IMPACT OF SMARTPHONE ON THE READING HABIT OF UNDERGRADUATE STUDENTS OF FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

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2015/1/55693BT

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF EDUCATIONAL TECHNOLOGY, SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGER STATE, NIGERIA. IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF TECHNOLOGY (B. TECH) DEGREE IN EDUCATIONAL TECHNOLOGY

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ABSTRACT

The study investigated the impact of smartphone on the reading habit of undergraduate student of Federal University of Technology Minna. Specifically, three (3) objectives and three hypotheses was set to guide the study. The study adopted descriptive research survey design. The population of this study comprises of two hundred and eighty-seven (287) students from Educational Technology Department, Federal University of Technology Minna, Niger State. Which comprises of (98) 200 level students, (88) 300 level students and (101) 500 level students. Out of one hundred and eighty-seven (187) students' questionnaire distributed, one hundred and eighty-two (182) were retrieved. Mean and standard deviation was used to analyzed the questionnaire responses, while one sample t-test was used to analyzed the hypotheses. The findings of the study showed that students are aware of the importance of smartphone for reading for so long, and believe that smartphone makes reading easy, although some still disagrees that smartphone application for reading makes learning efficient and effective. The finding of the study also showed that smartphone helps the students to read information's online and offline ahead of their lectures, smartphone for reading has enabled them to gain extra skills and experiences outside the classroom, smartphone help to access solutions to assignment online or offline. The findings depicted that smartphone usage for learning or reading influence academic performance of students in Federal University of Technology Minna. The findings of the study revealed that there is no significant difference between the mean responses of students on the level of awareness, usage and influence of smartphone for learning in Federal University of Technology Minna. The study here by recommended that Students should further be enlighten on significance, efficient and effective usage of smartphone for reading or learning purposes. The institutions should also encourage the use of ICT related tools for instructional delivery to enhance the usage of smartphone for learning rather than social activities. More research should also be conducted in this area of research study to improve on the literatures, most especially looking into how gender difference can affect the awareness, usage and influence of smartphone for learning purposes.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

The smartphones, being a very new invention to humanity, became an inherent part of human's life. The smartphone combines different sophisticated features. Pei and Lionel (2006) states that smartphone allows users to keep pictures, memories, personal information, correspondence, health and financial data in one place. Smartphones also became an integral part of modern telecommunications facilities. In some regions of the world, they are the most reliable or the only available phones. The phones allow people to maintain continuous communication without interruption of their movements and distances. It importance also goes beyond communications, they are invaluable tools for learning such as reading, typing, tutorial videos among others (Emad, 2015).

Reading habit refers to the behaviour which expresses the likeness of individual types of reading and tastes of reading (Sangkaeo, 1999). Similarly, Shen (2006) identifies reading habits, as to how often, how much, and what students read. The success and failure of a students' academic life depends to a large extent upon his reading ability. Pleasure reading furthers the development of reading as life-long habit which strengthens both language skills and fluency noted that children improve their reading skills when they read for pleasure. Cunningham and Standvich (1998) reports that reading volume both inside and outside the school has a significant impact on the development of reading speed and fluency.

Reading is essential for international understanding and world brotherhood. It helps to understand and appreciate the common achievements of the global family. Reading is an essential tool for lifelong learning. It is important for everyone to develop the

rudiments of reading and the culture of reading always so as survive in life. Reading is the ability to understand words contained in a document and make use of the knowledge for personal growth and development (Dadzie, 2018). This implies making meaning out of recorded information either printed or non-printed in the life of an individual. People read for different reasons and purposes, some of which include for pleasure, leisure, relaxation, information and for knowledge. The major purpose of reading is for information and to acquire knowledge. The activities of reading are regarded as habit when it is repeatedly carried out. In measurable terms reading habits is often considered in terms of the amount of material being read, the frequency of reading as well as the average time spent on reading and this habit can be cultivated (Wargener, 2002).

Reading which is a long-term habit starting with the very early ages is the prominent gateway to the knowledge room. It can be assumed as a practice that assists individual to gain creativeness and develops their critical thinking capacities. In other sense, reading habit is an important tool for the development of personalities and mental capacities of individuals. A good reading habit is necessary for a healthy intellectual growth and play a crucial role in academic performance. Due to technological development, reading habits are changing. In our society today, while technology is slowly taking a steady control over individual lives, the reading habit is fast vanishing into thin air (Hinda, 2004). Students now lack the skills of reading as result of much time spent on social networks. Browsing the net, playing with funky handsets and passing non-stop short message service seem to be the order of the day, thereby making reading books or any other piece of written materials in a quiet or peaceful corner of a library or home become an archaic idea for most school and adults.

According to Obama (2008) in speech pinpointed that children cannot achieve unless they raise their expectations and turn off television sets and other means where there can

be distraction. Shabi and Udofia (2009) notes that active learning from books is better than passive learning such as watching films online, chatting and playing games. Social networking websites provide tools by which people can communicate, share information, and create new relationships. With the popularity of social networking websites on the rise, our social interaction is affected in multiple ways as we adapt to our increasingly technological world. The way the web users interact and talk to each other has changed and continues to change. These users now socialize through the internet and it takes away the person socialization that has been around forever. Social networking websites have affected our social interaction by changing the way we interact face-to-face, how we receive information and the dynamics of our social groups and friendships (Asur and Huberman, 2010). Kaitlin (2010) further opines that social networking websites also affect the way we receive information and news. The sites open up different portals through which we get information and create more diverse news outlets. Rather than reading the newspaper or watching the news on television, students rely on "friends" on the sites to give them updates on the world around us (Kaitlin, 2010).

Students' unwillingness to read extensively these days is a worrisome phenomenon. Students' reading habits these days are distracted with the persistence use of social networking. Thus, they now become passive readers who prefer to sit back, only to be entertained and do not put effort to reading. They prefer to spend the whole days chatting with friends instead of reading or studying. Some students even when they use the social media for academic purpose, they do so because they rely on its information accessibility to provide direct lifting of answers for their assignment. This affects students' academic performance because the more time students spend on social media sites, the less the time they spent reading their books.

According to Suman, *et al*. (2016) Advancement in technology gives people great ease and also keeps them active. People are able to spend time with family and friends when they finish their works from home. It is important for people to take into account only the positive aspects of smartphones and improve their lifestyle. Gowthami, and Venkata Krishna Kumar (2016) states too much usage of smart phones also minimizes manual interaction. Hence, the need for proper guide and efficient use of smartphones for learning. Unfortunately, the use of smartphones is having a negative impact on academics, as college students are not taking advantage of the smartphone for learning rather for the social relationship. They think the smartphones are their new family members and they talk to it all day long without inculcating it use for reading. Pei and Lionel (2006), Students come to lecture halls and whiles lectures is ongoing, they turn to pay much attention to their phones because they have a WhatsApp, Twitter and Facebook message and they think it's more important than the work they are doing currently.

Smartphones are equipped with multimedia phone features, which include camera function, sound recording function, video function and many others. These features assist students to drive their learning process and dreams effectively.

The mentioned forms of learning are all available on smartphones (e-learning and m-learning). Jung (2014) further states that u-learning is used to provide students with the right learning materials, depending on their situation. In this study, u-learning initiatives are supported by smartphones, which are used by the undergraduate students of the Federal University of Technology (FUTMinna) to access learning materials anywhere, anytime. The Bosso Campus is located in the heart of Minna, North West Province, Nigeria. At the Bosso Campus, a free wireless network is provided to students in some locations around the Campus. The Campus can be said to consist of students from

middle- to lower-income families (Chukwuere, Mbukanma, and Enwereji, 2017) or disadvantaged societies, and using smartphones is becoming a norm. Students who have smartphones connect easily to the wireless networks and gain limitless access to internet connections that are aimed at advancing students' learning experience and performance.

Furthermore, the deployment of these internet (Wi-Fi) connections is aimed at increasing access to learning contents across the Campus and beyond. One of the thriving platforms to increase access to learning contents is e-Fundi. It is a course or learning management system used as a mechanism for learning engagement and communication and learning content delivery between the students and lecturers. e-Fundi helps the students to obtain their study materials, such as their lecture slides, to engage in online forums, to submit assignments, to write tests, quizzes and examinations, to communicate with lecturers and other students, and many more. It also possesses qualities of u-learning in the sense that, regardless of your geographical location within the nation, it can provide the student with the right learning materials for their academic work through smartphones. This means that e-Fundi is mobile-friendly, driving e-learning initiatives and, in doing so, increases access to learning contents for students on- or off-campus. Consequently, according to Joshua, Nehemiah, and Ernest (2015), e-learning is a borderless learning experience to increase tutors and (undergraduate) students' interaction as well as delivering effective teaching and learning contents across different platforms, such as smartphones and many more. Elearning platform promotes self-directed and progressive learning processes and access to high-quality learning contents (Weichhart, Stary, & Appel, 2018; Day &Erturk, 2017).

Although, according to Guspatni (2018), sometimes the system can be difficult to navigate and use. To this study, the adoption of smartphone in classrooms promotes

access to e-learning materials and opportunities. The high levels of addiction to smartphones prove that it affects students' academic performance (Kibona&Mgaya, 2015). This addiction causes some concerns as to whether the use of smartphones hampers or elevates the performance of students in general. Ezemenaka (2013) writes that the invention of mobile phone technology thrived with the quest for new knowledge changes and the desire among university students, and most of them are affected, including undergraduate students. This impact contributes to the students' academic performance both negatively and positively.

1.2 Statement of the Research Problem

Smartphones has gained immeasurable ground in the lives of students all over the world. Smartphone is a common sight today in our schools as you see students going to school/class with some of the most expensive and sophisticated smartphones, tablets and ipads that has all the applications, facilities and software that can connect them to the internet and all forms of social media platforms, other web sites and so on, where they chat, access, stream, download, upload, exchange and play different kinds of media contents, which most often, are pornographic in nature (Olofuniyi, Fashiku & Owombo, 2012).

The portability and memory capacity of some of these gadgets made it easier for them to keep materials for viewing whenever and where ever it seems conducive for them. As a result of that, most of the smartphone in the hands of these students contain one form of pornographic content or the other which distract them from using it for reading purpose (McGuigan, 2005). This may be partly attributed to wrong usage of Smartphone telecommunication gadgets, instead of concentrating on their uses for learning purposes, this may also be partly attributed to poor teaching methods, lack of teaching materials, lack of supervision by the parents and the teachers etc., and this may

affect the students' performance or achievement in school. The smartphone usage pattern of most of these students, during and after school hours, such as their level of engagement in free night calls, chatting, instant messaging, smartphones and exam malpractices etc., is greatly influencing their academic performance. It was against this background that this study sought to investigate the influence of the use Smartphones on reading habits of students Federal University of Technology Minna.

1.3 Aim and Objectives of the Study

The aim of the study is to investigate into the impact of smartphone on the reading habit of undergraduate students of Federal University of Technology Minna.

Specifically, the objectives of the study are to:

1. identify the level of awareness of students on the usage of smartphone for learning in FUTMINNA.
2. identify the level of usage of smartphone for reading among the students in FUTMINNA.
3. determine the influence of smartphone usage for reading on academic performance of students in FUTMINNA.

1.4 Research Questions

The followings are the research questions guiding the study:

1. What is the level of awareness of students on the usage of smartphone for learning in FUTMINNA?
2. What is the level of usage of smartphone for reading among the students in FUTMINNA?
3. What is the influence of smartphone usage for reading on academic performance of students in FUTMINNA?

1.5 Research Hypotheses

The followings hypotheses was tested at 0.05 level of significance

1. $H0_{1:}$ there is no significant difference in student's responses on the level of awareness of usage of smartphone for learning in FUTMINNA.
2. $H0_{2:}$ there is no significant difference in student's responses on the level of usage of smartphone for reading in FUTMINNA.
3. $H0_{3}$: there is no significant difference in student's responses on the influence of smartphone usage for reading on academic performance in FUTMINNA.

1.6 Significance of the Study

The usefulness of this research work in the educational system cannot be overemphasized. If the result of the study is properly utilized, it would be of great benefit to the students, lecturers, school academic planning units and various educational bodies.

The student will immensely benefit from the outcome of this study, as it will expose them to the use of smartphone for learning and also understand the need for adequate use of smartphone for reading.

The finding of this study is also expected to be of great significance benefit to the lecturers, as it will educate the lecturers, on how to enlighten the students on ways to improve their understanding of academics through adequate use of smartphone.

The findings of the study will be of immense benefit to the school academic planning unit, as the result of the study will exposes them to the importance of smartphone in learning, and the recommendations of this study will give advices on how smartphone usage for learning can be incorporated in the curriculum.

From the exposure study, the government should be called upon to assist the school administration in funding the use of smartphone and social media platform for learning.

Finally, this study when completed will be a guide to students on the impact of smartphones (both positively and negatively) on their reading habits as undergraduate students of Federal University of Technology, Minna Niger State and also add to already existing literature on the field of study.

1.7 Scope of the Study

The focus of this research is to assess the impact of smartphone on the reading habit of undergraduate students. The study is limited to Students of Federal University of Technology Minna. The study considered 200L, 300L and 500L students of Educational Technology Department.

1.8 Operational Definition of Terms

Academic performance: This refers to the extent at which a student, teacher or institution has achieved their short or long-term educational goals.

E-learning: E-learning is learning conducted via electronic media, typically on internet. E-Learning is the also known as Electronic Learning

Habit: This refers to the acquired behavior pattern of an Individual that are regularly followed until it has become almost involuntary.

Impact: This refers to the contributions that researcher makes for the betterment of the economy, society, environment, or culture that is beyond the contribution to academic research.

Learning: This refers to the acquisition of knowledge, skills and attitudes by undergraduates using available resources.

M-learning: M-Learning is learning via the internet or network using personal mobile devices, such as tablet and smartphones to obtain learning materials through mobile apps, social interactions and online educational hubs. M-learning is also known as Mobile Learning.

Reading: This refers to the process of using cognitive method of decoding words to derive meaning. It is a form of language processing. Reading is a means of communicating, sharing information and thought, ideas, and language acquisition.

Smartphones: This refers to a mobile technology that allows you to do more than to make phone calls and send text messages. Smartphones can run software programs like a computer and can access the internet.

Technology: This refers to methods, systems and devices which are the result of scientific knowledge that are used for practical purposes.

Undergraduate: A student at a university who has not yet received a degree.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The present chapter discussed related literature on the research topic. The following subheadings will be discussed:

Conceptual Framework

The Concept of the Smartphone in Mobile Learning

Students Attitudes and Behaviours Towards Digital Textbooks

Role of Smartphones in Academic Learning

Challenges involved in using Smartphones and the Effects Accompanied with their Use

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Flow Theory (FT)

Social Constructivism

Situated Learning

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2.2 Conceptual Framework

2.2.1 The Concept of the Smartphone in Mobile Learning

Mobile learning (m-learning) is a mode of learning whereby mobile computing coupled with wireless technology help learning to take place anywhere and anytime (Asabere, 2013). Sarfoah, (2019) succinctly define mobile learning as "learning which employs wireless devices like smartphone, PDA, iPod, palmtop, laptop or even digital camera and USB keys in the learning and teaching process". The smartphone is an indispensable device in the area of mobile learning. The most crucial features of a smartphone are its availability with users, strong battery, touch screen, millions of downloadable applications, (Godwin, 2011). According to Fordjour, Zakaria, and Afriyie (2015), a "smartphone is a mobile phone with more advanced computing capability and connectivity than a feature phone which has limited functionality". Smartphones were released in the year 2000. It was first manufactured by Ericsson and the model was called R380, (Alfawareh & Jusoh, 2014).

Smartphones support learning either offline or online. Offline access enables users of smartphones to store any form of learning materials such as Pdf, PowerPoint, Word, Excel, Pictures, Animations, Symbols; irrespective of the geographical location. Internet access is needed for learners like students and teachers to visit websites to meet their information needs. The exploration of the smartphone has changed the dynamic of students learning activities. It is refreshing to note that, 8 students can carry a whole semester's learning materials on a small smartphone which gives students the latitude to learn in an area which, on a normal circumstance, will require a laptop or other related form of a computer. For instance, a student can access their lecture materials whiles in a car, train, plane, and marketplace to mention but a few. It also enables students to

register courses online, take a quiz or semester through the use of an assigned or registered learning management system, and can have a group discussion digitally.

2.2.2 Students Attitudes and Behaviours Towards Digital Textbooks

Now the developments in digital technology have touched the highest level. In the education sector, digital books are introduced in the form of electronic textbooks; adoption of e-books has been growing dramatically and is expected to grow at a much higher rate in the near future. Often these digital textbooks are web-based, digital replicas of printed textbooks. Students often favour to read print copies over a digital version when reading for longer time.

Digital textbooks are more suitable for quick reference purpose rather than for long and continuous reading purpose. Students consider digital textbook as a learning object as it support learning and they are reusable. As digital text provides a variety of advantages such as lower costs, easy accessibility, and up-to-date content, students are inclining towards digital textbooks because of their superior delivery techniques, not a better way to read. Accepting and understanding the type of reading device and its usability is based on user's acceptance of digital textbooks. Usefulness and ease of use considerably and positively influence these students to buy digital textbooks. Computer experience of a student also decides their behavioral acceptance of digital textbooks.

2.2.3 Role of Smartphones in Academic Learning

The role of smartphone and mobile technologies in education must not be ignored (Tikoria & Agariya, 2017). Academic learning is now innovative as a result of smartphone and other media in promoting and advancing 21st century needed skills and knowledge (Tulenko & Bailey, 2013; Emerson & Berge, 2018).

Students have experiences of digital surroundings in a tactile and personal manner, which is brought about by some mobile devices, including tablets and smartphones (Cano, 2012). Mokoena (2012) argues that the use of smartphones by students improves collaborative learning through its connection to the internet. This statement implies that the use of smartphones drives students to be more engaged in learner-centered participation learning. This is a vivid indication on numerous supports that smartphones have brought to the students; it advances their understanding by increasing academic performance, social media participation and information sharing; it helps their social skills by giving them opportunities to seek academic assistance and support, and many more (Mokoena, 2012). However, according to Kinsella (2019), the challenge of communication in lecture halls with students is solved due to the use of smartphones.

Concomitantly, Mokoena (2012) states that group projects and/or work given to the students by their lecturers are easily and conveniently carried out with the aid of smartphones. This further shows that students are now able to record their lecturers' lessons and teachings in real time. This is done by recording information during lessons, which has been made possible by the sophisticated features available on smartphones.

From different perspectives, people try to embrace the use of smartphones because it is no longer used as communication tools (calls and text messages) only, but also as tools for people's social and work lives and possibly a potential instrument in their academic lives (Cano, 2012). According to Buck, Melnnis, and Randolph (2013), Lytle (2012) reports that college students using the Study Blue Flash Cards believed it assists them in memorizing the key terminologies when preparing for their tests. The study further states that some students use iPhones for the Evernote Peek application, which serves as a note-taking cloud service, thereby, giving them the opportunity to sort out their notes and transforming them into effective study materials. With the evolution of

smartphones, what the students do outside the classroom is very much the same as the work they do inside of the classroom.

This observation is very important to the issue brought up in the study with regard to the responsibility or role of smartphones outside the premises of the school (university). It can be observed that students use their smartphones for various reasons at university without restrictions. Then, according to Vanwelsenaers (2012), students spend a considerable percentage of the 4.5 lesson hours using smartphones. Currently, collaboration is a key 21st century skill that Singapore's teachers are trying to help their students learn. In addition, through the effective use of smartphones, students are engaged in dialogues and other collaborative activities, and this is an excellent illustration of how the smartphone facilitates conversation and information/content sharing (Buck *et al*., 2013; Vanwelsenaers, 2012).

2.2.4 Portability of Smartphones as a Convenient means of Learning for Students

Students happen to be interested in ways they can learn and at the same time have their attention captivated. They may be provided with autonomy over their educational experience (Buck *et al*., 2013) and access to standard learning contents and opportunities Day & Erturk, (2017). As a matter of fact, one of the most important features of the ever evolving features of the smartphone is its small or rather portable size and its ability to be used not only in the classroom, but also outside the classroom Mokoena, (2012). This offers an edge over the traditional platform for learning and teaching, which deals with books and chalk/marker boards behind the four walls of education institutions. It was suggested by Ezemenaka (2013) that the use of internet-enabled phones has been on the rise in the 21st century, and as a matter of fact is something that many cannot comprehend. Additionally, young people pay a great deal of attention to their internet enabled phones, also to what their peers think of them. As

the mental effects of the use of smartphones are ever present in the lives of the users, there also exist other impacts caused by the continuous use of smartphones, and this has been identified to be an 'addiction'. Some psychologists, of recent, have issued cautions that cell phone users face the risk of being addicted to their phones. There are some medical concerns that have been raised in association with the use of smartphones; there also happens to be effects such as insomnia, anxiety, misery and others (Ezemenaka, 2013). All these effects usually develop when students find themselves without their cell phones. Ebiye (2015) listed the rudimentary utilities of smartphones, which comprise mobile teleconferencing, mobile audio and visual calls, as well as sending and receiving electronic mails. Then, according to Gowthami, Venkata, Krishna and Kumar (2016), they argue that the use of the internet is now a routine habit for students, as well as a medium that is used by students to search for information at anytime and anywhere. Based on all indications, the rate of smartphone penetration aids teaching and learning processes among students in developing societies through the use of internet connections. Smartphones and mobile technologies make access, exchange and mobility of information easier (Kent,2016).

2.2.5 Challenges involved in using Smartphones and the Effects Accompanied with their Use

It appears that some students are able to accomplish tasks using smartphones at universities or classrooms, while in the case of others; the smartphone has become a potential form of distraction. Even the visibility and mere presence of a smartphone that is connected to the internet attract the attention of students and many adults, thereby diverting their focus and/or attention in class. Some students can 'switch' their focus between the smartphone as a form of entertainment device and at the same time, a learning platform (Barnwell, 2016). Additionally, smartphones could prove to be very important in the sense that it gives children, or in this case, students from different kinds

of socioeconomic backgrounds, the same opportunity to access learning materials (digital-age information). However, the use of smartphones as a form of learning entails that students have to combine information and at the same time stay focused on their lesson or discussions in class. For students, who have low literacy skills and the steady urge to multitask on social media, blending the purposeful use of smartphones into classroom activity can be particularly challenging. Then, the main advantage of the tool tends to go to waste.

There has been proportional growth in the use of mobile phones, and mobile phones are being overused (Baron, 2010). Smartphone encourages micro-learning for the employed and unemployed for advancement of knowledge and skills (Emerson & Berge, 2018). Young people's use of smartphones invites the initiation of social circles; friendships are also initiated and destroyed. Romantic affiliations emerge from these social circles, which are often developed or established on the social and recreational websites, thereby probably leading to a shift in the relationship of users with their family members. Traditionally, friendships and social associations or connections were done in person; however, in the era of the evolving technological world of smartphones, they are being done over social networks and as a matter of fact have become the preferred platform to develop friendships. Friendships that are developed over social networks tend to be more recreational and are less based on educational purposes.

Based on the previous sentence, it is a clear indication that less attention is given by the students to their academic work and activities. Some schools have decided to restrict the use of smartphones in classes or during lectures; the reason being that it enables the students to cheat during their examinations and/or tests (Buck *et al.*, 2013). The easy internet access on smartphones enables students to easily look up their examination and/or tests questions online. The use of smartphones in this manner can cause the

student to be somewhat relaxed about studying, as they can easily find the answers to their examinations or test questions online, thereby helping the students to pass their examination, but not helping them to have knowledge about what they are being taught by their lecturers.

Consequently, the adoption of smartphones can be said to be driven by two properties of decadent and sensible dimensions. In essence, it is no longer only a task-oriented technology for the purpose of productivity, but it is also an entertainment-oriented technology that is designed for pleasure. According to Chun, Lee, and Kim (2012), 18 to 20 persons tend to become thoroughly driven sentimentally in probing for fun and sensory stimulation when using a smartphone for entertainment purposes and pleasure, while they are likely to be judiciously persuaded to scrutinize cost benefits based on its performance when using smartphones for work (Chun *et al*., 2012). In this study, the effect of smartphones on academic performance or the learning of students is mixed with challenges that will be determined later in the study.

2.2.6 Advantages of Smartphone to Reading

A decade back, a mobile phone or cell-phone signified fashion, symbol of richness, money and success. Nevertheless, today, every one finds it a necessity in day-to-day life and has become a basic need for every individual. Smartphones are faster, easier and more effective way to share information. A mobile is widely used for reading. Today people are moving from old-fashioned paper-based books to e-books and mobile reading. By using mobile phone, you can purchase, download and read any book. Advantages of using smartphone for reading are as follows.

(a) Portability: Smartphone device is light and small. It can fit easily in our pocket. Therefore, users can take anywhere allowing them to carry hundreds of books without

worrying about weight. It can be carried from one place to another as it breaks physical boundaries.

(b) Capacity: Smartphone devices allow users to receive information immediately by browsing and downloading books. Smartphone reading is interactive as it contains audio, video and animations. Its interface allows novice users to perform and function with ease for better reading. Users can easily search for any information instead of turning page after page.

(c) Better reading: While reading fonts size can be resized, making it easier to read for different readers. Latest technology in smartphone devices provides additional software to turn some of the books into audio books.

(d) Avoiding annoyances: Smartphone reading reduces the annoyance of flipping pages to avoid distraction and concentration.

(e) Free books: Smartphone reading saves money and time; there is no need to go to the book store. Thousands of free books are available on the Internet which can be read by using mobile devices.

(f) Gain of space: Smartphone reading required less memory and space. Users do not need any extra space to store downloaded books. User can store hundreds of books on smartphone devices

If something is done consistently and frequently, it becomes a habit. Yilmaz (1993, as cited in Erdem, 2014) defines the habit of reading as the act of reading being carried out throughout life in a constant, regular and critical manner because of it being perceived by the individual as a need and source of pleasure. Reading is an integral part of education. Reading, as Khreisat and Kaur (2014) state, should be looked at beyond it

being a mere decoding process. They state that the ultimate purpose of being literate is the application of the ability to read, which is reading to learn. Studies (Anmarkrud and Braten, 2009; Guthrie, Coddington and Wigfield, 2009; Logan, Medford and Hughes, 2011) suggest that reading is an activity that requires focus, sustained interest and effort, and motivation has been found to be a predictor of reading performance that is far above cognitive abilities. Reading is an effortful activity that often involves choice (Wigfield, Guthrie, Tonks and Perencevich, 2004). Reading requires effort, and is an activity that students choose either to do or not. It therefore requires motivation, and motivation is crucial to reading engagement (Guthrie *et al*., 2009).

2.2.7 Effect of the Use of a Smartphone in Students Learning Activities

Ifeanyi and Chukwuere (2018) postulated that the use of smartphone on students has both a negative and positive effect depending on how it is used. Further, the author emphasizes on the negative side of the coin where the smartphone has become a great distraction to studies. For instance, there is a high propensity that students who are glued to their smartphone check updates or notification almost every minute if not strictly controlled. Consequently, this diverts their focus from their studies and even at a lecture time when a lecturer is at the peak of teaching. The author concluded that the effect of smartphones on academic performance or the learning of students is mixed with challenges Kibona and Mgaya (2015) postulated that despite the phenomenal advantage of smartphone in learning it is considered as double edge sword where most of the applications such as WhatsApp, Facebook, and games, affect students in Nigeria negatively in all level because of its addictive nature. Thusly, it inadvertently steals away students' time which affects their academic performance adversely. In the same vein, Lee *et al*., (2015) investigated smartphone addiction in university students and its implication for learning among 210 Korean female university students (mean age=22

years). The study revealed high-risk addictions and consequently rated themselves low on 'self-regulated using smartphones'. Similarly, this study agrees with Ifeanyi and Chukwuere (2018) where smartphone consumes most of the users' time and in addition does not 13 enhance their academic performance but rather decrease as they envisioned before getting them as indicated by the majority 270 (72.0%). This is also affirmed in the works of (Lin *et al*., 2014; Tossell *et al*., 2015).

In further elucidation, high excessive use of smartphones leads to complications which include vascular permeability, neck pain, and musculoskeletal disorders and mouse brain damages. On the contrary, Shai (2016) assessed the use of smartphone in the University General Physics Laboratory. Using 120 students with a survey approach, the study found favorable responses on the effect of smartphones on students learning activities. Respondents affirmed that smartphone had a positive effect on their studies, for instance, it "provides an effective background on the lab safety information, administrative requirements and general knowledge of physics lab equipment" (Sarfoah, 2018).

2.2.8 Disadvantages/Barriers of Smartphone Reading (User Experience)

Developments in information technology during the past years have led to maximum exploration of mobiles usage. Using smartphone devices for reading purpose has become a lifestyle. Besides many advantages, every product has a defect and way to improve. Smartphone devices when used for reading purpose have its own problems such as:

1. **Usability**

Surpassing the classic book over eBooks largely depends on its usability. The usage of smartphones has potentials in different areas in the field of education. Usability plays a critical role in mobile reading. App developers devote time, effort and money in getting

the usability of their products and services right for users. Providing a clean, clear and pleasant look is vital to retain users from leaving mobiles. Interfaces and navigation are the prime problem areas to any smartphones user while reading. Many mobile users are not satisfied with the navigation as it is non-intuitive and reading non-linear texts for example newspapers reading on mobiles is not comfortable. Usability is the quality of a user's experience when interacting with mobile devices and it is about the effectiveness, efficiency and the overall satisfaction of the user.

2. **Acceptance**

Acceptance and loyalty in service industries and its potential, i.e., smartphone impact on the development of sustainable competitive edge from others. Prior domain knowledge and lack of technical skills of naive users led to many problems in selection of suitable smartphones for their reading. Mobility, support, connectivity, immediacy, collaborative, readability, usefulness and text satisfactory play an important role in accepting mobile devices for reading purpose.

3. **Reading Speed Variation among People**

Normally an average person reads at about 200-400 words per minute but speed readers can read around 1000-1700 words per minute. The average reading speed increases as an individual grows in age and develops in intellect and cognition. Reading on a computer screen is more visually demanding than reading printed text. The speed of online reading depends upon the eyes movement from word to word and from line to line. Online reading requires longer time eye movements and imposes continuous focusing and position demand which is both visually and physically tiring. They felt that font size played an important role when reading texts on the Internet. Being able to take notes and leave marks or underline text when reading documents on the computer

screens were also important. In a study it was found that the factors that affected the students' online reading behaviors were eyestrain and headache.

4. Health-related Problems due to Mobile Reading

Smartphones should offer pagination that matches with original text. Use of color especially red and green as differentiators must be avoided. Reading with mobile devices before sleeping causes health related problems. Reading by using smartphones in dark place before bedtime took readers to keep awake for longer hours, having a lower quality of sleep. Smartphones produce light, the blue light produced from mobile screen suppress the production of sleep inducing hormone melatonin51 thus, resulting in sleep deficiency, disrupting daily work, which eventually influence on performance, health and safety.

Motivation is a construct that has roots in many fields of study like business management, psychology, education and many more. Motivation is a vital aspect of teaching and learning. Yet it is concerning to often hear teachers and parents complaining about how unmotivated most students are to read. Motivation can be defined as an inner ability, a stimulus that pushes a person to take action to achieve a goal (Ülper, 2011). Dörnyei and Otto (1998, cited in Deniz, 2010) define motivation as a state of arousal determining the priority of the wishes and desires of an individual and negatively or positively affecting his/her learning. It is an inner power or stimulating force that drives an individual towards achieving his/her wishes or desires (Deniz, 2010).

Motivation serves as the initial driving force that generates, promotes and sustains reading and learning. The socio-educational model by Gardner and Lambert (1972) brought the construct of motivation into the field of education. Their model, the socio-

educational model, suggests that motivation has a direct link to second language acquisition. It states that people's acquisition of a language is determined by two things, namely, an integrative orientation (the desire to have contact with native speakers and to interact with their cultures) or an instrumental orientation (desire to master the subject for utilitarian purposes such as job enhancement and increased income). The integrative orientation and instrumental orientation can be associated with intrinsic and extrinsic motivation respectively. Both intrinsic motivation and extrinsic motivation are important in learning. However, most studies advocate intrinsic motivation as yielding life-long benefits unlike extrinsic motivation which can have short-term benefits (Deci, Koestner and Ryan, 1999, 2001; Wang and Guthrie, 2004). Guthrie (2000) points out that student with high intrinsic motivation, a task orientation and high self-efficacy are relatively active readers and high achievers. In this study, it is interesting to find out if students' reading habits are motivated by intrinsic or extrinsic goals. Many theories of motivation exist. I have chosen to use the self-determination theory (SDT), the expectancy-value theory and the self-efficacy theory all of which relate to reading habits.

2.3 Theoretical Framework

2.3.1 Self-Determination Theory (SDT)

The self-determination theory (SDT) was developed by Deci and Ryan in (1985). The focal point of this theory is on the degree to which behavior is self-determined. According to this theory, the decision to engage in an activity can be determined whether the activity was imposed or if it was taken autonomously. How self-determined an individual is, when doing an activity has an influence on his/her level of motivation to perform a task (Ryan and Deci, 2000). How self-determined behavior is, is dependent on the satisfaction of the internal psychological needs of an individual (Deci and Ryan,

2000). SDT suggests that there are three factors or psychological needs that are vitally important for a task to hold interest. These needs are common to all humanity and are innate. These needs are:

a) Competence: This is the feeling that a person experiences when he/she has succeeded in carrying out challenging tasks. This gives the person the perception that he/she can achieve his/her goal (Skinner, 1995; White, 1959). People have a need to feel effective when performing any task. When people receive positive feedback or rewards for their behaviors, it can increase the person's perceived competence in that behavior. Receiving negative feedback can decrease competence. In relation to this study, if a student feels that he/she is a competent reader it may have a positive effect on his or her reading motivation. Deci and Ryan (2002) state that the need for competence leads people to seek challenges that are optimal for their capacities and therefore to persistently attempt to maintain and enhance those skills or capabilities. They further suggest that competence is a felt sense of confidence.

b) Autonomy: This occurs when an individual feels in control of his/her behavior. Autonomy can be achieved by taking own decisions to engage in an activity or by willingly allowing other people's opinions to influence the decision (Ryan and Deci, 2000). People have a need to feel in control over their own choices and decide their own direction. Autonomy and competences together let people view their behavior as self-determined. Deci and Ryan (2002) state that autonomy concerns acting from interest and integrated values. This means that if a student feels in control (autonomy) of the task and is confident in his/her own abilities (competence), then he/she is highly likely to engage in that task which in this case will be reading.

c) Relatedness: This is a feeling of attachment to others. It is a desire to interact with others and to be connected to others. It deals with how an individual relates with others. A person feels safe and secure when he/she has societal support and interpersonal relations with others (Deci and Ryan, 2000). Thus, according to Usher and Kober (2012), completing a task could bring to the student rewards, a sense that he/she belongs in a class or other chosen social group. Receiving approval from a person of social importance, like a lecturer, could also bring this sense of belonging. A student may, for example, engage in reading because he/she wants approval from his/her lecturer or wants to contribute during a lecture.

The more certain behaviour satisfies each of these needs, the more self-determined the behaviour is, the more a person will be motivated to show (and keep showing) the behaviour. A high quality of motivation (highly self-determined) will increase the chances on long-term motivation and durable success/behaviour change.

Reading habits has made an adverse impact on people due to various types of advancements in digital communication. Increasing digital information has led readers to spend more time on reading devices and that has big effect on the reading behavior of many readers. As the technology of mobile phones has developed to a much more advanced level and gained popularity, the number of users has increased as well. Digital information and content has contributed to shift of reading printed books to digital reading. Electronic books can be grouped into two classes: hardware devices used to read the content and the content itself. stated that for the overall development of a human being, reading is vital. They stated that with the arrival of contemporary digital technologies, particularly mobile phones, tablets, e-readers, television, and other means of entertainment, the reading habits, particularly in the younger generation, is undergoing changes at a faster pace. conducted a survey on mobile reading habits and

found that most of the people that read on a web browser preferred to make notes and highlight in document. Users are not satisfied with 'navigation within the document,' 'in-text search,' 'document storage and organization' in current applications. Users do not stick to one program for their reading. UNESCO (2014) conducted a study on smartphone reading in developing countries and found that smartphone are helping as a gateway to long-size text. Smartphones are permitted to access the same book the PC accesses, even the least expensive smartphone allowing users to access and read books. Smartphones are the most favorable reading devices to millions of people in the world. People read more when they read on smartphones. Usage of smartphones for reading is expected to go higher as the latest smartphones support Android, Tizen, Windows, etc., operating systems. In a study, it was found that 85 % of people claim that mobile devices are a central part of their daily life. Mobile phones or smartphones travel along with their owners from table to workstation to shops and home again with efficiency, proximity and convenience. Nowadays most of the youth below 30 years are using mobile applications for organizing their lives better as wireless technology has been youth's entertainment option (Market Analysis & Consumer Research Organization (MACRO), Devarajan (2019) reports that irrespective of the socio-economic background, the majority of the people are interested in reading books using smartphones (51.96 %) especially fiction followed by Science (34.66%).

2.3.2 Flow Theory (FT)

Borrowed from psychology, flow theory helps assess human-computer interactions and addresses people's use of the internet. Flow, as defined by Csikszentimanlyi (1997), as cited in Manca and Ranieri (2016), is the "holistic sensation that people feel when they act with total involvement." It implies absorption in a task, such that the person is completely attracted by the artefact and the task being performed. Websites, email tools,

and the computer itself are all artefacts; the tasks refer to an assignment performed using these tools. Thus Facebook is an artefact, and people using this network engage in tasks that prompt their flow on the platform. also provide an extensive review of the definition of flow as experienced by people immersed in a task. Described as total concentration and deep involvement in the tasks, these activities result in intrinsic enjoyment, combined with keen curiosity and pleasure that encourages repetition of the activity, but also the loss of time and an inability to control usage or halt the activity.

2.3.3 Social Constructivism

The basic principle of social constructivism is that the social environment is the facilitator of knowledge construction and that learning should not be disassociated from the environment (Perrin, 2015). In social constructivism, a key assumption is that "learning is collaborative with meaning negotiated from multiple perspectives". Social constructivism therefore places stress on the process of social interaction and collaboration among learners. Importantly, the concept of the zone of proximal development (ZPD) is essential for understanding proper instructional conditions (Schunk, 2004). Vygotsky defines the ZPD as "the distance between the actual development level as determined through independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978) cited in (Perrin2015). In other words, the ZPD represent the difference in the possible amount of learning a student can do with and without help. Vygotsky believed that interaction from more knowledgeable peers would help develop a deeper understanding than one's own individual capacity (Perrin, 2015).

2.3.4 Situated Learning

One advantage of social media is the potential for authentic situated learning experiences. Situated learning theory assumes that learning can be enhanced when it takes place within an authentic context and culture because situations can aid in co-producing knowledge through activity and "knowledge is presumed to accrue in meaningful actions" (Lee, Baring, Sta Maria, Reysen, 2017). Learning is therefore perceived as a situated and generative activity rather than acquisition of knowledge. This can lead to learning as legitimate peripheral participation ((Lee*et al*2017).

Meaning participants first start off at the peripheral and gradually work their way into the community of practice. Additionally, situated learning theory suggests that learning is most effective when learners have access to 'just-in-time' and 'on demand' materials that are relevant to the task at hand (Schuler, 2009). Many social media tools are spontaneous and flexible, allowing learners to "exploit small amounts of time and space for learning" (Traxler, 2019) within the current culture of the social media environment.

2.3.5 Distributed Cognition

As stated by Sarapin (2016) the cognitive perspective was adopted when behaviorist were unable to explain certain social behaviors: for instance, children do not imitate all behavior even after been reinforced, and they model a new behavior an observation without been reinforced, for the behavior. Jean piaget develops the major aspects of the theory as early as the 1920's Mengel stated that Cognition recognizes that much of learning involves associations established through contiguity and repetition. Furthermore, cognitive theorist view learning as the acquisition or reorganization of the cognitive structures through which humans' process and store information (Almansour and Alzougool 2017) drew insight and provided a vivid cognitive framework outlook;

Knowledge: is the lowest level of intellectual ability and requires only that the students know what is being communicated. With this, fundamental understanding translates to the ability of the students to apply the appropriate abstraction (i.e. theory, principle, idea or method) without being prompted.

Analysis: implies the ability of a student to breakdown information in to its constituent element and to explicate the relationship between the various ideas expressed. The process is divided in to three part: analysis of elements, analysis of relationships and analysis of organizational principles.

Synthesis: Involves the process of putting together parts in order to form a whole, that is creating a novel patter or structure. At this level, the student moves in to the role of a "producer" (John andMathew2017).

Evaluation: represent the highest level of cognitive domain, it requires the students to makes both quantitative and qualitative judgments concerning the extents to which criteria are satisfied by certain materials or methods, such evaluations are made on the basis of internal evidence (i.e logical accuracy and consistency) or in term of external criteria (i.e a comparative process).

2.3.6 Connectivism

Connectivism is a relatively new learning theory developed by George Siemens (2015) in reaction to the insufficient explanations offered by behaviorism, cognitivism, and constructivism regarding the needs of millennial learners, twenty-first century digital tools, and advancing digital technologies that are influencing learning and development (Siemens, 2015). Connectivism assumes that "knowledge is distributed across a network, and therefore that learning consist of the ability to construct and transverse those knowledge" (Junco,, 2015). Learning occurs when the learner connects to and

provides information into the learning community aka "node" (Canche 2017; Junco, 2015). Connectivism emphasizes that the 'network' (which is comprised of nodes and connections) is the critical part to learning (Canche, 2017). In other words, a function of learning is how the learner is able to make connections and use the connections efficiently between learning communities. Additionally, connections allow learning to occur (Downes, 2009) much as social media environments allow users the unique affordances of knowledge networks, giving them access to learning communities.

2.4 Related Empirical Studies

Omorodion, Oluwakayode, Amos and Gloria (2019), conducted a study on mobile phone usage on the reading habit of Library and Information Science students in University of Benin. Five research objectives were raised to guide the conduct of the study. The survey type of descriptive research design was adopted for a population of 440 respondents. The quota and simple random sampling techniques were used in selecting a sample size of 220 respondents. Questionnaire was used as the instrument for data collection. 157(71%) questionnaire was retrieved and considered adequate for the study. The data were analyzed using descriptive statistics (frequencies). The findings revealed that the level of mobile phones usage by Library and Information Science students in University of Benin is very high. The study further revealed that the reading habit of Library and Information Science students in University of Benin is good. Although, factors affecting the reading habit of the students as revealed in the study include peer influence/association, unavailability and inaccessibility of reading materials, lack of reading culture, lack of reading motivation, excess classwork activities, incessant power outage. The study recommended that students should be encouraged to make productive use of their mobile phones in order to accomplish high academic achievements.

Noah (2019) investigated into the use and effects of the smartphone as a learning tool in distance education at the University of Ghana. The study was based on the Technology Acceptance Model (TAM) and included 294 total respondents. The survey research design and questionnaires were employed for the study. The major objectives of the study were: to find out the students' perceived ease of use of a smartphone in learning activities, to determine the perceived usefulness of smartphone in students' academic achievement, to investigate the effect of the use of the smartphone in students' learning activities, and to investigate the factors that inhibit the use of a smartphone as a learning tool. The findings revealed that the distance learning students find it easier to use a smartphone in their learning activities. The findings also revealed that the use of smartphones performed remarkable roles among the distance learning students of the University of Ghana in their academic activities. However, the findings found a negative effect on the distance learning students and revealed some inhibiting factors in the use of smartphones which included smartphones freezing during important learning moments, unstable internet connectivity, intruding calls during class hours, and the screen and key sizes, which made the smartphone uncomfortable for learning, as compared to laptop.

Raymond (2018) make an inquiry into the effects of smartphone use on reading comprehension. The employed a qualitative research method by use observation, journal, article among others. The author opined from his findings that there are many positive aspects to the growing popularity of smartphones. Increased access to interpersonal communications, increased safety capabilities, and access to the World Wide Web are just a few of the positive aspects that the burgeoning technology brings to society. As with most things, there are also negative aspects to the persistent technology. The bulk of research on the topic of smartphones has revolved around

distraction, reaction times, and overall safety in regards to automotive usage. The report attempted to consolidate some of the pertinent information regarding smartphone use and its impact on reading comprehension. The author further stated that studies have shown that high reading comprehension levels are an indicator of academic success. Four key aspects of reading comprehension, repetition, organization skills, cognitive skills, and metacognitive skills, are all greatly affected by the types of distraction caused by smartphone usage. Included are analyses of recent studies that show that simply having a smartphone nearby may cause a 10% reduction in working memory ability. Data regarding smartphone usage trends, user attitudes and perceptions, distraction, reduction of cognitive abilities, and task switching strongly imply that smartphone use is responsible for a significant negative impact on reading comprehension. There are several opportunities for future research into the topic. Specifically, the need for intra subject research may better measure the effect of smartphone usage at the individual level. Both long-term and short-term studies can better provide information to consumers and students about the possible negative effects of smartphone usage.

Similarly, Maryam, Akbar and Habib (2015) conducted a research on the effect of smartphone on the reading comprehension proficiency of Iranian EFL learners. In order for the authors to realize the objective, a sample of 40 high school students (boys and girls) in Ilam Mojtama Fani Tehran English language institute was selected. The participants were divided into two groups; namely experimental and control. Using pre-test and post-test as well as the SPSS software application, the study evaluated the difference in scores of these groups regarding the reading comprehension capability. The results show a significant difference between the experimental and control group following a month of using the application.

A study conducted Fadekemi and Alirat (2014) also investigated into the effect of mobile phone use on reading habits of private secondary school students in Oyo State, Nigeria. The study adopted a descriptive survey of the ex post facto type. The population included all the 33private secondary schools in Ibadan North Local Government Council (Oyo State Ministry of Education, 2012), Oyo State, Nigeria. The schools have a total of three thousand nine hundred and eleven Senior Secondary Students (3911), of which one thousand one hundred and thirty-seven students (1137) belonged to senior secondary class I. Random sampling technique was adopted to select three hundred and eighty-five senior secondary class one students from 16 private schools (50%) to participate in the study. A questionnaire named Influence of Mobile Phone On Reading Habit of Secondary School Students (IMPRHSSS) was used as an instrument for the study. The questionnaire used for data collection consisted of 23 items that comprised both close and open ended questions on a four point Likert Scale. The study reported survey results that revealed that reading for fun; reading in the library; and reading books with color and illustrations were among factors that affected reading habit among students. The survey also showed that students were not favorably disposed to reading at home and that some of them were forced to read by their parents. The study further revealed that almost all the respondents owned a mobile phone. The researchers recommend that software applications and teaching materials be harnessed for use on mobile phones such that Nigerian students would be able to read and learn using this equipment.

2.5 Summary of Related Literature Reviewed

In as much as numerous phenomenal advantages of the smartphone has been revealed, there are some inhibiting factors that halt students in their quest to adopt smartphone for their learning activities. In the works of Gikas and Grant (2013) students experience in

mobile computing in higher education was focused. The study revealed that students were not willing to adopt smartphone as a tool for learning because of its small screen size as compared to a laptop which provides a wider screen, small keyboard, and serving as a distraction factor during lecture hours. Similarly, it was also found in the works of Sarfoah (2017) where 79% of the respondents agreed that smartphones make learning uncomfortable. Also, Sarfoah (2017) revealed that unstable or unreliable internet connectivity is a critical factor that inhibits students from adopting smartphone as a learning tool where 72% of the respondents responded in affirmative to this assertion. In the same study, it was found that some lecture content is not supported by smartphones. Also, 80% of the respondents agreed to the assertion that the smartphone device does get frozen at the crucial leaning moments. This occurrence according to general comments makes learning ineffective. Further, in the same study, it was found that "intruding calls may come in during learning" (73%). These factors greatly distract learning by driving away their focus from the core purpose of being in class or a place or moment set aside for effective studies.

In this fast changing digital world, readers are estimated to progressively change to the screen based reading act to stay alive with knowledge-rich environments. Smartphones reading is extensively used for information seeking purposes. Usage of smartphones reading is higher in urban areas. Reading devices support reading of a particular text and the extensive scanning of manifold texts. However, it has not overcome the serious obstacles of supporting the tangled reading, note making, and arrangement practices that are the basis of producing novel and significant texts. Further improvements and research is required in smartphone technology to introduce adaptable user interfaces, faster processors, ergonomically best designs with time and users' needs, hands free operations, etc. Also noticed are the potential for smartphones and other mobile devices

like e-readers to aid in literacy programs. With the result that larger number of people is carrying smartphones with them that are capable of holding and reading tens or thousands of eBooks that are useful for the promotion of literacy and reading. New technologies like smartphones can play important roles in helping to enable efforts and activities to teach people to learn how to read. Reading requires books which are non-accessible to millions of people in the world and thus do not read. However, today mobile phones and cellular networks are filling up that gap and helping these people out of reach. It is estimated that over 6 billion now have access to a working smartphones which is still used primarily for basic communication. It is often possible to provide access to printed books through a mobile device for a fractional cost. Today's smartphones are less expensive and allow users to store large number of books, access and read them. Hence, the present sought to add to already existing literatures on use of smartphone for learning by investigating into the impact of smartphone on the reading habit of undergraduate students of Federal University of Technology Minna, Niger State Nigeria.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The study adopted descriptive research survey design. According to Ling (2015) descriptive research is concerned with the collection and analysis of data for the purpose of describing, evaluating or comparing current or prevailing practices, events or occurrences. The author also defined descriptive survey research design as a research method that describes a given state of affairs at a particular time. Hence, descriptive survey research design was appropriate for the current study.

3.2 Population of the Study

The population of this study comprises of two hundred and eighty-seven (287) students from Educational Technology Department, Federal University of Technology Minna Niger State. This comprises of (98) 200 level student, (88) 300 level student and (101) 500 level students.

3.3 Sample and Sampling Techniques

The sample size of one hundred and eighty-seven (187) students was considered. A simple random sampling technique was employed in the selection from the entire population of two hundred and eighty-seven (287) students.

3.4 Research Instrument

A well-constructed and Researcher-developed questionnaire titled “Questionnaire Impact of Smartphone on the Reading Habit of Undergraduates Students (QISRHUS)” was used to get the desired information from students. Part A was for collection of information on personal data of respondents while part B was divided into three sections based on the research questions. Section A contains item which addressed the

research question one, Sections B contain items which addressed the research question two and Sections C contain items which addressed research question three.

3.4.1 Validity of the Instrument

Samples designed questionnaire was submitted to the project supervisor and two other lecturers in the Department of Educational Technology, Federal University of Technology Minna for vetting, correction and approval before distributing it to the respondents. These experts access the face and content validity of the instrument in relation to the background of the research topic. Also, the experts examined all the items in the test instruments with reference to the appropriateness of the content that is the extent to which the content cover the research questions which it is supposed to cover. The opinions and suggestion of the experts was used to make necessary amendments on the instruments.

3.4.2 Reliability of the Instrument

The reliability of the research instrument was determined using a split half test using the odd and even numbered items to form the two halves. The two halves was administered to a sample of student which are not in the department where considered for the study. The Cronbach alpha test was used to determine the reliability of the instrument. A co-efficient value of 0.70 and above indicate that the research instrument was reliable; hence, was fit to be adopted for getting the desired information for the study.

3.5 Method of Data Collection

The researcher ensured the permission of the School authority before carrying out the survey through the use of introductory letter from the Department of Educational Technology seeking for an approval for the survey to be carried out. The researcher collected the needed data through the administration questionnaire to the sampled undergraduate students. The administration of the questionnaire was carried out by the

researcher and two other research assistants. A total of one hundred and eighty-seven (187) copies of the questionnaire was distributed to elicit responses from the student was retrieved on the spot by the researcher.

3.6 Method of Data Analysis

Data obtain was analyzed using the descriptive and inferential statistics of frequency counts and percentage, with mean and standard deviation and also t-test with the aid of Statistical Packages for Social Sciences (SPSS). Descriptive statistics of frequency counts and percentages was used in analyzing demographic variables; while mean and standard deviation was used to analyzed the research questions while the t-test was used to test the stated hypotheses at 0.05 level of significance.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSIONS

This section discussed the result emanated from the analysis of respondents' responses on the questionnaire distributed. Out of one hundred and eighty – seven (187) questionnaire distributed, one hundred and eighty – two (182) were retrieved.

4.1 Analysis Research Questions

Since a four-point scale was used in the questionnaire. The mean for scaling items was computed by multiplying the frequency of the responses by the value of scaled items and dividing the total with the number of respondents.

Scaled items		Value
Strongly Agree (SA)	Great Extent (GE)	4
Agree (A)	Moderate Extent (ME)	3
Disagree (DA)	Low Extent (LE)	2
Strongly Disagree (SDA)	Very Low Extent (VLE)	1

Decision Rule Note

F = Frequency

% = Percentage

$\bar{x}$ = Mean , $\bar{x}$= 4+3+2+1=10 (GE, ME, LE, VLE) = 10

$\bar{x}$ = Mean , $\bar{x}$= 4+3+2+1=10 (SA, A, DA, SDA) = 10

$\Sigma fx/\Sigma f = 10/4 = 2.50$

4.1.1 Research Question One

What is the level of awareness of student on the usage of smartphone for learning in Federal University of Technology Minna?

Table 4.1: Level of awareness of student on the usage of smartphone for learning

Statement	N	$\bar{x}$	SD	Remark
I have being aware of the importance of smartphone for reading for the past 5years	182	2.57	0.54	Moderate Extent
I am not aware of smartphone usability for reading	182	2.42	0.79	Low Extent
I believe smartphone makes reading easy	182	3.32	0.67	Moderate Extent
Smartphone application for reading makes learning efficient and effective	182	2.49	0.31	Low Extent
Smartphone application allows its usage for reading various forms of documents	182	3.26	0.60	Moderate Extent
I am only aware of the usage of smartphones for playing games and accessing social media platforms instead of using it for learning.	182	1.08	0.71	Very Low Extent
I have no idea on the use of smartphone applications for reading	182	2.44	0.63	Low Extent
It has never occurred to me to use my smartphone to read my lesson note	182	2.49	0.82	Low Extent
Grand mean		**2.51**	**0.63**	

Table 4.1 reveals the responses of students on their level of awareness on the usage of smartphone for learning. The result shows that the students agreed to a moderate extent to have being aware of the importance of smartphone for reading for the past 5years, they believe that smartphone makes reading easy, and its applications usage allow reading various forms of documents with the mean value of 2.57, 3.32 and 3.26 respectively, while the students responses indicate very low extent on the fact that they are not aware of smartphone usability for reading, on smartphone application for reading makes learning efficient and effective, the usage of smartphones for playing games and accessing social media platforms instead of using it for learning, also have no idea on the use of smartphone applications for reading and that it has never occurs to use smartphone to read lesson note with mean value of 2.42, 2.49, 1.08, 2.44 and 2.49 respectively.

The grand mean of 2.51 indicate generally that students are moderately aware of usage of smartphone for learning.

4.1.2 Research Question Two

What is the level of usage of smartphone for reading among the students of Federal University of Technology Minna?

Table 4.2 Level of usage of smartphone for reading among the students

Statement	N	$\bar{x}$	SD	Remark
I often use my smartphone to read news and post on social media not for academic use	182	2.17	0.24	Low Extent
I don't find ease in usage of smartphone for reading.	182	2.49	0.65	Low Extent
Smartphone help me to read information online and offline ahead of my lectures.	182	2.77	0.23	Moderate Extent
Using the smartphone for reading has enabled me to gain extra skills and experiences outside the classroom	182	3.59	0.23	Great Extent
I prefer reading with smartphone to hard copy	182	2.39	0.53	Low Extent
Smartphone help to access solutions to my assignment online or offline	182	3.78	0.14	Great Extent
Smartphone enable me to take a snapshot of illustrations which cannot be memorize at instance for later date	182	3.17	0.11	Moderate Extent
Smartphone helps me to store all my lecture materials.	182	3.06	0.15	Moderate Extent
Smartphone help me in sharing lecture materials among colleagues.	182	3.89	0.25	Great Extent
Smartphone distract my attention from focusing on my study, so I don't use it for learning.	182	2.43	0.30	Low Extent
I hardly use my smartphone for due to the screen size	182	2.59	0.24	Moderate Extent
Using smartphone for learning does not require any special computer literacy skills in order to use	182	2.95	0.28	Moderate Extent
I perform all educational activities with smartphones	182	2.24	0.30	Low Extent
I found the use of smartphone for reading, hence has improved by reading habit	182	3.05	0.27	Moderate Extent
Smartphone technicality, makes it usage for reading impossible	182	1.39	0.24	Very Low Extent
I found it hard to use smartphone for academics purposes because of the poor network coverage around the school	182	2.45	0.28	Low Extent
Grand mean		**2.93**	**0.29**	

Table 4.2 shows the results on responses of students on the level of smartphone usage for reading. It was disclosed on the table that on average, the students agreed to a moderate extent that smartphone help them to read information online and offline ahead of my lectures, smartphone for reading has enabled me to gain extra skills and experiences outside the classroom, smartphone help the learners to access solutions on assignment online or offline, enable them to take a snapshot of illustrations which cannot be memorize at instance for later date, helps them to store all their lecture materials and share lecture materials among colleagues, also hardly use my smartphone for due to the screen size, smartphone for learning does not require any special computer literacy skills in order to use. The use of smartphone for reading, hence has improved students reading habit with the mean value of 2.77, 3.59,3.78, 3.17, 3.06, 3.89, 2.59, 2.95 and 3.05 respectively while the students responses indicate low extent on the fact that they often use smartphone to read news and post on social media not for academic use, that they don't find ease in usage of smartphone for reading. Also, that they prefer reading with smartphone to hard copy, that smartphone distract their attention from focusing on study, and also performing all educational activities with smartphones, that its technicality, makes it usage for reading impossible and lastly finding it hard to use smartphone for academic purposes because of the poor network coverage around the school with the mean value of 2.17, 2.49, 2.39, 2.43, 2.24, 1.39 and 2.45 respectively.

The grand mean of 2.93 indicate generally that students level of usage of smartphone for reading is to a moderate extent.

4.1.3 Research Question Three

What is the influence of smartphone usage for reading on academic performance of student in Federal University of Technology Minna?

Table 4.3: Influence of smartphone usage for reading on academic performance of student

Statement	N	$\bar{x}$	SD	Remark
The use smartphone for reading makes learning easy and accessible	182	2.91	0.42	Agree
Smartphone usage for reading has positive effect on my academic performance	182	3.33	0.36	Agree
The use of smartphone has enhance my reading and learning rate.	182	2.78	0.43	Agree
Using the smartphone for reading has enabled me to gain extra skills and experiences outside the classroom	182	2.99	0.43	Agree
Smartphone usage for learning has significance impact on my study.	182	2.86	0.25	Agree
Smartphone greatly helps me in understanding lectures	182	4.78	0.13	Agree
Smartphone is nothing but a distraction to my academic pursuit	182	1.89	0.46	Disagree
My academic performance has been improved ever since I have being using smartphone for reading	182	2.66	0.33	Agree
Grand mean		**3.03**	**0.35**	

Table 4.3 shows the response of student on the influence of smartphone usage for reading on their academic performance. The result unveils that the student agreed on the

fact that the use smartphone for reading makes learning easy and accessible Smartphone usage for reading has positive effect on my academic performance, the use of smartphone has enhanced my reading and learning rate, using the smartphone for reading has enabled me to gain extra skills and experiences outside the classroom, smartphone usage for learning has significance impact on my study. Smartphone greatly helps me in understanding lectures and finally, their academic performance has been improved ever since they have been using smartphone for reading. While they disagreed on the fact that smartphone is nothing but a distraction to my academic pursuit.

4.2 Analysis of Research Hypothesis

4.2.1 Hypothesis One

H_{01}: There is no significance difference in the response of student on the level of awareness of usage of smartphone for learning in FUTMINNA.

Table 4.4: Summary of One Sample t- test analysis ondifference in the response of student on the level of awareness of usage on smartphone for learning in FUTMINNA

Variable	Output
Item	8
Average Mean	2.51
Stand Deviation	0.69
Stand Error	0.24
Df	7
t-value	10.36
P	0.05
Decision	NS

At 0.05 level of significance *NS= Not Significant

Table 4.4 shows that the ρ - value of 0.05 was obtained at 0.05 level of significance and 8 degree of freedom for the 7 items (research question 1 items) with t-test value (10.36), the ρ (0.05) ≥ 0.05 indicate that null hypothesis must be accepted for these items. This shows that there is no significant difference between the mean responses of student on the on the level of awareness of usage of smartphone for learning in Federal University of Technology Minna.

4.2.2 Hypothesis Two

H_{02}: There is no significance difference in the response of student on the level of usage of smartphone for reading in FUTMINNA.

Table 4.5: Summary of one sample t-test analysis for difference in the response of student on the level on usage of smartphone for reading in FUTMINNA

Variable	Output
Item	16
Average Mean	2.77
Stand Deviation	0.64
Stand Error	0.16
Df	15
t-value	17.11
P	0.07
Decision	NS

At 0.05 level of significance *NS= Not Significant

Table 4.4 shows that the ρ - value of 0.07 was obtained at 0.05 level of significance and 15 degree of freedom for the 16 items (research question 1 items) with t-test value (17.11), the ρ (0.07) > 0.05 indicate that null hypothesis must be accepted for these

items. This shows that there is no significant difference between the mean responses of student on the level of usage of smartphone for reading in Federal university of Technology.

4.2.3 Hypothesis Three

H_{03}: There is no significance difference in student responses on the influence of smartphone usage for reading on academic performance in FUTMINNA.

Table 4.6: Summary of one sample t-test analysis for differences in student responses on the influence of smartphone usage for reading on academic performance in FUTMINNA

Variable	Output
Item	8
Average Mean	3.02
Stand Deviation	0.82
Stand Error	0.29
Df	7
t-value	10.45
P	0.24
Decision	NS

At 0.05 level of significance *NS= Not Significant

Table 4.6 shows that the value of ρ (0.24) is obtained at 0.05 level of significance and 7 degree of freedom for the 8 items (research question three) the null hypothesis is therefore not rejected for these items. This implies that a significant difference does not exist between mean responses of student responses on the influence of smartphone usage for reading on academic performance.

4.3 Summary of the Findings

The following are findings of the study:

1. The findings on research question one depicted that student are fully aware of usage of smartphone for learning.
2. The findings on research question two revealed that student use of smartphone for reading is very effective, but do not agree to be better than the hard copy forrmat .
3. The findings on research question three unveiled that smartphone has greatly influence students overall performance through its usage for reading.
4. The findings on research hypothesis one showed that there is no signifincant difference in students mean responses on level of awareness on usage of smartphone for learning.
5. The findings on research hypothesis two depicted that there is no signifincant difference in students mean responses on level of usage of smartphone for reading.
6. The findings on research hypothesis three depicted that there is no signifincant difference in students mean responses on influence of usage of smartphone for reading on academic performance.

4.4 Discussion of Findings

The study investigation the impact of smartphone on the reading habit of undergraduate student of Federal University of Technology, Minna. The research work finding of the study revealed that;

The findings of the study on level of awareness on the usage of smartphone for learning showed that the students are moderately aware of the importance of smartphone for

reading for the past 5years, they also believe that smartphone makes reading easy, and its applications allow reading various forms of documents but does not believe that smartphone application for reading makes learning efficient and effective.

The findings of the study on the level of usage of smartphone for reading among the students of Federal University of Technology Minna showed that smartphone help them to read information online and offline ahead of their lectures, smartphone for reading has enabled me to gain extra skills and experiences outside the classroom, smartphone help to access solutions to assignment online or offline, enable them to take a snapshot of illustrations which cannot be memorize at instance for later date, helps them to store all their lecture materials and share lecture materials among colleagues, among others. The student still argues the that they prefer reading with smartphone to hard copy.

The research show that influence of smartphone usage for reading on academic performance of student in Federal University of Technology Minna unveiled that students moderately agreed on the fact that the use smartphone for reading makes learning easy and accessible and has positive effect on their academic performance.

The research reviewed that hypothesis one showed that the ρ - value of 0.05 was obtained at 0.05 level of significance and 8 degree of freedom for the 7 items (research question 1 items) with t-test value (10.36), the ρ (0.05) $\geq$ 0.05 indicate that null hypothesis must be accepted for these items. This shows that there is no significant difference between the mean responses of student on the on the level of awareness of usage of smartphone for learning in Federal University of Technology Minna

The research reviewed that hypothesis two showed that the ρ - value of 0.07 was obtained at 0.05 level of significance and 15 degree of freedom for the 16 items (research question 1 items) with t-test value (17.11), the ρ (0.07) > 0.05 indicate that

null hypothesis must be accepted for these items. This shows that there is no significant difference between the mean responses of student on the level of usage of smartphone for reading in Federal university of Technology Minna.

The research reviewed that hypothesis one showed that the value of ρ (0.24) is obtained at 0.05 level of significance and 7 degree of freedom for the 8 items (research question three) the null hypothesis is therefore not rejected for these items. This implies that a significant difference does not exist between mean responses of student responses on the influence of smartphone usage for reading on academic performance.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Students are aware of the importance of smartphone for reading for so long, and believe that smartphone makes reading easy, although some do not agree that smartphone application for reading makes learning efficient and effective.

The findings of the study also showed that smartphone help the student to read information online and offline ahead of their lectures, smartphone for reading has enabled them to gain extra skills and experiences outside the classroom. Smartphone help to access solutions to assignment online or offline, enable them to take a snapshot of illustrations which cannot be memorize at instance for later date, helps them to store all their lecture materials and sharing lecture materials among colleagues and others. The student still argues that they prefer reading with smartphone to hard copy.

The findings of the study revealed that there is no significant difference between the mean responses of students on the level of awareness, usage and influence of smartphone for learning in Federal University of Technology Minna.

5.2 Recommendations

Based on the conclusion of the study the following recommendations were made;

1. Students should further be enlightened on significance, efficient and effective usage of smartphone for reading or learning purpose.
2. The institutions should also encourage the use of ICT related tools for instructional delivery to enhance the usage for smartphone for learning rather than social activities.

3. More research should also be conducted in this area of research study to improve on the literatures, most especially looking into how gender differences can affect the awareness, usage and influence of smartphone for learning purposes.

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APPENDIX I

FEDERAL UNIVERSITY OF TECHNOLOGY MINNA
SCHOO OF SCEINCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF EDUCATIONAL TECHNOLOGY

PROF. ABDULLLAHI BALA, PhD Fssn
VICE CHANCELLOR
Dr. Tukura C. S.
NCE, Bed, Mtech, Phd (Edu.Tech) UNN
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Telegram: FUTECH, Minna
Telex

Your Ref:

Date:

Head Of Department
Educational Technology,
FUTMinna.

.....

TO WHOM IT MAY CONCERN

The bearer ADEBAYO AISHAT .O. with REG. NO. 2015/1/55693BT is an undergraduate student of Educational Technology Department. He/ She needs your assistance to enable him/her carry out his/her research work.

We will appreciate your anticipated co-operation.

Thank you.

5/5/2021

Dr. Tukura C.S.
H O D, Educational Technology

GENERAL
Dept of Educational Technology
Fed. University of Technology
05 MAY 2021
P.M.B. 65 Minna, Niger State
Sign.....

You are granted the permission to carry out the administration of questionnaire to 200L, 300L and 500Level students of the Department. 25/05/2021

APPENDIX II

Department of Educational Technology
Federal University Technology, Minna,
Niger State.

Dear Respondent,

I am an undergraduate student of Educational Technology in the above named University. I am presently conducting research on Assessment of the Impact of Smartphone on the Reading Habit of Undergraduate Student of Federal University of Technology Minna.

The questionnaire is designed as part of the study to collect relevant information for a successful completion of this research.

Please, kindly provide responses to these questions; assuring you that it will purely be used for academic purposes alone.

Thank you for your anticipated cooperation.

Yours sincerely,

ADEBAYO, Aishat Omotolani
2015/1/55693BT

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
P.M.B 65, MINNA NIGER STATE
NIGERIA

SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF DEPARTMENT OF EDUCATIONAL TECHNOLOGY

STUDENTS' QUESTIONNAIRE ON THE IMPACT OF SMARTPHONE ON THE READING HABIT OF UNDERGRADUATE STUDENTS OF FEDERAL UNIVERSITY OF TECHNOLOGY MINNA.

Titled: (SQISRHUS)

INSTRUCTION:
Below are respondents' personal information. Please, fill the appropriate information in the spaces provided.

SECTION A

RESPONDENT'S PERSONAL DATA

SEX: MALE ( ) FEMALE ( )

AGE: 20 – 30 ( ) 31 – 40 ( ) 41 – 50 ( ) 51 – 60 ( )

COURSE OF STUDY: _____

SECTION B

INSTRUCTION:

Below are some questions Assessment of the Impact of Smartphone on the Reading Habit of Undergraduate Students of Federal University of Technology Minna. Please tick (√) the appropriate column to indicate the extent to which these skills are required with the following responses.

SA = Strongly Agree SD = Strongly Disagree GE = Great Extent

A = Agree D = Disagree ME= Moderate Extent

VLE = Very Low Extent LE = Low Extent

Research Question One

1. What is the level of awareness of student on the usage of smartphone for learning in Federal University of Technology Minna?

S/N	Statement	GE	ME	LE	VLE
1	I have being aware of the importance of smartphone for reading for the past 5years.				
2	I am not aware of smartphone usability for reading.				
3	I believe smartphone makes reading easy.				
4	Smartphone application for reading makes learning efficient and effective.				
5	Smartphone application allows its usage for reading various forms of documents.				
6	I am only aware of the usage of smartphones for playing games and accessing social media platforms instead of using it for learning.				
7	I have no idea on the use of smartphone applications for reading.				
8	It has never occurs to me to use my smartphone to read my lesson note.				

Research Question Two

2. What is the level of usage of smartphone for reading among the students of Federal University of Technology Minna?

S/N	Statement	GE	ME	LE	VLE
1	I often use my smartphone to read news and post on social media not for academic use.				
2	I don't find ease in usage of smartphone for reading.				
3	Smartphone help me to read information online and offline ahead of my lectures.				
4	Using the smartphone for reading has enabled me to gain extra skills and experiences outside the classroom.				
5	I prefer reading with smartphone to hard copy.				
6	Smartphone help to access solutions to my assignment online or offline.				
7	Smartphone enable me to take a snapshot of illustrations which cannot be memorize at instance for later date.				
8	Smartphone helps me to store all my lecture materials.				
9	I don't find the use of smartphone for				

	reading easy.				
10	Smartphone help me in sharing lecture materials among colleagues.				
11	Smartphone distract my attention from focusing on my study, so I don't use it for learning.				
12	I hardly use my smartphone for due to the screen sizes.				
13	Using smartphone for learning does not require any special computer literacy skills in order to use.				
14	I perform all educational activities with smartphones.				
15	I found the use of smartphone for reading, hence has improved my reading habit.				
16	Smartphone technicality, makes it usage for reading impossible.				
17	I found it hard to use smartphone for academic purposes because of the poor network coverage around the school.				

Research Question Three

3. What is the influence of smartphone usage for reading on academic performance of student in Federal University of Technology Minna?

S/N	Statement	SA	A	DA	SDA
1	The use smartphone for reading makes learning easy and accessible.				
2	Smartphone usage for reading has positive effect on my academic performance.				
3	The use of smartphone has enhance my reading and learning rate.				
4	Using the smartphone for reading has enabled me to gain extra skills and experiences outside the classroom.				
5	Smartphone usage for learning has significance impact on my study.				
6	Smartphone greatly helps me in understanding lectures.				
7	Smartphone is nothing but a distraction to my academic pursuit.				
8	My academic performance has been improved ever since I have being using smartphone for reading.				