

**TEACHER AND STUDENTS' ATTITUDE TOWARDS USING FACEBOOK FOR  
TEACHING AND LEARNING OF PHYSICS IN SENIOR SECONDARY SCHOOLS,  
IN MINNA METROPOLIS**

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2015/1/58066BT**

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**AUGUST, 2021**

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF EDUCATIONAL  
TECHNOLOGY, SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION  
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
AWARD OF BACHELOR OF TECHNOLOGY B TECH IN  
EDUCATION TECHNOLOGY**

**AUGUST, 2021**

## ABSTRACT

The study is investigated the Teacher and Students' Attitude Towards Using Facebook in Teaching and Learning of Physics in Senior Secondary School, in Minna Metropolis. Three research questions and three hypothesis set to guide the study. A descriptive research survey design was adopted. The population of the study comprises of three (3) Senior Secondary school in Minna Metropolis, Ahmadu Bahago and Government Day and Father O'Connell Senior Secondary school. The sample size of one hundred and eighty-seven (185) participants was considered. Which contain one hundred and seventy-five (175) student and ten 10 teachers. A random sampling technique was employ in the distribution from the entire population. Descriptive statistics of frequency counts and percentages were used in analyzing demographic variables, mean and standard deviation were used to analyzed the research questions while the t-test will be used to test the stated hypotheses at 0.05 level of significance. The findings of the study revealed that the students and teachers agreed to have being aware of the usage of Facebook as social media platforms for connecting with friends, Facebook is one of the most used media of communication for the dissemination of information by student and teachers. The findings of the study also depicted that teacher use Facebook to maintain and instruct us by joining academic groups, teacher does not communicate with us via Facebook, use Facebook to share my assignment with my fellow student. The findings of the study unveiled the use Facebook for reading makes learning easy and accessible, Facebook usage for reading has positive effect on my academic performance. The findings of the study revealed that there is no significance difference in teacher and student responses on level of exposure towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis with p-value of 0.05. with p-value of 0.09. The findings on research hypothesis three depict that there is no significance difference in teacher and student responses on exposure to Facebook and academic performance with  $p = 0.07$ . The researcher thereby recommendations that; Students should further be enlightened on significance, efficient and effective usage of Facebook sites for reading or learning purpose. The institutions should also encourage the use of ICT related tools for instructional delivery to enhance the usage for Facebook for learning rather than social activities.

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## **CHAPTER ONE**

### **1.0**

### **INTRODUCTION**

#### **1.1 Background to the Study**

Education is seen as the bedrock of development and modernisation (Balogun, 2012). For this reason, most developed nations are doing everything possible to ensure that a substantial number of their citizens have access to education. In line with this, the guiding principle of the Nigerian education system, as spelled out in its education policy document – the National Policy on Education (Federal Republic of Nigeria, 2014) – is equipping citizens with knowledge, skills and values that will enable them to contribute to the development and welfare of the country.

Education and learning is the process by which the wisdom, knowledge and skills of one generation are passed on to the next. It is described as the best legacy which a nation can give to her citizens (Clough *et al.*, 2007). The development of any nation or community is determined by the integrity of education of such a nation (Singh, 2010). It is believed that the basis for any true development must co-exist with the development of human resources. Webster dictionary defines education as the process of educating or teaching. It further explained that, to educate means, to develop knowledge, skill, or character of the person. Thus, education was defined as the means to develop the knowledge, skill, or character of a student. Also, Education is the prime inheritance parents can bequeath to their children (Yousef & Hamideh, 2013).

In Institutions which incorporate both face-to-face and online learning, formal and informal learning can be effectively merged as blended learning. Researchers envisage that students have universal access to mobile technologies, thus both formal and informal learning can be accessed as required (Carlsson, 2014). This kind of blended learning can be achieved either by establishing a mobile phone computing plan in universities with every student being supplied



a personal mobile device, or by implementing a 'Bring Your Own Device' (BYOD) model with students bringing along their own devices (Parnell & Bartlett, 2012). These mobile devices may include laptops, tablets, e-readers and smartphones among others. Blended learning offers significant benefits for educational institutions when they are conscientiously implemented (Vaughan, 2014).

With the computer age, students are not limited to the knowledge of life, within the lecture hall setting, where there are now various forms of technology. The face of the contemporary lecture hall is ever-changing. Innovations in technology are influencing how students access, learn, retain, and apply information, and it influences pedagogy of educators in using technology as instructional aides and training media, online forum through the use of smartphones, laptop and other smart gadget. Nowadays, the use of smartphones has threatened the existence of teachers in conventional classes when students are already bored with the learning process in the classroom (Fata-Hartley, 2011). Students frequently use smartphones to access today's popular social networks like Facebook and WhatsApp just for fun. Facebook is a free messenger application that works on various platforms like desktop, iPhone, Android phones, and any form of online connectivity and this app is widely used among students to send multimedia messages like photos, videos, audio along with short messages (Henry *et al.*, 2014). It is unwise if teachers forbid students to bring smartphones to school because basically a result of technology is neutral.

Facebook is possibly the most popular among the social networks for personal and educational purposes (Mayisela, 2013). Moreover, students use online social network (OSN) platforms daily from 10 to 60 min on average, even when studying. Furthermore, academic institutions make use of social networks for internal management of educational issues (Barnes & Tynan, 2017). Educators recognize the power of social media to transform learning, and they are now integrating these online tools in their instructions. The features of social media complement the

constructive philosophy of teaching and learning that allows learners to create, co-create and share knowledge with global audiences beyond classroom walls (Seo, 2013). However, as social media tools have the opportunity to change education, many institutions still wonder how to adapt to these tools (Barnes & Tynan, 2017).

To empower the use of smartphones by students, learning with digital communication between groups of students and between students and teachers has become popular over the past decade through various networks including Facebook and WhatsApp (Rocca, 2010). Basic physics which is the basic idea that arises from the application of the scientific method that examines the most basic ideas about the physical properties requires a learning process that can train critical thinking skills is an attempt to ask and answer questions systematically to produce an explanation which is coherent and credible (Connolly *et al*, 2012). The previous research on the use of WhatsApp in learning has four main purposes: communicating with students, building a social atmosphere, creating dialogue, and encouraging students to share (Wheeler, Yeomans and Wheeler, 2018), and with a similar purpose, it is also applied in learning by using Facebook. The delivery of messages, pictures, and videos related to the explanation of physical symptoms can be a means to train students' critical thinking skills. Although most student has negatively been using this social media platform for things other functions than learning.

As we know, nothing interesting is ever completely one-sided, so it is for social media as it comes with both positive and negative effects. There is a correlation between social media usage and academic performance of students in universities. There have been various views and opinions which recognize four major advantages of social media use in higher education. These include; enhancing relationship, improving learning motivation, offering personalized course material, and developing collaborative abilities (Rifkin, Longnecker, Leach and Ortia, 2011). Also, Liccardi *et al.*, (2011), argued that students are socially connected with one another and therefore share their daily learning experiences and do conversation on various

topics through social media whereas Kuppuswamy and Shankar (2010), reviewed that social network websites grab students' attention and then diverts it towards non-educational and inappropriate actions including useless chatting. Research has proved the heavy presence of social media usage among students.

Thus, students are aggressively adopting social networking sites to perform different activities and tasks in order to enhance their learning. Embedding new technologies within the learning process needs to be wisely introduced and carefully designed. Such field encourages a lot of research, where many scholars research is discussed. For using social networking websites as an educational tool and integrated within the learning process Wheeler *et al.* (2018), still more investigation needs to be done in order to clarify their value as a learning environment. Consequently, this paper aims to understand the students' perceptions regarding using Social networking websites within their learning process.

## **1.2 Statement of the Research Problem**

Within the last decade, online social networks (OSN) and their applications have penetrated our daily life. They have managed to transform young people's way of living while becoming one of the most important means of communication and entertainment (Barnes & Tynan, 2017). Meanwhile, the educational community raises concerns that OSN are continuously decreasing students' interest for the educational processes, which is a problem that not only affects their performance, but sometimes also leads to dropouts (Rifkin *et al.*, 2012). The conventional education system seems to not respond effectively to the continuous decreasing of student interest, despite the several solutions that have been proposed so far (Seo, 2013).

In order to increase the awareness of students in the educational processes, blended entertainment and informational behavioral patterns have been proposed (Henry *et al.*, 2014). Social networks undoubtedly support such behavioral patterns and this seems to be an enjoyable and universally accepted medium in students' way of living (Connolly *et al.*, 2012).

Research efforts have been increased during the last decade so that successful aspects of social network use for educational activities could emerge. The previous study of the use of Facebook in learning has four main purposes: communicating with students, building a social atmosphere, creating dialogue, and encouraging students to share ideas (Franklin, 2011) and with a similar purpose, it is also applied in learning by using Facebook and students are using these websites to connect and interact with friends and others. But with little share knowledge, or looking for information and try to solve problems related to their learning activities. It is on the basis of this, that the present study aimed at assessing attitude towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis.

### **1.3 Aim and Objectives of the Study**

The objective of this study was to assess the student attitude towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis.

The specific objectives of the study were to:

1. determine the level of exposure of teachers and students towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis.
2. ascertain what teacher and student of physics in senior secondary school, in Minna metropolis use Facebook for.
3. determine how the use Facebook has influenced the academic performance of physics students in senior secondary school, in Minna metropolis.

### **1.4 Research Questions**

The following research questions will guide the study.

1. What is the level of exposure of teachers and students towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis?
2. what does teachers and students of physics in senior secondary school, in Minna metropolis use Facebook for?

3. Does the use Facebook has influenced in the academic performance of physics students of senior secondary school, in Minna metropolis.

### **1.5 Research Hypotheses**

The following hypotheses will be tested to guide this study;

1.  $H_{01}$ : There is no significant difference between teacher and student level of exposure towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis
2.  $H_{02}$ : There is no significant difference between the use Facebook by physics teachers and students in senior secondary school, in Minna metropolis?
3.  $H_{03}$ : There is no significant relationship between teachers and student exposure to Facebook and academic performance.

### **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 unit, various educational bodies.

The research work will expose the students, teachers, school academic planning unit to various factors influencing adoption of Facebook for learning physic.

It will help the students to understand the need for adequate use of Facebook for learning.

It will educate the teachers, on how to enlighten the student on ways of improve their understanding of physics through mobile learning.

From the exposure study the government would recommend to assist the school administrations in funding the use of social media platform for learning.

## 1.7 Scope of the Study

The focus of this research is to assess attitude towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis. This study is further limited to considering selected Secondary School in Bosso Local Government Area.

## 1.8 Operational Definition of Terms

**Academic performance:** This refers to the students' achievement, scores within the class and his position relative to all those subjected the same test.

**Media:** Are all those media technologies that are intended to reach a large audience by mass communication. "They are messages communicated through a mass medium to a number of people.

**Social media:-** Refer to computer-mediated tools that allow secondary students' send, share and exchange information, idea, pictures, videos in a virtual community and networks.

**Social Networking:** The use of internet-based social media sites by student to stay connected with friends, family, colleagues, customers, or clients.

**Social Networking Sites (SNS):** A website where secondary students put information about themselves and can send to others.

**Facebook:** A social networking site that makes it easy for you to connect and share with family, friends online and also learn and share ideas.

**Education:** Is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits.

**Influence:** Is the capacity of factor have an effect on the character, development, or behaviour of someone or something.

**Assessment:** The action of looking into something or someone; as a result of need to make decision.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

The chapter presents a review of work related to this study under the following subheadings:

#### **Conceptual framework**

Definition of Social Networks

Becoming Social

Extent of Social Media Technology Use

An Overview of Facebook

Academic Performance

Facebook and Academic Performance

Impacts of Facebook Usage

#### **Theoretical Framework**

Social Constructivism

Situated Learning

Distributed Cognition

Connectivism

Flow Theory (FT)

#### **Related Empirical Studies**

#### **Summary of Literature Review**

## **2.1 Conceptual Framework**

### **2.1.1 Definition of Social Networks**

Social-networking sites (SNS) are the latest online communication tool that allows users to create a public or private profile to interact with people in their networks (John, 2017). Facebook, MySpace, Orkut, Cyworld, Bebo, Twitter and other social network sites are the best examples of SNs that allow individuals to present themselves to other users using a variety of formats; including text, video and chat services. These sites have become an increasingly important part of young adult life (Gemmill & Peterson, 2006). Relative to the general population, adolescents and young adults are the heaviest computer and Internet users, primarily using it for completing school assignments (36%), e-mail and/or instant messaging (26%), and playing computer games (38%) (Duggan and Brenner, 2012). SNS incorporate a list of other users with whom individuals share a connection. But unlike any other web service, SNS allow individuals to make visible their list of connections to others and to traverse their social networks (Tuckman, 2015). Hence, more than virtual Lessons from Facebook communities born online, SNS are usually online communities created and maintained to reflect offline relationships.

SNS can be defined as web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system (Boyd & Ellison, 2008,). Facebook was created by Mark Zuckerberg to help residential college and university students to identify students in other residence halls. It is described as “an online directory that connects people through social networks at colleges and universities” (Dahlstrom *et al.*, 2018). Websites such as MySpace and the more popular FB have millions of registered users, with FB becoming the overwhelmingly more popular SNS (Junco, 2015).



### **2.1.2 Becoming Social**

Over the last decade, and particularly in the last five or six years, SNS has transformed our thinking about our relationships, our connections with and affinity to others, and the influence and persuasive power of online communities on how we think, organize, and act politically. Since the inception of the Internet and integration of email technology into our personal and work lives, our ways of communicating began to change. However, it was not until the creation of social media interfaces like Facebook, MySpace, Friendster, LinkedIn, YouTube, Twitter and other similar applications that have we seen such a massive harnessing of the potential of the now-pervasive online connectivity in our everyday lives (Brooks, 2015).

Unlike the communication functions of other online technologies, SNS in particular has provided a virtual landscape mirroring familiar elements of community as we understood and experienced it prior to the existence of such technologies. Social media technology links people together in ways that resemble traditional feelings of connection, belonging, loosely defined memberships, exchange of feelings and ideas, and the reporting of experiences and actions. Indeed, some suggest SMT has suddenly lowered the costs of collaborating, sharing, and producing, thus providing revolutionary new forms of interaction and problem-solving (Al-Bahrani, Patel and Sheridan, 2015). We can now create, maintain, and access both well-defined and amorphously defined communities online, while also using the social media technology as a tool to fluidly transition between online and face-to-face contact via friendships, planned activities, and other more formal organizational affiliations.

One of the most powerful social media platforms is Facebook. Initially, Facebook was privately conceived within and navigated through the social networks of students at Harvard, and subsequently at other elite universities: Princeton, Yale, and Stanford. If we consider the birth of this particular social media interface at Harvard, we can recognize it as a telling example of how components of a university's social "community" were rapidly transferred onto this online

platform. Since its inception, this interface has expanded across multiple college communities and then quickly encompassed a wider range of connected networks of individuals and groups around the world. Today, the adoption of social media technology now stretches across the globe, integrating into the lives of individuals of diverse social, national, racial and ethnic, cultural, and socioeconomic backgrounds (Lee *et al.*, 2017).

Traditional-aged college students have embraced social media technology; it has become a major part of their everyday lives. In this way, the boundaries between online and “real-world” communities are rapidly stretching if not completely deteriorating. Particularly, as we consider the generation for whom such social media technology exchanges have existed their entire lives, there is a fluid interchange between digital and physical experiences. For this generation, SNS is a primary means of communication and information seeking, and possibly, a central component of their identity and community building (Junco, 2015).

### **2.1.3 Extent of Social Media Technology Use**

#### **General Demographics**

Smith’s (2011) study for the Pew Internet and American Life Project reports that African Americans and Latinos had equal or greater rates of usage of social media platforms, often from cellular devices, as compared to White Internet users in 2010. In a separate Pew report on Asian Americans and technology, Rainie (2011) reports Asian Americans as the leaders in overall Internet usage, mobile connectivity through cell phones, laptops, and wireless devices, but they remain on par with social media engagement as other minority groups.

Additional Pew research conducted by Jansen (2010) notes, expectedly, that individuals with greater income spend more time on connected devices, and in many cases, increased use is due to the disparity in ownership of internet-ready devices beyond the mobile phone. However, Flowtown (2010) reports that this trend does not hold true regarding social media usage. In its analysis of Google Ad Planner Data, Flowtown found that a curve exists for users of SNS with

regard to income. Those who made less than \$24,000 per year were less social than were those making between \$25,000-\$74,000 – who led all users – but were more social than users making >\$100,000. When determining the effects of education on social media usage, Flowtown found a similar curve, where SNS usage peaked for users with some college – which may include current college students – and tailed off on either end for users with less than some college or with a bachelor’s degree and higher (Khan, Kend and Robertson, 2016).

Lastly and not surprisingly, across the U.S. the use of SNS varies greatly by age, with older generations participating less often than younger ones. Older generations have been slower to embrace SNS, struggling somewhat to keep pace with younger cohorts. However, they have recently begun making a sharper turn in support of the technology. In 2009, 11% of adults over 30 reported to be engaged online in activities such as blogging. In the same year, 22% of Internet users over 50 reported being engaged on a social networking site (Madden, 2010).

Comparatively, younger generations remain by far the greatest beneficiaries and users of SNS. Among users 18-29 years of age, 86% are actively engaged in social networking compared to just 61% of users 30-49 years old, 47% of users 50-64 years old, and only 26% of users over 65 years of age (Madden, 2010).

### **College-Age Users**

The generation of 18-29year old users has been referred to by many names – millennial, avant-garde, and most simply, generation Y, many of who are now traditional college-aged adults. This group of 18-29year old users has been crowned as digital natives, a generation who has never known a world without the Internet (Tsoni, Sypsas and Pange, 2015). These young media consumers are more connected than any previous generation, and they have an expectation to remain that way in all aspects of their lives.

An important dimension to understand when evaluating usage within this demographic is the wide array of user personalities engaging in social media conversations. Given the huge

proportion of users in this age range, variation abounds in this vast digital space. Among millennial college students, for instance, multiple collections of Internet-minority groups exist rather than a homogenous group of age-restricted users (Tsoni *et al.* 2015), and the variety of subgroups of millennial students use social media quite differently. For example, one subgroup might consist of infrequent users of these technologies, while another subgroup might make frequent use of one or two particular technologies and a larger subgroup might make extensive and frequent use of a variety of the latest technologies. Furthermore, Canche (2020) note that the general online behaviours that comprise these heterogeneous user types run the gamut from identity exploration to media piracy or illegal downloading, entertainment, and social activism – all of which are manifested through socially enabled media.

According to a recent national poll completed by the Harvard Institute of Politics (2011), over 90% of students at four-year colleges reported having Facebook profiles. Based on an additional study (Brooks, 2015), presumably, usage is most robust among first-semester freshmen and sophomores among such students at four-year institutions. College student use of Facebook has been shown mostly to reflect a one-to-many style, in which students create content to disseminate to others. Interactions between students were most often primarily between existing friends rather than new connections and users were most often observing content rather than producing it.

#### **2.1.4 An Overview of Facebook**

Facebook was created in February 2004 by Mark Zuckerberg, Dustin Moskovitz and Chris Hughes as a site for Harvard students only. But later it becomes most popular and visited with 34 million unique visitors by January 2008, and as the 13th most popular website worldwide (comScore, 2020), with 98 million unique visitors by December 2007. As of March 2008, Facebook reported having 67 million active users (those who have returned to the site in the last 30 days), with more than half of them returning daily and spending an average of 20

minutes per day on the site (Facebook, 2018). Like most social network sites, Facebook provides a formatted web page into which each user can enter personal information, including gender, birthday, hometown, political and religious views, e-mail and physical addresses, relationship status, activities, interests, favourite music and movies, educational background and a main personal picture. Today, Facebook is comprised of all types of people, but college students still make up the largest percentage of active Facebook users, which is roughly 30% of all users (insidefacebook.com, 2009). To date, Facebook serves roughly 500 million people enabling them to share multitudes of information and connect with others (Canche, 2020).

### **Facebook Usage**

Facebook usage encompasses both the simple use of the platform and the extent of cognitive immersion into the site. Its use implies the presence of individual users on the social website, time spent on this platform, frequent visits, and the nature of the activities performed. People from different age ranges interact and exchange content; they share videos and pictures, discuss subjects, chat, publish advertisements for group events, or play available applications. Younger generations (e.g., students) spend many hours up to 8 per day surfing this socializing website. We presume that an extensive presence on Facebook and the resulting increased levels of information flow management req

uirement engage students in these tasks while they engaged in constant interactions and socialization, which prohibit them from focusing appropriately on their academic tasks (Khan *et al.*, 2016).

### **Students' Perceptions of Facebook**

Recent literature by Michikyan, Subrahmanyam and Dennis (2015) sought to better understand the campus culture of Facebook through the lens of college students. The researchers examined college students 'thoughts and perceptions of Facebook use through an ethnographic study,

where they found students use Facebook for a myriad of reasons (Michikyan *et al.*, 2015). The authors devised four consistent themes to portray their findings of college student Facebook use: (1) use-consciousness, (2) campus culture, (3) identity factors, and (4) voyeurism and impression management (Michikyan *et al.*, 2015). The authors captured four students' voices using the aforementioned themes. The four diverse students shared multitudes of information regarding their experiences with Facebook.

### **2.1.5 Academic Performance**

Academic Performance refers to how students deal with their studies and how they complete different assignments given to them by their teachers. The popularity of the social networking sites enlarged briskly in the last span. This is most likely due to the reason that every person used it extensively to get worldwide access. These social networking sites such as Twitter and Facebook have become a furious craze for everyone these days. Students are paying more attention towards these social networking activities rather than utilizing this time for their studies and this surely affects their academic performance. The destructive effects of these social networking sites outweigh the progressive ones. These sites have caused some latent harm to society. The students become preys of social networks more often than anyone else. This is because of the reason that when they are studying or probing their course material online, they get attracted to these sites to kill the boredom in their study time, sidetracking their attention from their work & they forget why they are using internet. Duggan and Brenner (2012) proposed that student users are affected by the internet and this impact is determined by the type of internet usage. The misuse of these sites on a daily basis has many destructive effects on the physical and mental health of students making them sluggish and unenthusiastic to build interaction with the people in real life.

### **2.1.6 Facebook and Academic Performance**

Recent literature found that leisurely Internet use is strongly correlated with weakened academic performance (Patrick and James, 2018). Georgios, Efrosyni-Alkisti and Ioannis (2018) found that students who spent five times more hours online reported schoolwork problems. In the Patrick and James (2018) study, 10-15% of the student participants felt their Internet visits were out of control. Although this study did not mention Facebook specifically, the researchers did mention that the captive social opportunities of the Internet appeared to be the culprit of the schoolwork problems (Patrick and James, 2018). In addition, Canche (2020) discovered that excessive Facebook use was found among students with lower GPAs.

### **2.1.7 Impacts of Facebook Usage**

Given the high-volume usage of SNS, an obvious and popular concern among faculty, administrators, and parents is the widespread notion that students spend far too much time on nonacademic activities related to the Internet and social media. Countless articles in popular newspapers, periodicals, and blogs have raised these very same concerns (Georgios *et al.*, 2018). The most salient concern among scholars, educators, and the public however is related to the effects of social networking sites such as Facebook on the time dedicated to studying and offline activities.

Hence, Facebook usage has been associated with both positive and negative impacts to different aspects of people's lives, including positive impacts, such as improving relationships between friends and family and negative impacts such as low academic performance; health, personal relationships problems; and social problems. These are discussed below.

## **Positive Impacts**

### **1. Sharing and collecting information**

The Social Networking in general and Facebook in particular offers significant advantages for its users, for example, sharing and collecting information, searching for jobs, communication, and entertainment. Vast quantities of information of different types are stored on the Internet. Usually, the information on the Internet is free of cost and is available 24 hours a day. In addition, the Facebook provides its users with the latest news of the world and most of the newspapers are available on the Internet, which are periodically or immediately updated with the latest news (Perrin, 2015). Thus, Facebook users can almost instantaneously learn about news events, read news articles or opinions about world events, and share this information and their own thoughts with others like themselves.

### **2. Communication and entertainment**

People around the world can now quickly communicate with each other through the Facebook using a range of applications: chatting, Wall post, and helps to download some books. The Facebook also provides different types of entertainment. For instance, users can play games with other people in any part of the world, watch movies and listen to music. Above all it helps users to form new relationships on this site (Kustijono and Zuhri, 2018).

## **Negative Impacts**

### **1. Academic performance problems**

Beside the benefits of Facebook use, negative impacts of its use have also been identified, including: impaired academic performance, health problems, personal relationship problems and social dysfunction. For example, a number of studies have reported the ways in which Facebook usage impairs students' lives. Scherer (1997) found that 13% of his respondents reported difficulties in their academic work and professional performance due to their Facebook use. Merle and Freberg (2016) found that Facebook addictive users used for long



sessions, resulting in personal behavioural problems and neglect of important work responsibilities. Sharma *et al.* (2016) explored Facebook Addiction among college that result in more negative consequences in their studies than non-addicts. This conclusion parallels a study by Young (1996), who found that Internet addicts experienced personal, family, occupational problems, and academic difficulties, causing poor grades and eventually expulsion from universities (Tuckman, 2015).

## **2. Student's behavior**

Many years ago emails, instant messaging

2345and blogging all these are the communication applications of internet are rapidly increased in the youth's life and this made the internet a significant social context for development of youth especially students. However, there are some behaviors that can take place due to frequent use of social networking sites especially students who are using frequently using social networking sites, results in reduction of time for other activities that are related academic, physical and social hobbies that requires face to face meeting (Smith *et al.*, 2009). Planned behavior theory provided the foundation for the behavioral factor of frequently engaging in social networking sites. It is stated that probability of involving in the behavior for using social networking sites increases when individual has strong intention of acting upon certain behaviors. Group norms and self-esteem are two main factors of planned behavior theory in the context of engaging in social networking sites. Group norms for the colleagues and friends significantly enhanced the likelihood of intentions of students of universities to involve in the specific work activity and those students who identify the use of social networking sites as normative among friends have the strong intention of using social networking sites frequently. There is another significant factor that is the behavioral consequence related to communication technology based behavior and this is self-esteem. Young individuals having lower self-esteem have the high level of usage of instant messaging than those who have high level of self-esteem

(Przepiorka *et al.*, 2016). Positive feedback improves the self-esteem and negative feedback leads to lower the level of self-esteem and that is reason that being socialized young people uses internet's communication applications because it provides more positive interaction with others (John, 2017). Ogedebe *et al.* (2012) conducted a research on usage of Facebook and its effect on academic performance of students.

### **3. Distraction Effect**

Although the use of social networking platform is subject to persuasive attitude of the social website and the attitudes of users toward social networking in general (Duggan and Brenner, 2012), online behaviours also reflect personality traits, values, and cultures (Brooks, 2015). The way people use online social networks especially in terms of their behavioural patterns and attitudes toward information sharing and privacy is a direct result of and reflection on their cultural backgrounds (Michikyan *et al.*, 2015).

Intellectual capabilities to manage time and process information also should affect their capacity to benefit from online activities and restrict their efficiency on any tasks performed in parallel. Facebook users usually interrupt their work to visit Facebook profiles, because of the short-term capacity needed for the working memory process. Unemployed people might go online to look for job opportunities and end up interacting on social platforms, ultimately spending much more on them than expected. This split attention paid to multiple tasks causes' distraction. The use of online social networks also varies across countries because cultures induce diverse impacts on their members. Absorption in the social networking activity entails extended immersion in these websites, enjoyment while interacting, aid curiosity, but people are also temporally disassociated from their main tasks; whether online or offline, and lose control over the main activity in favour of chatting or checking new updates. Consequently, this research will assess the impact of Facebook hedonic usage on academic performance.

## **2.3 Theoretical Framework**

This study was supported by various theories conferring students' learning process and social media. The four current learning theories that can be applied to social media are: constructivism, situated learning, distributed cognition, and connectivism. Below are brief overviews of each theory and how social media ties into them.

### **2.3.1 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" (Smith & Ragan, 1999) cited in (Peter & Valkenburg, 2009). 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 (Perrin 2015). 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).

### **2.3.2 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 (Manasijevic, *et al.*, 2016), and “knowledge is presumed to accrue in meaningful actions” (Lee *et al.*, 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, 2009) within the current culture of the social media environment.

### **2.3.3 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 (Al-Bahrani, Patel, and Sheridan 2015) 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, i.e creating a novel patter or structure. At this level, the student moves in to the role of a “producer” (John,Abi and Mathew 2017).

**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).

#### **2.3.4 Connectivism**

Connectivism (Siemens, 2015) 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, 2011). 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.

### **2.3.5 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 Csikszentimanyi (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 (Smith *et al.*, 2009). Thus Facebook is an artefact, and people using this network engage in tasks that prompt their flow on the platform. Novak *et al.* (1998) 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.

## **2.4 Related Empirical Studies**

Kustijono and Zuhri (2018). Conducted a study on the use of Facebook and WhatsApp application in learning process of physics to train students' critical thinking skills. The research steps are: 1) analysis; 2) design; 3) development; 4) implementation; 5) evaluation. The research subjects are 40 students of Physics Department of Universitas Negeri Surabaya. This research used descriptive qualitative approach. The study The validation point, practicality, effectiveness, and critical thinking skills of students assessment use Likert scale. Learning process criteria are eligible if  $\geq 60\%$  is rated good or excellent. The results are: 1) the use of Facebook and WhatsApp can be implemented in the learning process, and the existing

constraints can be overcome; 2) the assessment of students' critical thinking skills is categorized as good and excellent. These results suggest that learning by using Facebook and WhatsApp can be used to train students' critical thinking skills.

Krishna and Manoj (2018) investigate on Students' Attitude towards Social Networking Sites (SNSs): A Case Study of Central Institute of Technology (CIT) Kokrajhar, Assam. The study investigates the use of Social Networking Sites (SNSs) by the students of Central Institute of Technology (CIT) in Kokrajhar, Assam. The survey and random sampling technique was used for the collection of data. Around 200 structured questionnaires were distributed among the students of CIT, Kokrajhar and filled-in questionnaires were collected on the same day itself and analyzed for data interpretation in the form of tables and charts. The study explored that all the respondents were aware of SNSs and are using more than one SNSs websites, it has found that Facebook is used in large number, while YouTube and Instagram follow it. Mobile is the most preferred tool for accessing SNSs, a majority expressed that low internet speed was the main problem, also indicates that students are using SNSs for entertainment purpose. The majority 47.47% of the CIT students are satisfied, while 35.35% are partially satisfied and very few 17.17% are highly satisfied.

Georgios *et al.* (2018), conducted a study on Social Media Use in Higher Education: A Review. Nowadays, social networks incessantly influence the lives of young people. Apart from entertainment and informational purposes, social networks have penetrated many fields of educational practices and processes. This review tries to highlight the use of social networks in higher education, as well as points out some factors involved. Moreover, through a literature review of related articles, we aim at providing insights into social network influences with regard to (a) the learning processes (support, educational processes, communication and collaboration enhancement, academic performance) from the side of students and educators; (b) the users' personality profile and learning style; (c) the social networks as online learning

platforms (LMS—learning management system); and (d) their use in higher education. The conclusions reveal positive impacts in all of the above dimensions, thus indicating that the wider future use of online social networks (OSNs) in higher education is quite promising. However, teachers and higher education institutions have not yet been highly activated towards faster online social networks' (OSN) exploitation in their activities.

Asiedu (2017) also conducted a study on the influence of social networking sites on students' academic and social lives: *The Ghanaian Perspective*. The study investigates and analyses the positive and negative effects of social media on students' academic and social lives. With the adoption of survey methodology, 204 students from University of Ghana and Kwame Nkrumah University of Science and Technology were randomly selected to participate in this study. The results of this study indicate that the positive effects of social media outweigh its negative counterpart hence, students should not be entirely discouraged from visiting social media sites. Among the following are some of the positive and negative effects of social media revealed in the study; the ability to seek the views of course mates on a certain topic at the comfort of their rooms, the opportunity to make more friends than in real life and the ability to be able to participate in group discussions were found to be the positive effects of social media on students in both institutions while reduction in the level of concentration in class, wasting of valuable time that could have been used to study, reduction in physical interaction (face-to-face interaction) and the promotion of shorthand writing which has the ability to affect the writing of good grammar were also found to be the negative effects of social media usage on students in both institutions.

Ukeme Ekpedeme Umoh and Etuk Nssien Etuk (2016) examined 'Students' Involvement in Social Networking and attitudes towards its Integration into Teaching. The study was carried out in the University of Uyo, Akwa Ibom State, Nigeria. The population of the study consisted of 17,618 undergraduate students enrolled into full time degree programmes in the University



of Uyo for 2014/2015 academic session. The design of the study was survey design with ex-post facto approach. Random sampling technique was used to select 1730 students from the 12 faculties in the University. The instrument used for the study was 'Students' Social Networking and Attitude Questionnaire which was validated by an expert in curriculum studies and an expert in measurement and evaluation in the University of Uyo. Cronbach's Alpha Statistical method was used to determine the reliability coefficient of .70 for the instrument. Two research questions and two null hypotheses tested at .05 level of significance guided the study. Mean and Standard Deviation were used to answer research questions; Independent t-test and Analysis of Variance were used to test the hypotheses. The results show that there is significant difference in involvement of university undergraduate students in Social Networking based on course of study, level (year) of study and age. Female undergraduate students' involvement in social networking is higher than that of their male counterparts; but male undergraduate students showed a higher positive attitude towards integration of social networking into teaching and learning.

## **2.5 Summary of Literature Review**

This chapter review various concept of social media usage for educational purposes. The theories reviewed on connectivism and constructivism as part of the essential theories backing the use and effect of Facebook on academic performance. In view of aforementioned empirical studies there is little or no recent studies on use and attitude of student towards the use of Facebook for in the target study area. This study sought to investigate student attitude towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Research Design**

The study adopted descriptive research survey design. According to Olayiwola (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 the study comprises of three (3) Senior Secondary school in Minna Metropolis, Ahmadu Bahago and Government Day and Father O'Connell Senior Secondary school. The sample size of one hundred and eighty-seven (185) participants was considered. Which contain one hundred and seventy-five (175) student and ten 10 teachers

#### **3.3 Sample Size and Sampling Techniques**

The sample size of one hundred and eighty-seven (185) participants was considered. Which contain one hundred and seventy- five (175) student and ten 10 teachers. A stratified random sampling technique was employ in the distribution from the entire population.

#### **3.4 Research Instrument**

A well-constructed and Researcher-developed questionnaire titled “Questionnaire on Assessment Student Attitude Towards Using Facebook in Teaching And Learning Of Physics In Senior Secondary School, in Minna Metropolis” was used to get the desired information from student. Part A was for collection of information on personal data of respondents while part B is divided into three sections based on the research questions. Section A contains item which addressed level of exposure of teachers and students towards using Facebook in

teaching and learning of physics in senior secondary school, in Minna metropolis, Sections B contain items what teacher and student of physics in senior secondary school, in Minna metropolis use Facebook for and Sections C contain items which addressed how the use Facebook has influenced the academic performance of Physics students in senior secondary school, in Minna metropolis.

#### **3.4.1 Validity of the instrument**

Samples designed questionnaire were submitted to the project supervisor and two other lecturers in the Department of Science Education, Federal University of Technology Minna for vetting, correction and approval before distributing it to the respondents.

#### **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 were 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 0.87 obtained indicated that the research instrument was reliable; hence it was adopted for getting the desired information for the study.

#### **3.5 Method of Data Collection**

The researcher collected the needed data through the administration questionnaire to the sampled undergraduate student. The administration of the questionnaire was carried out by the researcher and two other researcher assistant. A total of one hundred and eighty-five (185) copies of the questionnaire was distributed to elicit responses from the student were retrieved on the spot by the researcher.

#### **3.6 Method of Data Analysis**

Data obtain from the administered questionnaire will be 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 25). Descriptive statistics of frequency counts and percentages were used in analyzing demographic variables, mean and standard deviation were used to analyzed the research questions while the t-test will be used to test the stated hypotheses at 0.05 level of significance.

## CHAPTER FOUR

### 4.0 RESULTS AND DISCUSSION

#### 4.1 Results

This section discussed the result emanated from the analysis of respondents responses on the questionnaire distributed. Out of. one hundred and eighty-five (185) questionnaire distributed, one hundred and eighty – two (182).

#### 4.2 Analysis Research Questions

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	4
Agree	3
Disagree	2
Strongly Disagree	1

#### Decision Rule Note

f = Frequency

% = Percentage

$\bar{x}$  = Mean ,  $\bar{x} = 4+3+2+1=10$  (VHR, HR, MR, NR) = 10

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

## Research Question One

What is the level of exposure of teachers and students towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis?

**Table 4.1 level of exposure of teachers and students towards using Facebook in teaching and learning of physics in senior secondary school**

Description of items	N	$\bar{x}$	SD	Remark
I am only aware of the usage of Facebook as social media platforms for connecting with friends .	182	3.23	0.45	Agree
I am aware that Facebook is one of the most used media of communication for the dissemination of information by student an teachers	182	3.34	0.56	Agree
I am not that Facebook could be used by teacher to deliver instruction	182	2.58	0.45	Agree
Virtual learning is made easy via facebook sites especially sharing academic information and resources with my students.	182	3.23	0.38	Agree
I am been aware of the usage of Facebook for teaching more than half decade	182	2.34	0.56	Disagree
I am aware that Facebook has make teaching interest and affordable	182	2.58	0.34	Agree
Student responses and attentiveness are easily traced while using Facebook for virtual learning	182	2.36	0.45	Disagree
I am aware that assignment and practical assessment instructions among others are released on the Facebook social networking site	182	2.38	0.34	Disagree
Grand Means		<b>2.76</b>	<b>0.44</b>	

Table 4.1 reveals the responses of students and teachers on their level of level of exposure of towards using Facebook in teaching and learning. The result shows that the students and teachers agreed to have being aware of the usage of Facebook as social media platforms for connecting with friends, Facebook is one of the most used media of communication for the

dissemination of information by student and teachers, that Facebook could be used by teacher to deliver instruction, Virtual learning is made easy via Facebook sites especially sharing academic information and resources, I am aware that Facebook has made teaching, that Facebook has made teaching interesting and affordable with my students. with the mean value of 3.23, 3.34, 2.58, 3.23, and 2.58 respectively, while they disagreed on the fact that Student responses and attentiveness are easily traced while using Facebook for virtual learning, with mean value of 2.36 and 2.38 respectively.

### Research Question Two

what do teachers and students of physics in senior secondary school, in Minna metropolis use Facebook for?

**Table 4.2 Teachers and students of physics in senior secondary school, in Minna metropolis use Facebook for?**

Description of items	N	$\bar{x}$	SD	Remark
The teacher use Facebook to maintain and instruct us by joining academic groups	182	3.45	0.34	Agree
Our teacher does not communicate with us via Facebook	182	3.35	0.56	Agree
I use Facebook to share my assignment with my fellow student.	182	3.56	.67	Agree
Facebook sites is an effective medium to share academic information and resources for students.	182	2.58	0.23	Agree
Facebook sites helps to follow the changes occurring in student daily lives most especially in their academic.	182	2.43	0.34	Disagree
We use Facebook sites to support my student academic by posting educational related news	182	3.24	0.45	Agree
I use Facebook sites to disclose new innovations relating to education in the country and global	182	2.57	0.54	Agree
I use Facebook sites to take part in discussions relating to educational activities with students	182	3.23	0.57	Agree

I use Facebook sites to disseminate information on changes and improvements about the school to my students.	182	3.25	0.45	Agree
I use Facebook sites for chatting only	182	2.58	0.32	Agree
<b>Grand means</b>		<b>3.02</b>	<b>0.45</b>	

Table 4.2 shows the results on responses of student on Teachers and students of physics in senior secondary school, in Minna metropolis use Facebook for. It was disclosed on the table that on average the Teachers and student agreed that teacher use Facebook to maintain and instruct us by joining academic groups, teacher does not communicate with us via Facebook, use Facebook to share my assignment with my fellow student, Facebook sites is an effective medium to share academic information and resources for students We use Facebook sites to support my student academic by posting educated related news, use Facebook sites to disclose new innovations relating to education in the country and global, I use Facebook sites to take part in discussions relating to educational activities with students, I use Facebook sites to disseminate information on changes and improvements about the school to my students. use Facebook sites for chatting only with mean value of 3.45, 3.35, 3.56, 2.58, 3.24, 2.57, 3.23, 3.25, and 2.58 respectively while they disagreed on the fact that Facebook sites helps to follow the changes occurring in student daily lives most especially in their academic. with mean value 2.43.



### Research question Three

Does the use Facebook has influenced in the academic performance of physics students of senior secondary school, in Minna metropolis.

**Table 4.3 Use Facebook has influenced in the academic performance of physics students of senior secondary school, in Minna metropolis**

Statement	N	$\bar{x}$	SD	Remark
The use Facebook for reading makes learning easy and accessible	182	2.45	0.44	Agree
Facebook usage for reading has positive effect on my academic performance	182	3.25	0.54	Agree
The use of Facebook has enhance my learning rate.	182	3.45	0.23	Agree
Using the Facebook for reading has enabled me to gain extra skills and experiences outside the classroom	182	2.57	0.45	Agree
Facebook usage for learning has significance impact on my study.	182	3.53	0.21	Agree
Facebook greatly helps me in understanding lectures	182	3.44	0.49	Agree
Facebook is nothing but a distraction to my academic pursuit	182	3.46	0.47	Agree
My academic performance has been improved ever since I have being using Facebook for reading	182	3.72	0.29	Agree
<b>Grand Mean</b>		<b>3.23</b>	<b>0.39</b>	

Table 4.3 shows the response of student on use facebook has influenced in the academic performance of physics students of senior secondary school, in minna metropolis. The result unveils that the student agreed on the fact that The use Facebook for reading makes learning easy and accessible, Facebook usage for reading has positive effect on my academic

performance, The use of Facebook has enhance my learning rate, Using the Facebook for reading has enabled me to gain extra skills and experiences outside the classroom, Facebook usage for learning has significance impact on my study, Facebook greatly helps me in understanding lectures, Facebook is nothing but a distraction to my academic pursuit, My academic performance has been improved ever since I have being using Facebook for reading with value 2.45, 3.25, 3.45, 2.57, 3.53, 3.44, 3.46 and 3.72 receptively.

### 4.3 Analysis of Research Hypotheses

**H<sub>01</sub>:** There is no significant difference between teacher and student level of exposure towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis.

**Table 4.4: t-Test Analysis of teacher and student level of exposure towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis**

Variable	N	df	$\bar{x}$	SD	t-val	p-value	Decision
Teacher	10	180	3.01	0.04	3.96	0.05	NS
Student	172		3.16	0.51			

\*NS = Not Significant

Table 4.4 shows the significant difference in the response teacher and student level of exposure towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis. The outcome of the result shows the teacher means response is 3.01 and the SD=0.04, df = 170, with p-value of 0.05, while the Student mean response is 3.16, SD = 0.51, therefore the null hypothesis of no significantly difference in mean response of teacher and student is accepted

## Hypothesis Two

H<sub>02</sub>: There is no significant difference between the use Facebook by physics teachers and students in senior secondary school, in Minna metropolis?

**Table 4.5: Summary of t-test analysis for difference between the use Facebook by physics teachers and students in senior secondary school, in Minna metropolis**

Variable	N	Df	$\bar{x}$	SD	t-val	p-value	Decision
Teacher	10		2.99	0.18			
Student	172	180	3.73	0.35	1.36	0.09	NS

Table 4.5 shows the significant difference in the response teacher and student use Facebook by physics teachers and students in senior secondary school, in Minna metropolis. The outcome of the result shows the teacher means response is 2.99 and the SD=0.04, df = 180, with p-value of 0.09, while the Student mean response is 3.73, SD = 0.35, therefore the null hypothesis of no significantly difference in mean response of teacher and student is accepted.

## Hypothesis Three

H<sub>03</sub>: There is no significant relationship between teachers and student exposure to Facebook and academic performance.

**Table 4.6: Summary of one sample t-test analysis for difference in student responses on the exposure to Facebook and academic performance.**

Variable	N	Df	$\bar{x}$	SD	t-val	P-value	Decision
Teacher	10		3.53	0.31			
Student	172	180	3.61	0.25	4.04	0.07	NS

Table 4.6 shows the significant difference in the response teacher and student on exposure to Facebook and academic performance. The outcome of the result shows the teacher means response is 3.53 and the SD=0.31, df = 180, with p-value of 0.07, while the Student mean response is 3.61, SD = 0.25, therefore the null hypothesis of no significantly difference in mean response of teacher and student is accepted.

#### 4.4 Summary of Findings

The following are findings of the study:

1. The findings on research question one depicted that shows that the students and teachers agreed to have being aware of the usage of Facebook as social media platforms for connecting with friends, Facebook is one of the most used media of communication for the dissemination of information by student an teachers.
2. The findings on research question two depicted that teacher use Facebook to maintain and instruct us by joining academic groups, teacher does not communicate with us via Facebook, use Facebook to share my assignment with my fellow student.
3. The findings on research question three unveiled the use Facebook for reading makes learning easy and accessible, Facebook usage for reading has positive effect on my academic performance, The use of Facebook has enhance my learning rate, Using the Facebook for reading has enabled me to gain extra skills and experiences outside the

classroom, Facebook usage for learning has significance impact on my study, Facebook greatly helps me in understanding lectures

4. The findings on research hypothesis one depict that there is no significance difference in teacher and student responses on level of exposure towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis.
5. The findings on research hypothesis two depict that there is no significance difference in teacher and student responses on use Facebook by physics teachers and students in senior secondary school, in Minna metropolis
6. The findings on research hypothesis three depict that there is no significance difference in teacher and student responses on exposure to Facebook and academic performance.

#### **4.5 Discussion of Findings**

The findings of the study disclosed that the students and teachers agreed to have being aware of the usage of Facebook as social media platforms for connecting with friends, Facebook is one of the most used media of communication for the dissemination of information by student and teachers, that Facebook could be used by teacher to deliver instruction, Virtual learning is made easy via Facebook sites especially sharing academic information and resources, I am aware that Facebook has make teaching.

Similarly, the results on disclosed hat the Teachers and student agreed that teacher sometimes use Facebook to maintain and instruct us by joining academic groups, teacher does not communicate with us via Facebook, but student use Facebook to share my assignment with my fellow student, Facebook sites is an effective medium to share academic information and resources for students they Facebook sites to take part in discussions relating to educational

activities with students, while they disagreed on the fact that Facebook sites helps to follow the changes occurring in student daily lives most especially in their academic.

The findings of the study disclosed that the student agreed on the use Facebook for reading makes learning easy and accessible, Facebook usage for reading has positive effect on my academic performance, The use of Facebook has enhance my learning rate, Using the Facebook for reading has enabled me to gain extra skills and experiences outside the classroom, Facebook usage for learning has significance impact on my study, Facebook greatly helps me in understanding lectures, yet some opned that Facebook is nothing but a distraction to my academic pursuit.

The findings on research hypothesis one showed t that there is no signifincance difference in teacher and student level of exposure towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis with p-value of 0.05.

The findings on research hypothesis two depict that there is no signifincance difference in teacher and student on use Facebook by physics teachers and students in senior secondary school, in Minna metropolis with p-value of 0.09.

The findings on research hypothesis three depict that there is no signifincance difference in teacher and student responses on exposure to Facebook and academic performance with p =0.07.

## CHAPTER FIVE

### 5.0 CONCLUSION AND RECOMMENDATIONS

#### 5.1 Conclusion

Based on the finding of the study student attitude towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis. The findings that there is no significance difference in teacher and student level of exposure towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis with p-value of 0.05.

The findings on research hypothesis two depict that there is no significance difference in teacher and student on use Facebook by physics teachers and students in senior secondary school, in Minna metropolis with p-value of 0.09.

The findings on research hypothesis three depict that there is no significance difference in teacher and student responses on exposure to Facebook and academic performance with  $p=0.07$ .

It could be concluded that students and teachers are being aware of the usage of Facebook as social media platforms for connecting with friends, and as media of communication for the dissemination of information by student and teachers. The findings depicted that student use Facebook to get information by joining academic groups, but teacher does not communicate via Facebook. It could also be concluded that the use Facebook for learning makes learning easy and accessible, Facebook usage for reading has positive effect on my academic performance.

#### 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 Facebook sites 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 Facebook 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 Facebook for learning purposes.

### **5.3 Suggestion for Further Studies**

Based on the findings of the study the following are suggestion for further studies:

1. Investigating in various factor affecting the use of Facebook in Teaching and Learning in North-Central Nigeria.
2. Investigating in various effect of use of Facebook in Teaching and Learning in North-Central Nigeria.



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## APPENDIX A

### QUESTIONNAIRE ON STUDENT ATTITUDE TOWARDS USING FACEBOOK IN TEACHING AND LEARNING OF PHYSICS IN SENIOR SECONDARY SCHOOL, IN MINNA METROPOLIS

#### SECTION A

#### RESPONDENT'S PERSONAL DATA

#### INSTRUCTION:

#### SECTION A

#### RESPONDENT'S PERSONAL DATA

#### INSTRUCTION:

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

**SEX:** MALE ( ) FEMALE ( )

**AGE:** 10 – 13 ( ) 14 – 17 ( ) 18 – 20 ( ) 21 – 25 ( )

**Class:** SSI ( ) SSII ( ) SSII ( )

#### SECTION B

#### INSTRUCTION:

Below are some questions to assess the student attitude towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis. Please tick (√) the appropriate column to indicate the extent to which you are sure.

What is the level of exposure of teachers and students towards using Facebook in teaching and learning of physics in senior secondary school, in Minna metropolis?

S/N	Description of items	SA	A	DA	SDA
1	I am only aware of the usage of Facebook as social media platforms for connecting with friends .				
2	I am aware that Facebook is one of the most used media of communication for the dissemination of information by student and teachers				
3	I am not that Facebook could be used by teacher to deliver instruction				
4	Virtual learning is made easy via facebook sites especially sharing academic information and resources with my students.				
5	I am been aware of the usage of Facebook for teaching more than half decade				
6	I am aware that Facebook has make teaching interest and affordable				
7	Student responses and attentiveness are easily traced while using Facebook for virtual learning				
8	I am aware that assignment and practical assessment instructions among others are released on the Facebook social networking site				

what does teachers and students of physics in senior secondary school, in Minna metropolis use Facebook for?

S/N	Description of items	SA	A	DA	SDA
1	The teacher use Facebook to maintain and instruct us by joining academic groups				
	Our teacher does not communicate with us via Facebook				

2	I use Facebook to share my assignment with my fellow student.				
3	Facebook sites is and effective medium to share academic information and resources for students.				
4	Facebook sites helps to follow the changes occurring in student daily lives most especially in their academic.				
5	We use Facebook sites to support my student academic by posting educated related news				
6	I use Facebook sites to disclose new innovations relating to education in the country and global				
7	I use Facebook sites to take part in discussions relating to educational activities with students				
8	I use Facebook sites to disseminate information on changes and improvements about the school to my students.				
9	I use Facebook sites for chatting only				

Does the use Facebook has influenced in the academic performance of physics students of senior secondary school, in Minna metropolis.


S/N	Statement	SA	A	DA	SDA
1	The use Facebook for reading makes learning easy and accessible				
2	Facebook usage for reading has positive effect on my academic performance				



3	The use of Facebook has enhance my learning rate.				
4	Using the Facebook for reading has enabled me to gain extra skills and experiences outside the classroom				
5	Facebook usage for learning has significance impact on my study.				
6	Facebook greatly helps me in understanding lectures				
7	Facebook is nothing but a distraction to my academic pursuit				
8	My academic performance has been improved ever since I have being using Facebook for reading				

# APPENDIX B

## VALIDATION FORM



**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**  
**SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION**  
**DEPARTMENT OF EDUCATIONAL TECHNOLOGY**

Dear Sir/Madam,

**Instrument Validation Form**

The bearer is a student of the above named University and Department. She/he is conducting a research and you have been selected as one of those with requisite expertise to validate his/her instrument. Kindly grant him/her all necessary assistance to make the exercise a success.

Your competency and expertise was considered as factors that will serve to improve the quality of his/her research instrument. We therefore crave for your assistance in validating the instrument. The completion of the form serves as evidence that the student actually validated the instrument.

Thanks for your anticipated assistance.

By: C.S. [Signature] GENERAL  
Dept. of Educational Technology  
FUT, University of Technology  
10 MAY 2021

Head of Department (Signature: [Signature]) State

Student's Surname: AYO, ADEY Other Names: WILLIAM DOLAPO

Registration Number: 201511587667 Programme: EDUCATIONAL TECHNOLOGY

Title of the Instrument: STUDENT ATTITUDE TOWARDS USING FACEBOOK IN TEACHING AND LEARNING OF PHYSICS IN SENIOR SECONDARY SCHOOL ATTESTATION SECTION IN MINNA METROPOLIS.

Summary of the Remark on the Instrument: The instrument is good for the level of student proposed to be used for.

I hereby attest that the above named student brought his instrument for validation

Name of Attester: DR. ALABI TILMATE OMOJOLA

Designation: LECTURER (ASSOCIATE PROFESSOR)

Name and Address of Institution: Federal University of Technology Minna

Phone Number: 08078573441 E-Mail: [Email Address]

Please comment on the following

1. Appropriateness of the instrument for the purpose it's design for... *The instrument is appropriate.*
2. Clarity and simplicity for the level of the language used... *The instrument is clear and simple for the targeted level.*
3. Suability for the level of the targeted audience... *The instrument is suitable for the level targeted audience.*
4. The extent in which the items cover the topic it meant to cover... *The topics cover the extent intended.*
5. The structuring of the Questionnaire... *The structuring of the questionnaire is not enough.*
6. Others (grammatical errors, spelling errors and others)... *All grammatical errors, spelling, highlighted.*
7. General overview of the Instrument... *Instrument*

Suggestions for improving the quality of the instrument

1. ....
2. ....
3. ....
4. ....
5. ....

Name of Validator... *Dr. ALABI THOMAS OMOYAN*

Area of Specialization... *Educational Psychologist*

Name of Institution... *Lecturer* Designation... *Asst. Professor*

Signature... *[Signature]* Date... *1/2/2024*

Thank You





FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA  
 SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION  
 DEPARTMENT OF EDUCATIONAL TECHNOLOGY

Dear Sir/Madam,

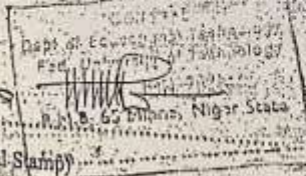
Instrument Validation Form

The bearer is a student of the above named University and Department. She/he is conducting a research and you have been selected as one of those with requisite expertise to validate his/her instrument. Kindly grant him/her all necessary assistance to make the exercise a success.

Your competency and expertise was considered as factors that will serve to improve the quality of his/her research instrument. We therefore crave for your assistance in validating the instrument. The completion of the form serves as evidence that the student actually validated the instrument.

Thanks for your anticipated assistance.

Dr. C. S. Tukur



Head of Department (Signature, Date & Official Stamp)

Student's Surname: **AFOLABI**

Other Names: **PILLWAN DOLAPO**

Registration Number: **A0151158066BT** Programme: **EDU-TECH**

Title of the Instrument: **STUDENT ATTITUDE TOWARDS USING FACEBOOK IN TEACHING AND LEARNING OF PHYSICS IN SENIOR SECONDARY SCHOOLS ATTESTATION SECTION IN MINNA METROPOLIS.**

Summary of the Remark on the Instrument: **STANDS**

I hereby attest that the above named student brought his instrument for validation

Name of Attester: **Dr. ADAMU ZUBAIRU EMATI**

Designation: **Senior Lecturer**

Name and Address of Institution: **FUT, MINNA**

Phone Number: **08036328687**

E-Mail



Please comment on the following

1. Appropriateness of the instrument for the purpose it's design for.....  
APPROPRIATE
2. Clarity and simplicity for the level of the language used.....  
CLEAR
3. Suability for the level of the targeted audience.....  
SUITABLE
4. The extent in which the items cover the topic it meant to cover.....  
COVERED
5. The structuring of the Questionnaire.....  
STANDARD
6. Others (grammatical errors, spelling errors and others).....  
MINOR
7. General overview of the Instrument.....  
STANDARD

Suggestions for improving the quality of the Instrument

1. DR ABAMU ZUBAIRU ERITI
- 2.
- 3.
- 4.
- 5.

Name of Validator..... DR ABAMU ZUBAIRU ERITI  
Area of Specialization..... EDUCATIONAL TECHNOLOGY  
Name of Institution..... FET MINDA..... Designation..... ETC  
Signature..... [Signature]..... Date..... 9/7/2021

Thank You