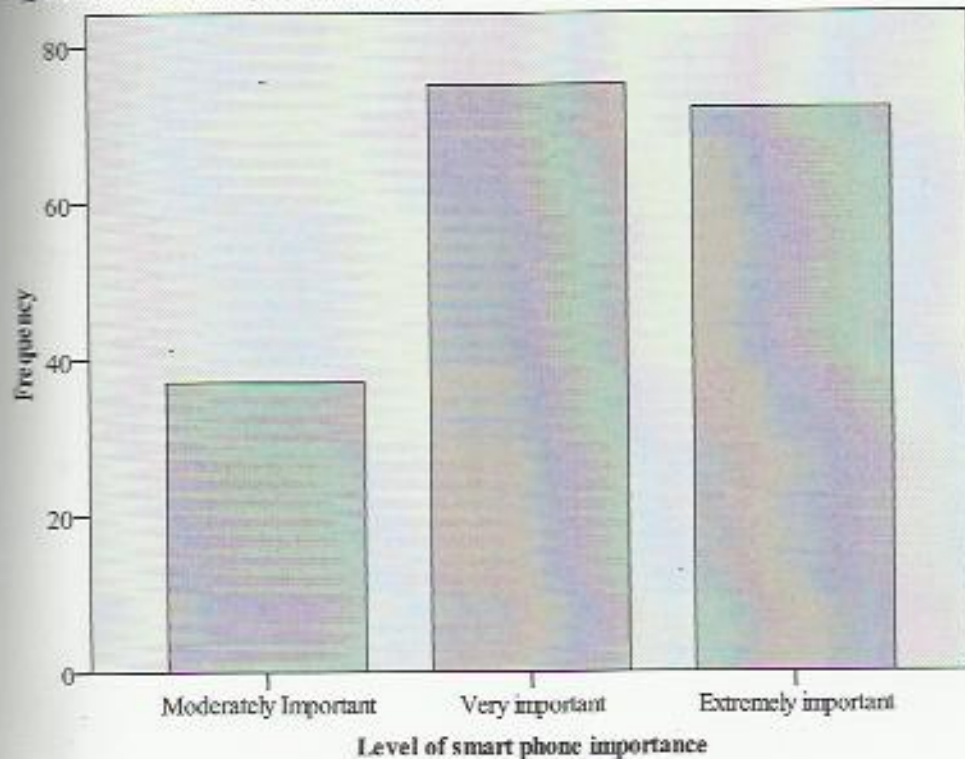
From Figure 4.5, 75 respondents representing 38.3% indicated that the use of their smart phone was very important for academic success and 72 respondents representing 36.7% said their smart phones were extremely important. In addition, 37 of the respondents representing 18.9% said the use of their smart phones was moderately important. None of those who possess a smart phone said that their devices were either not very important or not at all important. From the respondents, 12 had their devices classified as not smart phones representing a 6.1%.

Figure 4.6 Level of tablet importance
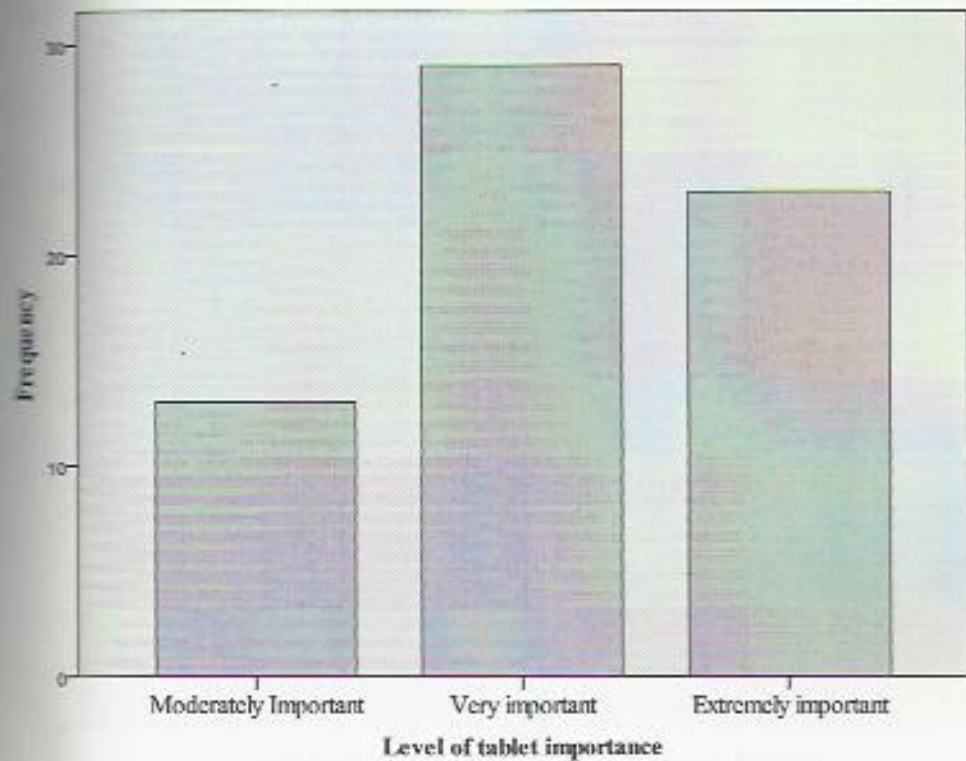
From Figure 4.6, 29 respondents representing 14.8% indicated that the tablets the possess are very important for academic success while 23 representing a 11.7% indicated that the tablet is extremely important. However, 13 respondents representing 6.6% indicated that their tablets are moderately important. None of the respondents who possessed the tablets said that they are either not at all important or not very important. The larger group of 131 respondents represented by 66.8% did not possess a tablet.

Figure 4.7 Level of e-reader importance
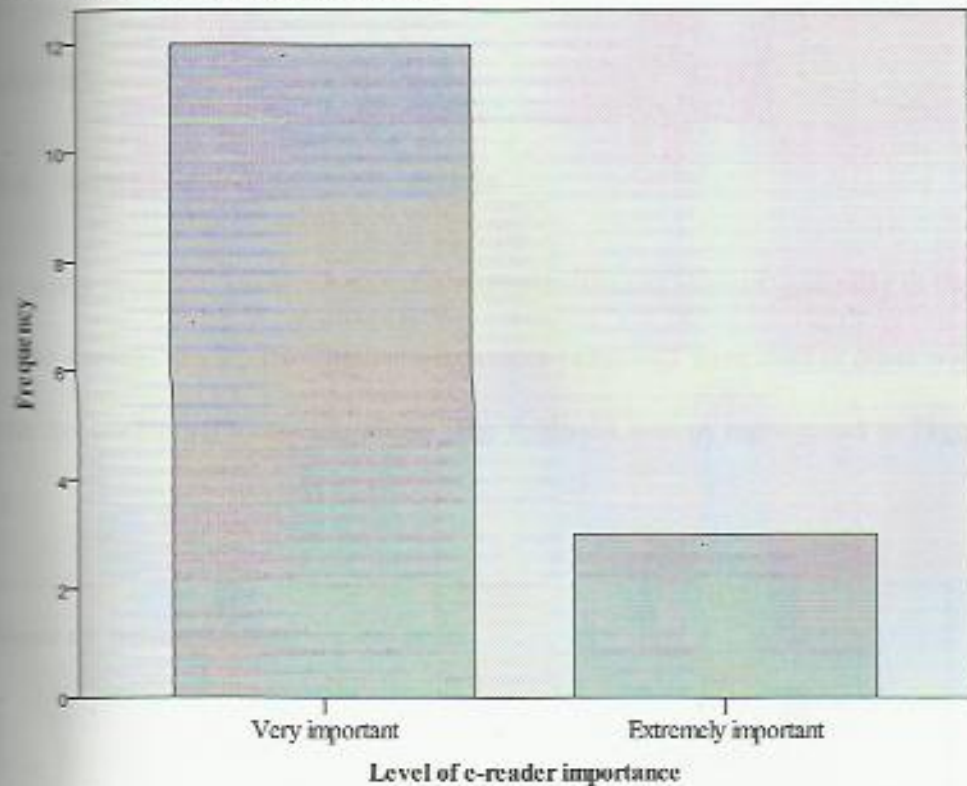
From Figure 4.7, 12 respondents representing a 6.1% who possessed e-readers indicated that their devices were very important for academic success while 3 representing a 1.5% indicated that their e-readers were extremely important for academic success. None of the respondents who possessed e-reader said that their device is of moderate importance, not very important or not at all important. Still in this category the larger group of 181 respondents representing 92.3% did not possess an e-reader.

As Peng et al. (2009) stated, two important aspects of m-learning are its ubiquity and mobility hence the reason why the devices' importance as ranked very important.

4.3.6 Internet access on mobile devices

The study sought to know whether the respondents used internet generally in their mobile devices to identify whether the devices possessed were used in other ways from the traditional usage of calling. The feedback was as represented in Figure 4.8.

Figure 4.8 Internet access in the mobile devices
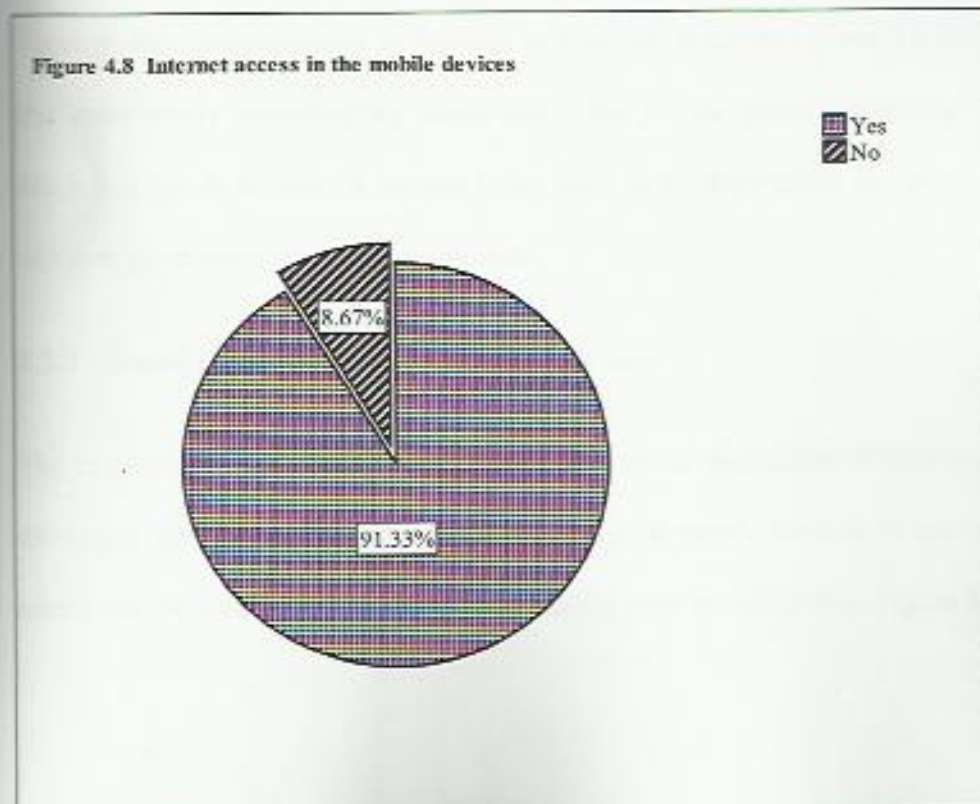
From Figure 4.8, 179 respondents representing 91.33% indicated that they use internet in their mobile devices while 17 respondents representing 8.67% said they do not use internet in their mobile devices. The class representatives indicated that majority of the students in their classes' accessed internet in their mobile devices and to some extent doing assignment using them when out of college and no access to computers.

These findings agree with the study on exploring the students' efficacy on the use of m-learning in National Formosa University Taiwan where Yang (2012) found out that more than 90% of the respondents used internet in their mobile devices. Through the introduction of m-learning in National Formosa University Taiwan, the enrollments increased by more than 25% in the entire university. This illustrates that m-learning is already being used in the department and could be a factor to consider in increasing enrollment.

4.3.7 Social media sites access in mobile devices

The respondents were asked whether they used social media sites in their mobile devices to be able to identify the general usage of mobile devices to use social media maybe during commute. The respondents were as indicated in Figure 4.9.

Figure 4.9 Social media sites access on mobile devices

21.94%

78.06%

Yes
No
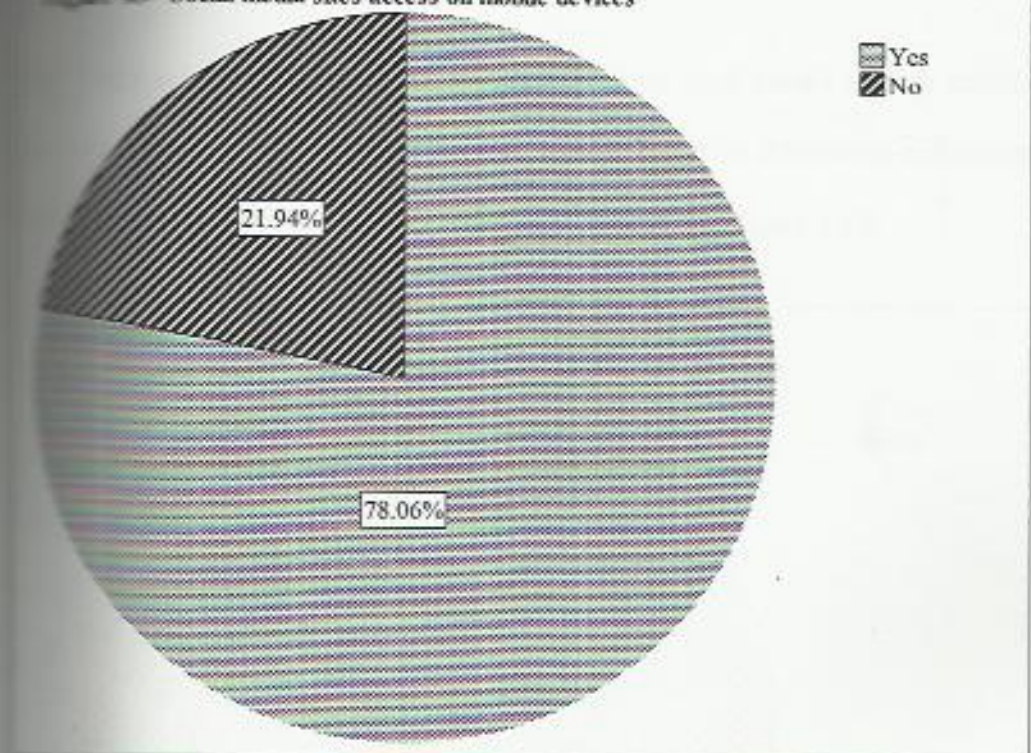
As presented in Figure 4.9, 153 respondents representing a 78.06% indicated that they use social media sites in their mobile devices while 43 respondents indicating a 21.94% indicated that they do not use the social media sites in their devices. The class representatives indicated that many of their classmates use social media with some using chatting and paging platforms for educational purposes. They further indicated that some lecturers are using you tube videos as modes of instruction and emails to a larger extent to deliver academic content. For the majority who did not have laptops, they depend on their mobile devices to access this content illustrating a very high usage of m-learning application.

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Email access on the mobile devices

The study sought to know whether the respondents used emails in their mobile devices so as to check on how whether the devices can do downloads and accept various email providers. The response was as indicated in figure 4.10.


Figure 4.10   Email access in mobile devices
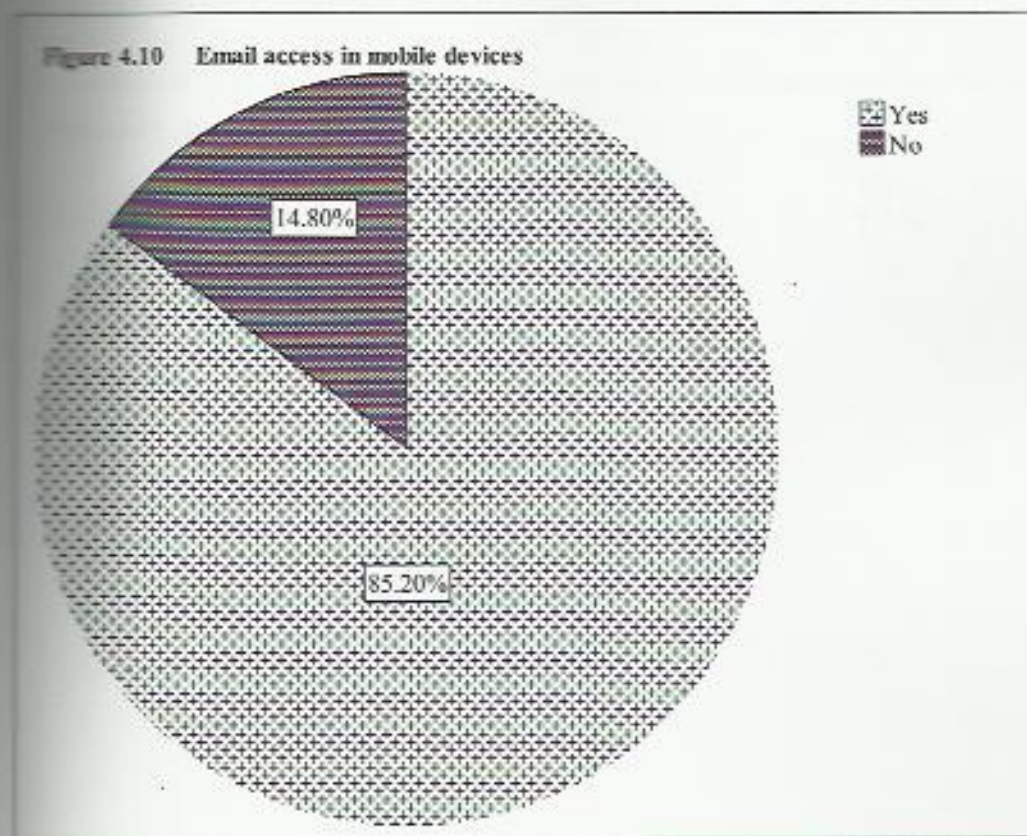
From Figure 4.10, 167 respondents representing 85.20% indicated that they use emails in their mobile devices while 29 respondents representing a 14.80% said they do not use emails in their mobile devices. This service is mostly used due to its ability to handle attachments that contain massive information.

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4.3.9   Use of SMS service in the mobile device

The study sought to know whether the respondents used SMS service in their mobile devices to ensure that if their general usage of SMS, then they can be used for educational purposes because of the knowledge and experience in the service usage. The feedback was as presented in Figure 4.11.

Figure 4.11   Sms access in mobile devices
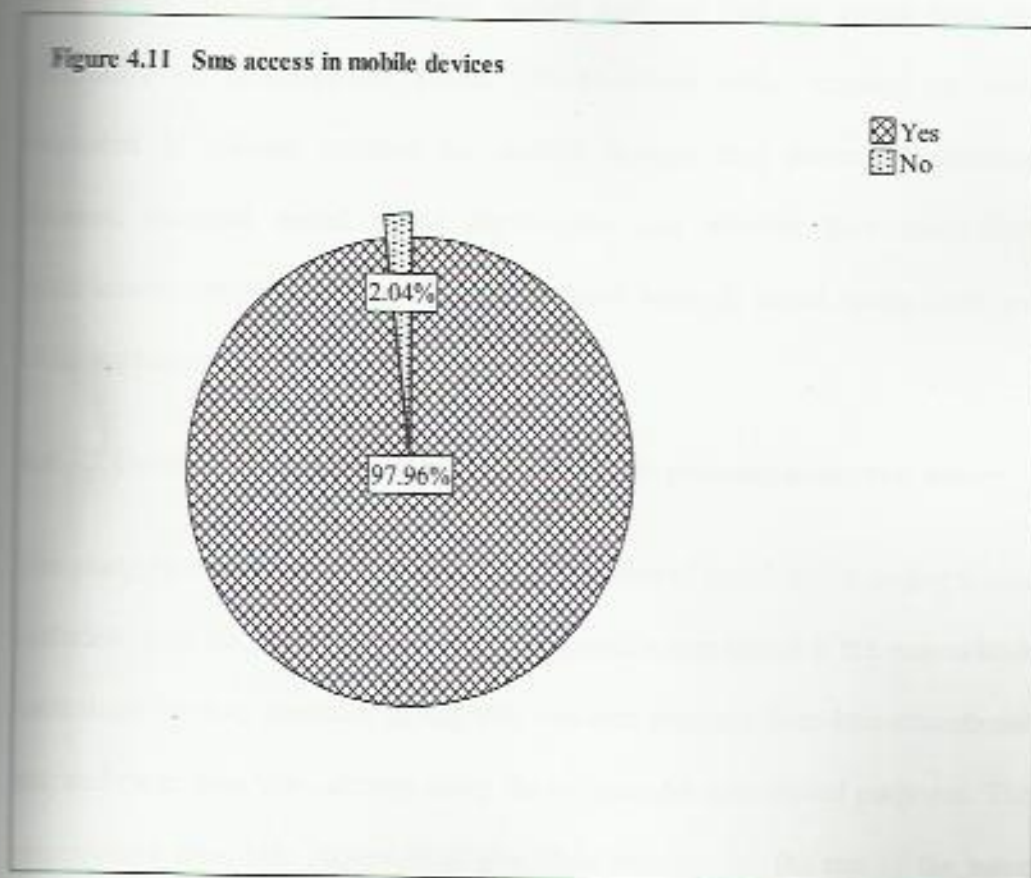
Majority of the respondents as shown in Figure 4.11 taking 192 respondents, which is a 97.96% representation, indicated they use SMS service in their mobile devices while 4 respondents representing a 2.04% said that they do not use SMS

service. The class representatives said that majority of their classmates were using SMS application in class for educational purposes. Also they expressed a large extent of usage of SMS by the university administration and lecturers to the students.

These findings on the internet access, social media sites access, emails access and SMS usage on the mobile devices agreed with the findings gotten from the University of Development Ghana (2014) where when respondents were requested to indicate whether the mobile devices they possessed provided internet, accessed social media applications and whether they used SMS applications; nearly all of the respondents used internet, social media sites and SMS applications in the devices.

4.4 Use of social media paging applications to promote education access

The study looked at the general and educational use of social media paging which included facebook page, blogs, you tube and emails to establish if the respondents used these services generally in that they can then translate them into educational use and those who were already using the services for educational purposes. The respondents were also requested to give their opinions on the use of the same services in mobiles devices to deliver academic content and as a mode of learning so as to gather the perceptions of the students on embracing technology to promote education access.

General usage of social media paging applications in the mobile devices

The respondents were asked to indicate their usage of the applications generally as frequently in a day, rarely in a day, once in a day, once in a week or never used. The findings were as indicated in Table 4.2.

Table 4.2 General usage of social media paging on mobile device

Application	Face book page		Blogs		You tube		Emails	
Usage	Freque ncy	%	Freque ncy	%	Freque ncy	%	Freque ncy	%
Frequently in a day	64	32.7	44	22.4	7	3.6	123	62.8
Rarely in a day	46	23.5	68	34.7	0	0	4	2.0
Once in a day	34	17.3	20	10.2	67	34.2	16	8.2
Once in a week	21	10.7	40	20.4	56	28.6	36	18.4
Never used	31	15.8	24	12.2	66	33.7	17	8.7
Total	196	100	196	100	196	100	196	100

From Table 4.2, 64 respondents use facebook page frequently in a day representing a 32.7%, 46 respondents representing a 23.5% used facebook page rarely in a day while 34 respondents used the page at least once a week. Of the total number of respondents, 44 of them representing 22.4% used blogs frequently, 68 respondents taking 34.7% used blogs rarely in a day, 20 respondents representing 10.2% indicated that they use blogs once in a day while 40 respondents representing 20.4% used blogs in their mobile devices once in a week. On you tube usage, 7 respondents representing 3.6% frequently used it, 67 respondents representing 34.2% used you tube once in a day while 56 respondents representing a 28.6% used you tube application in their mobile devices once in a week. The participants who frequently used their mobile devices to access emails were 123 representing a 62.8%, 4 respondents representing a 2% indicated that they rarely use emails, 16 respondents representing a 8.2% said they use you tube in their devices once in a day while 36 respondents representing a 18.4% used it once in a week.

There is a very high usage of social media paging application by the postgraduate students in the Department of Educational Administration and Planning. If this usage was translated to educational purpose usage, the department would probably have increased enrollments that would enhance education access. In a study on Cell phones and PDAs for education in Kinjo Gakuin University Chris et al., found out that increased usage of social media paging applications led to

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enrollments in the University. There could be increased enrollment in the University by the busy workforce in Kenya if m-learning was adopted.

Use of social media page applications for educational purposes

The respondents were asked to indicate their usage of facebook page, blogs, you tube and email on their mobile devices for educational purposes. The feedback was indicated in Table 4.3.

Table 4.3 Educational usage of social media paging on mobile device

Application	Facebook page		Blogs		You tube		Emails	
Usage	Freque ncy	%	Freque ncy	%	Freque ncy	%	Freque ncy	%
Frequently in a day	65	33.2	44	22.4	8	4.1	107	54.6
Rarely in a day	38	19.4	84	42.9	2	1.0	6	3.1
Once in a day	35	17.9	0	.0	78	39.8	14	7.1
Once in a week	21	10.7	40	20.4	34	17.3	34	17.3
Never used	37	18.9	28	14.3	74	37.8	35	17.9
Total	196	100.0	196	100.0	196	100.0	196	100.0

From Table 4.3, 65 respondents which is 33.2% frequently use facebook page for educational purpose, 19.4% use the application rarely in a day, 17.9% once in a day, 10.7% once in a week while 18.9% do not use the application for educational purpose. On the blog usage for educational purposes, 22.4% frequently use it in a day, 42.9% rarely in a day, 20.4% once in a week while 14.3% do not use the application for educational purpose. 4.1% of the respondents frequently use you tube for educational purposes, 1% rarely in a day, 39.8% once in a day, 17.3% once in a week while 37.8 did not use the application for educational purposes. A significant percentage of 54.6% of the respondents used email application in their devices for educational purpose, 3.1% rarely in a day, 7.1% once in a day, 17.3% once in a week while 17.9% do not use the application for educational purpose.

This is a clear indication that however much majority are using the social media paging applications generally, a significant percentage also uses them for educational purposes. As illustrated in the general usage of the applications, introduction of m-learning application would address the increasing demand for education hence promoting education access.

4.4.3 Opinion on the use of social media paging applications as a mode of learning and to deliver academic content

The respondents were asked to indicate their opinion on the usage of facebook page, blogs, you tube and emails in their mobile devices on academic content

delivery and as a mode of learning. The respondents were asked to indicate if the application was very effective, effective, slightly effective, not effective or if they did not have an idea. The study got the feedback as indicated in Table 4.4.

Table 4.4 Opinion on social media page usage in academic content delivery

Applicati on	Facebook page		Blogs		You tube		Emails	
	Freque ncy	%	Freque ncy	%	Freque ncy	%	Freque ncy	%
Very effective	53	27.0	52	26.5	8	4.1	139	70.9
Effective	54	27.6	100	51.0	64	32.7	24	12.2
Slightly effective	57	29.1	10	5.1	76	38.8	10	5.1
Not effective	1	.5	1	.5	0	.0	2	1.0
No idea	31	15.8	33	16.8	48	24.5	21	10.7
Total	196	100.0	196	100.0	196	100.0	196	100.0

From Table 4.4, 27% of the respondent indicated that use of facebook page can be very effective on delivering academic content, 27.6% said it could be effective, 29.1 said it could be slightly effective while 15.8% said they have no idea. A

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significant percentage of 26.5% of the respondents indicated the use of blogs would be very effective on educational content delivery, 51% said it could be effective, 5.1% indicated that it could be slightly effective, less than 1% said it would not be effective while 16.8% did not have any idea. On the use of you tube application, 4.1% said it would be very effective, 32.7% indicated that according to them it could be effective, 38.3% said it would be slightly effective while 24.5 indicated they did not have any idea. A very high percentage of 70.9% of the total respondents indicated that the use of emails on the mobile devices could be very effective on academic content delivery, 12.2% said it would be effective, 5.1% indicated it could be slightly effective, 1% said it would not be effective while 10.7% did not have any idea on the effective of its use on academic success.

These findings agree with the opinion given in a study on current state of mobile learning in Athabasca University where Traxler (2009) found out that majority of the respondents said that use of social media paging applications in their mobile devices would be a very effective means of content delivery. Majority of the students in postgraduate education prefer a flexible means of learning.

4.5 Use of social media chatting applications to promote education access

The study looked at the general and educational use of social media chatting which included facebook chat, twitter, gtalk and yahoo messenger to establish if the respondents used these services generally in that they can then translate them

educational use and those who were already using the services for educational purposes. The respondents were also requested to give their opinions on the use of the same services in mobiles devices to deliver academic content and as a mode of learning so as to gather the perceptions of the students on embracing technology to promote education access.

4.5.1 General usage of social media chatting applications in the mobile devices

The respondents were asked to indicate their usage of the applications generally as frequently in a day, rarely in a day, once in a day, once in a week or never used. The findings were as indicated in Table 4.5.

Table 4.5 General usage of social media chatting on mobile device

Application	Facebook chat		Twitter		Gtalk		Yahoo messenger	
Usage	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Frequently in a day	40	20.4	39	19.9	40	20.4	92	46.9
Rarely in a day	44	22.4	65	33.2	68	34.7	26	13.3
Once in a day	17	8.7	16	8.2	23	11.7	33	16.8
Once in a week	53	27.0	30	15.3	25	12.8	15	7.7
Never used	42	21.4	46	23.5	40	20.4	30	15.3
Total	196	100.0	196	100.0	196	100.0	196	100.0

From the findings, 40 of the respondents representing a 20.4% use facebook chat frequently in a day generally, 22.4% use it rarely, 8.7% once in a day, 27% once in a week while 21.4% never use facebook chat in their mobile devices. On twitter application usage, 19.9% use the application frequently in a day, 33.2% rarely use the application in a day, 8.2% once in a day, 15.3% once in a week while 23.5% do not use twitter. When asked on the general usage of gtalk application, 20.4%

...of the respondents said they frequently use the application in their mobile devices, ...rarely in a day, 11.7% use it once in a day, 12.8 once in a week and 20.4% ...use the application at least in their mobile devices. A significant percentage ...% use yahoo messenger in their mobile devices frequently in a day, 13.3% ...use it in a day, 16.8% use the application once in a day, 7.7% use it once in ...week while 15.3% do not use the application in their mobile devices.

...applications give a real time communication with alerts like pop-up ...windows. This makes this application very user friendly and hence the reason ...majority use it. In a study on turning on mobile learning, global themes in ...UNESCO (2012) found out that majority of the students use mobile chat due ...their friendly and cost effectiveness. Majority use these applications due to ...cost effectiveness hence the reason for the high percentages in their usage.

4.5.2 Use of social media chatting applications for educational purposes

The respondents were asked to indicate their usage of facebook chat, twitter, gtalk and yahoo messenger on their mobile devices for educational purposes. The feedback was as indicated in Table 4.6.

Table 4.6 Educational usage of social media chatting on mobile device

Application	Facebook chat		Twitter		Gtalk		Yahoo messenger	
Usage	Freque ncy	%	Freque ncy	%	Freque ncy	%	Freque ncy	%
Frequently in a day	39	19.9	40	20.4	42	21.4	93	47.4
Rarely in a day	42	21.4	78	39.8	66	33.7	39	19.9
Once in a day	17	8.7	2	1.0	24	12.2	24	12.2
Once in a week	53	27.0	27	13.8	24	12.2	15	7.7
Never used	45	23.0	49	25.0	40	20.4	25	12.8
Total	196	100.0	196	100.0	196	100.0	196	100.0

As represented in Table 4.6, 19.9% of the respondents indicated that they used Facebook chat frequently in a day for educational purposes, 21.4% rarely in a day, 8.7% once in a day, 27% at least once in a week while 23% never used the application in their mobile devices for educational purposes. On twitter

application usage, 20.4% of the respondents used the application frequently in a day for educational purposes, 39.8% rarely in a day, 1% used the application at least once in a day, 13.8% once in a week while 25% never used the application in their devices for educational purposes. 21.4% of the respondents indicated that they use gtalk application in their mobile devices for educational purposes, 33.7% use it rarely in a day, 12.2% once in a day and the same percentage at least once in a week while 20.4% do not use the service in their mobile devices for educational purposes. While asked to indicate their usage of yahoo messenger for educational purposes, 47.4% indicated they use the application frequently in a day, 19.9% rarely in a day, 12.2% once in a day, 7.7% once in a week while 12.8 do not use the service.

If majority of the respondents would use the chatting applications generally, this explains the reason why they have translated its usage into educational purposes. This can be a very effective mode of learning putting into consideration that this usage is between students themselves and also with the lecturers.

4.5.3 Opinion on the use of social media chatting applications as a mode of learning and to deliver academic content

The respondents were asked to indicate their opinion on the usage of facebook chat, twitter, gtalk and yahoo messenger in their mobile devices on academic content delivery and as a mode of learning. The respondents were asked to

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indicate if the application was very effective, effective, slightly effective, not effective or if they did not have an idea. The study got the feedback as indicated in Table 4.7.

Table 4.7 Opinion on usage of social media chatting on academic content delivery

Application	Facebook chat		Twitter		Gtalk		Yahoo messenger	
Usage	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Very Effective	39	19.9	67	34.2	78	39.8	96	49.0
Effective	75	38.3	29	14.8	65	33.2	49	25.0
Slightly effective	47	24.0	51	26.0	32	16.3	41	20.9
Not Effective	1	.5	0	.0	6	3.1	1	.5
No Idea	34	17.3	49	25.0	15	7.7	9	4.6
Total	196	100.0	196	100.0	196	100.0	196	100.0

From Table 4.7, 19.9% of the respondents indicated that according to them use of facebook chat would be very effective, 38.3% said it would be effective, 24% said

[...] be slightly effective, less than 1% said it wouldn't be effective while [...] indicated they did not have an idea on its effectiveness. However, 34.2% [...] respondents said that use of twitter application would be very effective, [...] it would be effective, 26% indicated that according to them it would [...] effective slightly while 49% did not have an idea on its effectiveness in [...] educational content. When asked their opinion about using gtalk [...] to deliver educational content, 39.8% said it would be very effective, [...] said it would be effective, 16.3% opinionated that it would be slightly [...] 3.1% said it would not be effective while 7.7% indicated that they did [...] have an idea on its effectiveness. The study also seek to know the opinion of [...] respondents on the effectiveness of yahoo messenger usage to deliver [...] content and 49% said that it would be very effective, 25% indicated [...] would be effective, 20.9% said it would be slightly effective, less than 1% [...] wouldn't be effective while 4.6% said that they did not have an idea.

[...] findings are in line with the ones found out in a study on exploring the [...] attitude in National Formosa University Taiwan where Yang (2012) [...] out that the students were using social media sites often. In the same study, [...] students also said that that according to them m-learning would be very [...] mode of content delivery.

Use of SMS texting in education to promote education access

The study sought to know the behavior of the respondents' use of SMS texting service generally and for educational purposes to establish if it could be used as a means of educational content delivery. The respondents were also asked to indicate their frequency in using SMS generally and for educational purposes, and also their opinion on the effectiveness of using the application to deliver educational content.

4.4.1 Frequency of SMS texting

The respondents were asked to indicate how often they used SMS service as rarely, frequently or if they did not use SMS service. This was important so that the study is able to derive the respondents' behavior on SMS usage. The findings of the study were as presented in Figure 4.12

Figure 4.12 Frequency of SMS usage

Frequency of sms usage
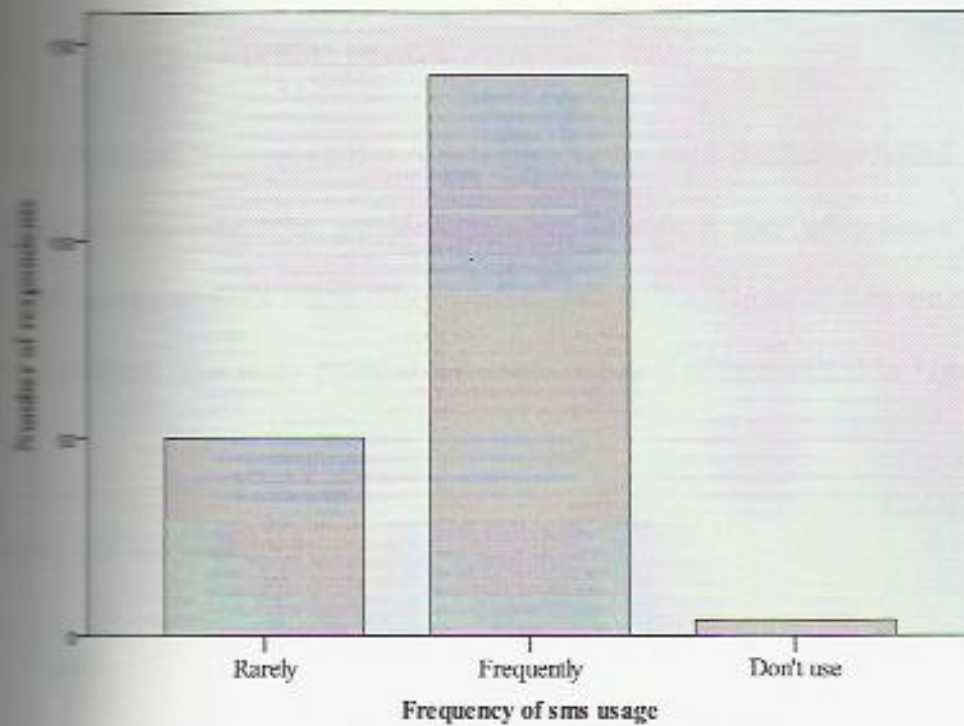
As represented in Figure 4.12, majority of the respondents, accounting for 142 of them indicated that they use SMS texting frequently, 50 use the service rarely, while only 4 respondents indicating that they do not use the SMS service.

SMS texting is an affordable means of communication with minimum interruption from the surrounding environment compared to calls. These findings are in tandem with a study on the use of text messages in mobile learning in Charles Darwin University, Australia Geng found out that there was a very high interaction through SMS between students themselves and with the lecturers. This

...ed the University's enrollment after the introduction of m-learning as a ...de of study in the university.

...2 Subscription to SMS bundles

...e respondents were asked if they subscribe to the SMS bundles provided by ...ous telecommunication providers so as to identify if they were aware of ...per means of SMS usage. They were to state a Yes, No or If they are not ...are of them. The study revealed the response below as represented in Figure ...13.

Figure 4.13 Sms bundles subscription
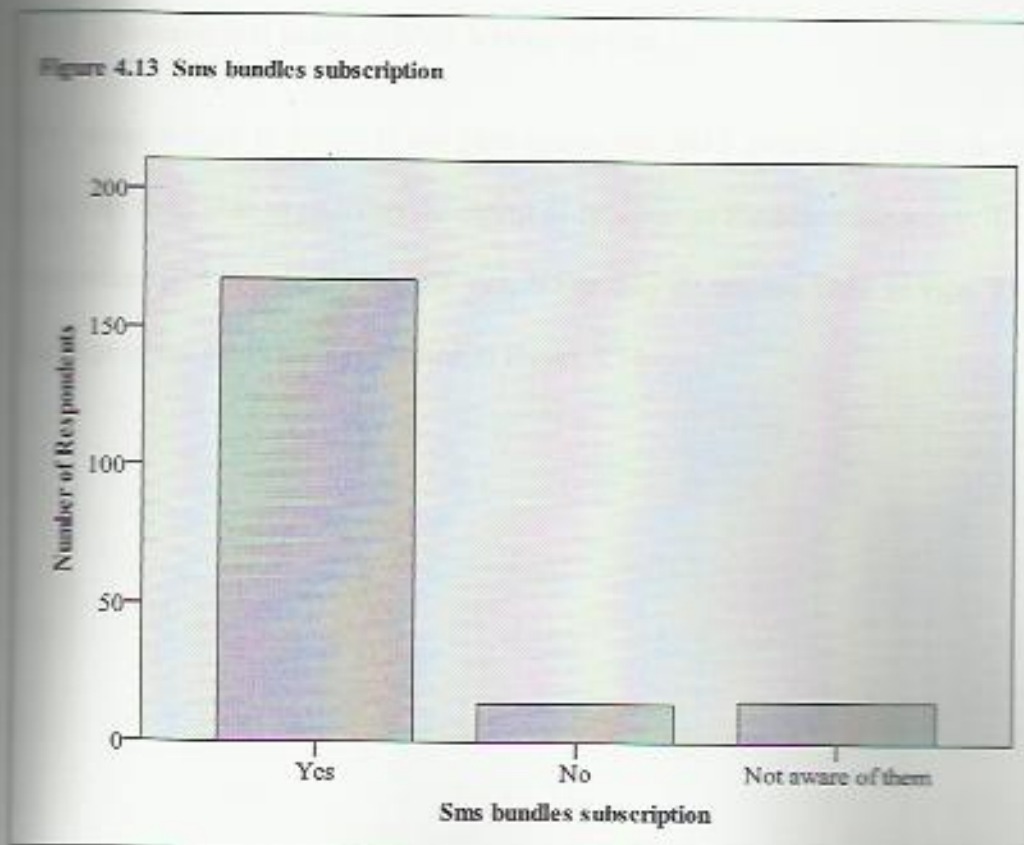
Majority of the respondents as presented in Figure 4.13, taking 167% of the respondents indicated that they subscribe to the SMS bundles, 14 of the respondents said they do not subscribe to them while 15 participants said they were not aware of them.

These subscriptions are meant to make the application more affordable and increase the SMS usage per day. These findings are in agreement with the high number of participants who use the SMS application generally and for educational purposes.

4.6.3 Educational usage of SMS texting service

The study sought to know if the participants use SMS texting for educational purposes to be able to establish the extent of its usage in the education sector. The respondent was to indicate either a Yes, No or they do not use SMS service. The findings of the study were presented in Figure 4.14

Figure 4.14 Sms usage for educational purposes
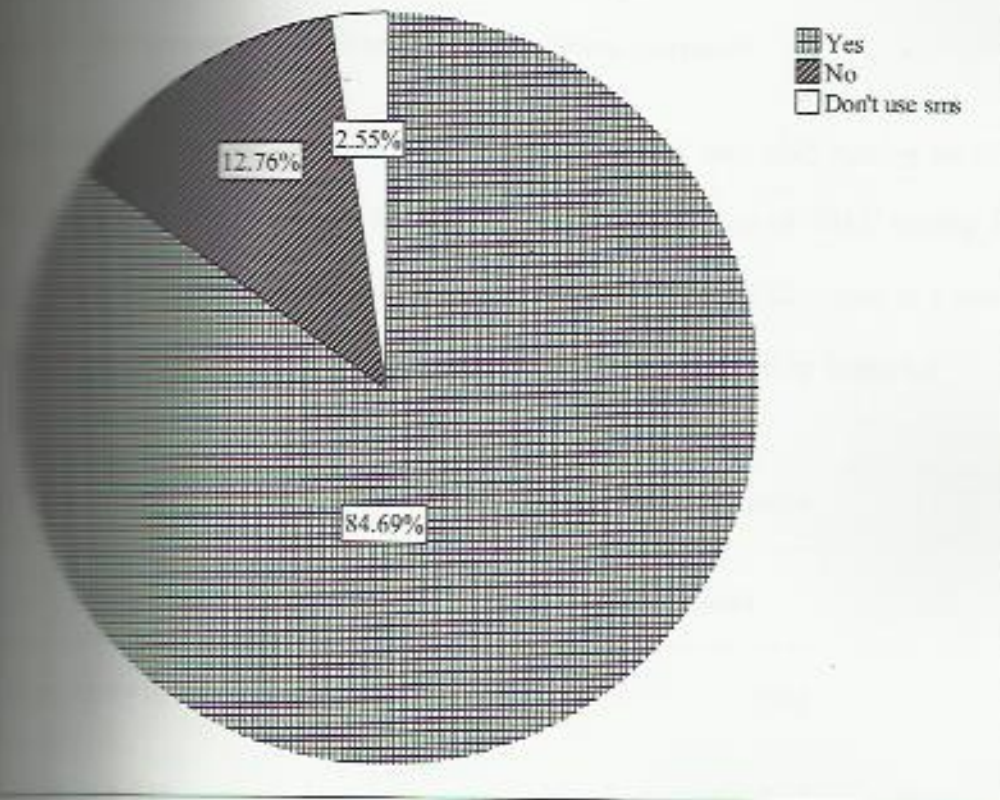
As presented in Figure 4.14, 84.69% accounting for 166 respondents said they use SMS texting for educational purposes, 12.76% which took 25 respondents said they do not use SMS texting for educational purposes while 2.55% said they do not use the service.

High usage of SMS service generally demonstrates the significantly high usage of the application specifically for educational purposes. The high usage of the

_____ can also be attributed to the majority of those who use the service and _____ to the SMS bundles hence making the service more affordable.

_____ Frequency of SMS usage for educational purposes

_____ were asked to indicate how often they used SMS texting service _____ purposes to be able to rate the behavior of SMS texting in _____. They were to rate as frequently in a day, once in a day, once in a week _____ not use the service. The feedback was as presented in Table 4.8

Table 4.8 Frequency of SMS usage for educational purposes

Indicator	Frequency	Percent
Frequently in a day	77	39.3
Once in a day	50	25.5
Once in a week	64	32.7
Never used	5	2.6
Total	196	100.0

From the presentation, 39.3% of the respondents indicated that they use SMS texting for educational purposes frequently in a day, 25.5% used the service at

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...at once in a day, 32.7% used texting at least once in a week while 2.6% said they never used.

...ability of the SMS bundle subscription to make the service affordable ...ulates the high frequency of SMS usage. Due to the much content to be passed ...ross the various classes which include assignments, majority use the service at least once in a week.

...5 Opinion on SMS texting usage to deliver educational content

The participants were asked to rate on their own opinion the effectiveness of SMS ...sage in delivery of educational content so as to gather the perception of the respondents on the SMS texting usage in education to promote education access. The response was as presented in Figure 4.15

Figure 4.15 Rating on the use of sms to deliver educational content
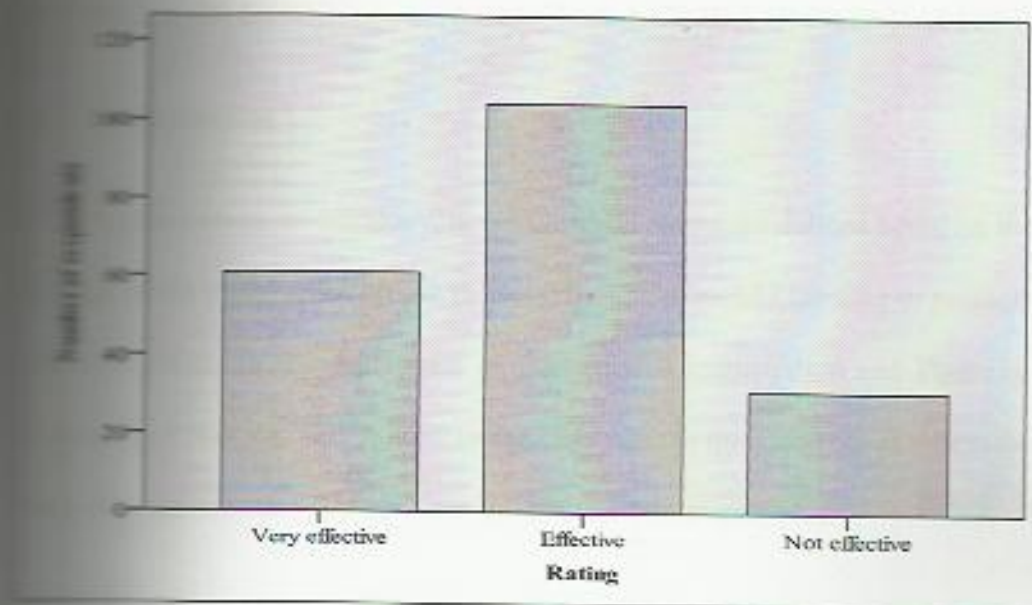
As presented in Figure 4.15, 61 respondents, accounting for 31.12% indicated that according to them SMS usage would be very effective for delivering academic content. A very significant group of 104 participants taking 53.06% opinionated that according to them use of SMS texting service would be effective while 31 respondents accounting for 15.82% indicated that according to them use of SMS is not an effective means of educational content delivery.

According to the class representatives, their colleagues would embrace m-learning and the current mode of instruction as a blended mode of instruction to ensure that those who are constraint in missing out discussions because they can't commute and increase on participation hence increased enrollment.

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CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1   Introduction

This chapter focuses on summary, conclusion and recommendations based on the findings of the study which sought to assess the use of mobile learning to promote education access in the department of Education Administration and Planning, University of Nairobi. This is done as derived from the three objectives where the study drew its summary, conclusions and major recommendations.

5.2   Summary of the study

The purpose of the study was to assess the use mobile learning to promote education access: Case of department of Educational Administration and Planning, University of Nairobi. The study was guided by three objectives which are; To determine the extent to which social media chatting platform is being used to promote education access in Department of Educational Administration and Planning in University of Nairobi, to examine how social media page discussion is being used to promote education access in the Department of Educational Administration and Planning in University of Nairobi and to assess the extent to which Short Messaging Service (SMS) texting is being used to promote education access in the Department of Educational Administration and Planning in

University of Nairobi. The study was conducted using case study research method. The target population for the study was the master of education students in the department of Educational Administration and Planning, University of Nairobi due to the fact that education access is majorly affected by student enrollments in the University. The study used simple random sampling and purposive sampling to get the adopted sample size. The study used questionnaires to collect data from students and interview schedules for class representatives and their deputies as the main tools of data collection. Descriptive statistics were used for data analysis and results presented using tables, pie charts and bar graphs.

5.2.1 Mobile device possession and usage

Of the total respondents, 100% of possessed a mobile device with Samsung Limited devices taking the lead with 122 devices amongst the 196 respondents. This was followed closely by Nokia with 49 devices while Alcatel and Itel devices shared the remaining 25. This can be attributed to the fact that Samsung Limited had many devices that are affordable and operating on android software hence suitable for chat applications and supporting downloads as well as specific certificate installations like for email providers. A significant representation of 184 respondents possessed devices that could access internet while 12 had low end devices. Further, a group of 65 respondents had tablets and 131 respondents did not possess them. The study also found out that 15 respondent possessed e-readers.

5.2.2 Level of importance of mobile devices for academic success

On the level of importance of their mobile phones, 64.3% of the respondents indicated that their mobile phones were very important. A very big presentation of the total respondents taking 147 of them which is a 75% of the respondents who possessed smart phones indicated that their smart phone were very important and to some extent extremely important for academic success. However, 18.9% said their smart phones were moderately important and none felt that smart phones were not important. Consequently, this analysis demonstrates a strong positive correlation between the use of mobile devices and academic success.

The tablet importance level scaled almost the same as with 52 respondents out of 65 who possessed the tablet saying that the devices are very important and to some extent extremely important. Only 13 respondents felt that the devices were moderately important with none feeling that they are not important. A bigger percentage, accounting for 66.8% did not possess a tablet. This indicates that however much the device could have been instrumental in academic success, many respondents did not possess it may be due to economic factors. The 15 respondents who possessed e-readers ranked the device importance to very important and to some extent extremely important.

5.2.3 Internet and SMS applications usage

In internet usage in the mobile devices, 91.33% of the respondents indicated that they use internet services in their mobile devices with 78.06% saying that they use the social media sites in the devices. Further, 85.20% use emails in their mobile devices and 97.96% representing a very high ranking use SMS texting in their mobile devices. This indicated a positive feedback on the study that at large group use social media, emails and SMS services in their mobile devices. The small numbers that did not use the services could be attributed to age and cost factors.

5.2.4 Social media page usage in the mobile devices

Facebook page, blogs and emails received high percentage on the use frequently in a day, rarely in a day once in a day or once in a week. Of the total participants, 84.2% use Facebook page, 87.7% use blogs and 91.4% use emails at least once in a week. You tube took 66.4% as a percentage of those respondents who use the application at least once in a week generally. Specifically on use of these applications for educational purpose, 81.2% use facebook page, 85.7% use blogs, 62.2% use you tube and 82.1% use emails at least once in a week. This demonstrates a very high ranking of social media page application for educational purposes. However much you tube is lagging behind as compared to the other three, it demonstrated a more than 50% mark hence also viable to academic content delivery.

majority of the respondents taking 54.6% of the total participants opinionated that the use of facebook page would be effective and to some extent very effective, 20.1% indicated that it would be slightly effective hence accounting for over 74.7% who attached facebook paging to have some effectiveness if at all used for educational content delivery. On blogs usage, 77.5% of the respondents said that use of application would be effective and to some extent very effective. A further 5.1% said that it would be slightly effective accounting for over 82.6% of the respondents who attached some level of effectiveness in using blogs for educational purposes. On you tube usage, 75.6% of the respondents opinionated that use of the application would to some extent be effective in delivering educational content while 88.2% indicated the same on the use emails to delivery academic content.

5.2.5 Social media chat usage in the mobile devices

On the general usage of the applications, 78.6% of the participants said that they use facebook chat at least once in a week closely followed by twitter usage at 76.5%. When asked on their general usage of gtalk application 79.6% use it at least once in a week while 84.7% used yahoo messenger. This demonstrates a very high usage of social media chatting applications. Specifically on educational usage of these applications 77.04% said that they use facebook chat at least once in a week followed by twitter handle at 75%. When asked on educational use of gtalk application 79.59% indicated that they use the application at least once in a

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...... and 87.2% used yahoo messenger. This demonstrates that social media chat .... are currently being used for educational purposes.

..... SMS texting use in mobile devices

...... study revealed that 72.45% of the respondents use SMS service frequently .... further 25.51% use the service but rarely in a day. This is a big portion of ..... SMS service users with only less than 2% not using the service. Majority of ..... respondents, taking over 85.20% of the total participants are aware and used ..... bundles provided by telecommunication providers. However, 14.80% either ..... not subscribe to the bundles or were not aware of them. This could be .... to the fact that the participants were not sending many sms in a day .... disregarding the service. Majority of the respondents taking 84.69% use ..... service for educational purposes with 97.4% indicating that they use the ..... at least once in a week. This demonstrates that the students are currently ...... SMS service for educational purposes. When requested to give their .... a majority of the respondents taking 84.18% said that the use of SMS ...... would be effective and to some extent very effective for education content ......ivery.

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Conclusions

On the basis of the findings of this study, the following conclusions are drawn. First, it was established that all the students admitted to undertake master of education in the department of Educational Administration and Planning, University of Nairobi possess mobile phones and large group of them having smart phones. These mobile devices are very important in their academic success and to some extent extremely important. Majority of the students under this program use internet and specifically social media sites and emails on these devices. This is neccessated by the fact that many of the devices possessed by the students used android operating system hence could support various operations. A large group of master of education also use SMS texting service in their mobile devices.

On the first objective, the study concludes that to a very large extent, social media chatting is being used to promote education access in the department of Educational Administration and Planning. There is a very high usage of facebook chat, twitter, gtalk and yahoo messenger for educational purposes and therefore some students who enroll on the program anticipate that they will depend on the mobile phone usage to enhance their academic success.

On the second objective, the study concludes that there is a very high usage of social media page discussion to promote education access in the department of

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Educational Administration and Planning. Majority of the students use facebook page, you tube, blogs and emails in their mobile devices to facilitate educational success. There is a high affinity by the students to use these applications to transmit academic content through the mobile devices in the absence of computers.

On the third objective, the study concludes that to a very large extent SMS texting is being used by students to promote education access in the department of Educational Administration and Planning. Majority of the students in this program subscribe to SMS bundles provided by the various telecommunication providers to enable them send many SMSs at a lower cost. This mode of content delivery is highly embraced by majority of the students due to its simple nature of operation.

Finally, the study concludes that mobile learning is being undertaken in the department of Educational Administration and Planning, University of Nairobi to a very large extent but on a blended learning environment. Those either taking full time, evening or school based programs blend this learning with m-learning due to its advantageous nature. The study also concludes that students are aware and use m-learning applications frequently and for educational purposes hence a factor to consider in the current admissions as expressed by the demand theory.

5.4   Recommendations on the research findings

Based on the findings of the study the following recommendations are made; First, the department ought to blend the use of m-learning with the traditional methods of instruction officially by allowing students to use their mobile devices in a live classroom session. This will ensure that students can use social media paging, chatting or SMS services to seek for information.

Secondly, the department needs to blend m-learning with e-learning applications to ensure that those students enrolled can use their mobile devices in place of the computers. This will see to it that e-learning registers students even though they are far from the computer reach every day and that the e-learning developers can ensure that android software can access the available content.

Third, the department should negotiate prices for high end devices like tablets with the mobile device providers to ensure that students get them at a reasonable price to facilitate possession. This will ensure that a majority population gets the devices for use in the academic arena due to their advantageous nature.

Fourthly, the department should launch M-learning mode of study where social media paging, social media chatting and use SMS is the mode of content delivery in the mobile devices. This will increase on the enrollments in the department hence increasing education access in the department as per the strategic plan. This will come in as the fifth mode of study in the department in the quest to address

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the increasing demand for education by individuals who are busy and in various parts of the country.

5.5 Recommendations for further research

More studies should be done in the following areas;

First, the use of M-learning application in promoting education access in the University of Nairobi,

Secondly, the use of M-learning application in promoting education access in Kenyan public universities,

Thirdly, the effectiveness of M-leaning and E-learning blending modes of study in the University of Nairobi.

REFERENCES

African Union. (2004). *Strategic plan of the commission of the African Union: 2004-2007.* Addis Ababa: African Union.

Alin A. (2008). *Economics: A level,* 5th edition. Pearson Education.

Anita Z. and Alice G. (2012). *Insights into the development and value of a social network site for a higher education institute on in tourism.* doi:10.1177/1356766712449368 jvm.sagepub.com

Borg W. and Gall M. (1999). *Educational research; An introduction,* 5th edition. New York: Longman publishers.

Bowen W. G., Kurzweil M. A., Tobin E. M. (2005). *Equity and excellence in American higher education.* Charlottesville: University of Virginia Press.

Chris H., Patricia T., David K. (2002). *Mobile learning: Cell phones and PDAs for education.* Japan: Kinjo Gakuin University.

Chisenga J. (2012). *Social media skills and social media strategies important for libraries in Africa.* Retrieved from: http://scecsal.blogspot.com/2012/06/social-media-skills-and-social-media.html (Accessed 26 October 2013).

DeGani A., Martin G., Stead G., Wade F. (2010). *E-learning standards for an m-learning world-informing the development of e-learning standards for the mobile.* Retrieved from: http://www.m-learning.org/knowledge-centre/research (Accessed October 2, 2013).

Dhanarajan T. (2009). *Education for all in the digital age. Digital review of Asia Pacific 2009-2010.* New Delhi: SAGE Publications.

Garner I., Francis J. & Wales K. (2002). *An evaluation of the implementation of a short message system (SMS) to support undergraduate student learning.* UK: Birmingham

Gay L.R. (1992). *Education research competencies for analysis and application.* London: Keynes Philadelphia Company

Geng Gretchen. (2012). *Investigating the use of text messages in mobile learning:* Sage Publications. Journal on Active Learning in Higher Education, 2012. doi: 10.1177/1469787412467122

_____ S. (2009). *International environmental issues*. Califonia: Stanford University press

_____ of Kenya. (2007). *Kenya Vision 2030*. Kenya: Government of the Republic of Kenya press

_____ S., Qureshi I.A. (2012). *M-Learning Adoption: A Perspective from a Developing Country*: Iqra University, Pakistan

_____ A.M., Haenlein M. (2010). *Users of the world, unite! The challenges and opportunities of social media*. Business Horizons

_____ K.D. & Tromp A.L. (2006). *Proposal and thesis writing: An introduction*. Nairobi: Pauline's Publication Africa

_____ R.V. & Morgan D.W. (1990). *Determining sample size for research activities*. Educational and psychological Measurements.

_____ E.O. (2012*). Bridging the information gap with the patrons in university libraries in Africa: the case for investments in web 2.0 systems*. Library Review.

_____ C., Arnedillo Sanchez I., Weber S. & Tangney B. (2006). *Using short message service to encourage interactivity in the classroom*. Computers & Education

_____ D. M. (1998). *Research methods in education & psychology: Integrating diversity with quantitative and qualitative Approaches*. California: Sage Publications.

_____chelle W. and Steven D. A. (2012). *Exposing the gap between what is possible and what is acceptable: How M-Learning can make a contribution to Sonography education*. Journal of Diagnostic Medical Sonography, 2012. doi:10.1177/8756479312444349

Mugenda A. and Mugenda O. (2003). *Research methods; quantitative and qualitative approaches*. Nairobi: Acts Press

Mullham R. (2008). *Issues in mobile learning in Ghana*. Catholic University of Ghana: Spinger publications

Orodho A. (2008). *Techniques of writing research Proposal and reports in Educational and social Sciences*. Maseno: Kanezja Enterprises

Republic of Kenya. (2006). *National information and communication technology (ICT) strategy for Education and Training.* Kenya: Ministry of Education

Safaricom Limited. (2014). *SMS subscriptions.* Kenya: Safaricom. Retrieved from: http://www.safaricom.co.ke/personal/prepay/sms/masaa-ya-sms-prepay

Shah N. and Jansen F. (2011). *Digital alternatives with a cause?* The Hague: Centre for Internet and Society.

UNICEF. (2011). *From 'What's your ASLR' to 'Do you Wanna Go Private.'* New York: UNICEF.

Tierney M. (1980). The *impact of financial aid on student demand for public/private higher education.* Journal on Higher Education.

Traxler J. (2009). *Current State of Mobile Learning.* Athabasca University: AU Press

UNDP. (2012). *Mobile technologies and empowerment: enhancing development through participation and innovation.* Retrieved from: www.undpegov.org/mgov-primer.html (accessed 15 July 2013).

UNESCO. (2014). *ICT in education, mobile learning.* Washington DC. Retrieved on: http://www.unesco.org/new/en/unesco/themes/icts/m4ed/

UNESCO. (2013). *Turning on mobile learning in Africa and the Middle East.* Paris: UNESCO

UNESCO. (2012). *Turning on mobile learning, global themes.* Paris: UNESCO

UNESCO. (2011). *EFA Global Monitoring Report 2011. The hidden crisis: Armed conflict and education.* Paris, UNESCO.

UNESCO Institute for Statistics. (2009). *Overcoming inequality: Why governance matters education for all global monitoring report 2009.* Paris: France.

University of Development Studies Ghana. (2014). *Using mobile technologies for social media based library services at the University of Development Studies Library.* Ghana: SAGE publications. doi: 10.1177/0266666913515898

University of Nairobi. (2013). *College of education and external studies annual reports.* Nairobi: University of Nairobi. Retrieved on: http://cees.uonbi.ac.ke/uon_reports_index

University of Nairobi. (2013a). *University of Nairobi Annual Report 2012;* University of Nairobi. Retrieved on: http://www.uonbi.ac.ke/uon-reports

World Bank. (2003). *ICT and MDGs: A World Bank perspective.* Washington DC: World Bank.

Yang Shih-hsien. (2012). *Exploring College Students' Attitudes and Self-Efficacy of Mobile Learning.* National Formosa University 2012: Taiwan

APPENDICES

APPENDIX 1: INTRODUCTION LETTER

Jason Gikundi,
University of Nairobi,
P.O. Box 92,
Kikuyu

1st May, 2014

The Chairperson,
Department of Education administration and planning,
University of Nairobi.

Dear *Sir/Madam*,

REF: PERMISSION TO CONDUCT RESEARCH

I am a Master of Education student from the University of Nairobi specializing in Economics of Education. I am carrying out a research on " The use of mobile learning to promote education access: Case of department of Educational Administration and Planning, University of Nairobi". Kindly permit me to collect data from your department. The information gathered will only be used for academic purposes and the identity of respondents will remain confidential.

Yours faithfully,

....

Jason Gikundi

Reg. No: E55/81337/2012

University of Nairobi

APPENDIX II: STUDENT QUESTIONNAIRE

Instructions

Please put a tick to indicate your opinion as truthfully as possible to ensure validity of data collected. All the collected information will be used for this research purpose only.

SECTION A: BACKGROUND INFORMATION

1. What is your gender? Male[ ] Female[ ]

2. What is your age bracket? Below 30yrs[ ]30-39yrs[ ]40-50yrs[ ]Above 50[ ]

3. Which year of degree study are you? 1st [ ] 2nd [ ]Other, Specify

SECTION B: MOBILE DEVICE POSSESSION AND USAGE

4. What is the make and model of your mobile device?_____

5. How important is the mobile devices you use as below for academic success?

	Cell Phone	Smart Phone	Tablet	E-reader
Not at all important				
Not very important				
Moderately important				
Very Important				
Extremely Important				

6. Do you access internet on your mobile device? Yes[ ]No[ ]

7. Do you access social media sites in your mobile device? Yes[ ]   No[ ]

8. Do you access emails in your mobile device? Yes[ ]   No[ ]

9. Do you use SMS service in your phone? Yes[ ]   No[ ]

SECTION C: USE OF SOCIAL MEDIA APPLICATION IN THE MOBILE

DEVICE

10. Kindly indicate your general usage of the following applications in your

mobile device.

Application	Frequently in a day	Rarely in a day	Once in a day	Once in a week	Never used
Facebook Chat					
Facebook Page					
Twitter					
Blogs					
You tube					
Gtalk					
Yahoo messenger					
Emails					

11. Kindly indicate how often you use the below applications in your phone for educational purpose

Application	Frequently in a day	Rarely in a day	Once in a day	Once in a week	Never used
Facebook Chat					
Facebook Page					
Twitter					
Blogs					
You tube					
Gtalk					
Yahoo messenger					
Emails					

12. What is your opinion in the use of the below application in mobile devices to deliver academic content and as a mode of learning?

Application	Very Effective	Effective	Slightly effective	Not effective	No idea
Facebook Chat					
Facebook Page					
Twitter					

Application	Very Effective	Effective	Slightly effective	Not effective	No idea
Blogs					
You tube					
Gtalk					
Yahoo messenger					
Emails					

SECTION D: USE OF SMS TEXTING IN EDUCATION

13. How often do you use SMS? Rarely[ ] Frequently[ ] Do not use[ ]

14. Do you subscribe to SMS bundles provided by communication providers?

   Yes[ ]   No[ ]   Not aware of them [ ]

15. Do you use SMS for educational purposes? Yes[ ]No[ ]Do not use SMS[ ]

16. How often do you use SMS messages for educational purposes?

   Frequently in a day [ ]   Once in a day [ ]   Once in a week [ ]

   Never used [ ]

17. How would you rate the use of SMS to deliver educational content?

   Very Effective [ ]   Effective [ ]   Not Effective [ ]

Thank you for your time

APPENDIX III: INTERVIEW SCHEDULE GUIDE FOR STUDENTS' CLASS REPRESENTATIVES

1. What percentage in your class possesses mobile devices?

2. What would be an approximate percentage of the mobiles devices in your class that could connect to the internet?

3. What varieties do you have in your class in terms of mobile devices?

4. Do students use mobile devices to get information from the internet?

5. Are there instances where students do their assignments by getting non print material from the mobile devices instead of computers?

6. Do students in your class use social media? If yes, do they use social media chatting and social media page for educational purposes?

7. How is the lecturers use of mobile phone in your class for educational purposes

8. Do students in your class use SMS service for educational purposes?

9. In your own opinion, how would your class embrace use of mobile devices to enhance blended learning?

10. In your class, how often does the department administration use SMS service to deliver educational broadcast message and education content?

11. In your own opinion, would the use of mobile devices for educational purposes increase enrollments?

APPENDIX IV: RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MR. JASON GIKUNDI
of UNIVERSITY OF NAIROBI, 1532-200
NAIROBI, has been permitted to conduct
research in Nairobi County

on the topic: THE USE OF M-LEARNING
APPLICATION IN PROMOTING
EDUCATION ACCESS: CASE OF THE
DEPARTMENT OF EDUCATIONAL
ADMINISTRATION AND PLANNING,
UNIVERSITY OF NAIROBI

for the period ending:
31st July,2014

Applicant's
Signature

Permit No : NACOSTI/P/14/6591/1789
Date Of Issue : 3rd June,2014
Fee Recieved :Ksh 1,000

Secretary
National Commission for Science,
Technology & Innovation

REPUBLIC OF KENYA

National Commission for Science,
Technology and Innovation

RESEARCH CLEARANCE
PERMIT

Serial No. A 1829

CONDITIONS: see back page

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do this may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

APPENDIX V: AUTHORIZATION LETTER

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Date:
3rd June, 2014

NACOSTI/P/14/6591/1789

Jason Gikandi
University of Nairobi
P.O.Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *"The use of M-Learning application in promoting education access: Case of the Department of Educational Administration and Planning, University of Nairobi,"* I am pleased to inform you that you have been authorized to undertake research in Nairobi County for a period ending 31st July, 2014.

You are advised to report to the Vice Chancellor, University of Nairobi, the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

SAID HUSSEIN
FOR: SECRETARY/CEO

Copy to:

The Vice Chancellor
University of Nairobi.

The County Commissioner
The County Director of Education
Nairobi County.