



Technological Innovations and Academic Reading Distraction among Undergraduates in Universities In Rivers State, Nigeria

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ABSTRACT

The study investigated the extent to which technological innovations predict academic reading distraction among undergraduate students in Rivers State, Nigeria. The study was guided by two research questions and their corresponding null hypotheses which were tested at 0.05 level of significances. The population for the study was made up of all undergraduate students in the three public universities in Rivers State, from which a sample of 997 undergraduate students in their third year of study was drawn. The sample was drawn using a two-stage sampling method via proportionate stratified random sampling and accidental sampling technique. Two instruments were used for data collections which were Technological Use Assessment Scale (TUAS) and Reading Distraction Assessment Scale (RDAS). The validity of the instruments was determined using face and content and approach. Reliability coefficients of 0.78 and 0.83 were obtained respectively for TUAS and RDAS using Cronbach Alpha method. For data analysis, multiple regression coefficients were used to answer the research questions, while analysis of variance (ANOVA) associated with multiple regressions was used to test the null hypotheses. Result revealed that technological use had a high contribution to academic reading distraction. On the basis of this result, it was recommended that students should regulate their usage of technological tools especially during times of academic activities. Also, students should be counselled on how technological innovations should be used.

Keywords: reading distraction, phone usage and social networking site

INTRODUCTION

University is among the higher institutions where individuals are prepared for further education in the form of postgraduate studies or for further career advancement. It is in recognition of this that one of the seven goals of higher education, is to acquire both physical, and intellectual skills that will enable individuals (graduates) to be self-reliant and useful members of the society (Federal Republic of Nigerian [FRN], 2004). In line with this, different courses are taught in universities, and most of these courses are made up of contents that are organised around various textbooks. The organisation of these contents in textbooks and handbooks convey to the students that they are expected to involve themselves in deep reading in order to grasp the information that is contained in the textbooks, so as to succeed in their programme. To support this, One World Literacy Foundation, (OWL, 2013) stated that any world that can read is ready to succeed. In another dimension, the era of the twenty-first century is "an information age" characterised by abundant information that one needs to survive effectively in society. Therefore, to be knowledgeable about the information, reading is indispensable. This is because reading helps ones to acquire the power to obtain knowledge. It is also one of the primary ways new discovery

are made as well, as the proper development of imagination, thinking, understanding, writing skills and acquisition of knowledge (Self Development Secrets, 2019, and One World Literacy Foundation 2013).

Reading also helps to stimulate the brain and cognitive functioning, promotes self-esteem, positive self-image and lifestyle. To this end, Self Development Secrets (2019) asserted that the benefits of reading range from improving mental health, physical health to creating healthy habits and lifestyles. Again, it does not only just help to develop critical thinking skills but also helps to improve the functioning of the brain.

Reading as a sure way to be accurately informed predicts better academic achievement than the students' parental socio-economic background (OWL, 2013). To Nord Angelia Education (2019) good reading skills lead to academic success because it creates room for the students to access wider scope of contents and curriculum, it also widens the student's communication and language skills. Generally, reading is a sure way of achieving better academic performance among students (Skenderi & Ejupi, 2018).

Indeed, considering the importance of reading to the individual and the society, Noor (2011) asserted that reading is everything that relates to adequate personal satisfaction in the world of school and beyond, and as such, it is seen as the most important skill for survival in higher institutions. OWL (2013) stated that a good reader is an educated and developed individual who is less likely to develop behavioural problems. So far the importance of reading to the development of self and society had placed it in the front burner of the national discourse on television, radio, community and national levels.

Nevertheless, despite the importance of reading to the development of self and society, it is observed that some of the students do not like to read, especially their academic materials. As Huang, Capps, Blacklock and Garza (2014) found from their study that most students who try to read do not read academic materials but non-academic materials like romantic books. However, they just spend very minimal time on academic materials. To support this Skenderi and Ejupi (2018), found that a greater number of students avoid reading their academic materials to the extent that students whose primary goal in the universities is to read mostly for an academic reason now have many other reasons (genres) that motivates them to read. Such reasons include personal satisfaction, entertainment, for general knowledge and parents pushing them. Specifically, only 20% of students admitted that they read for an academic reason while the remaining 80% of them read for other purposes (Skenderi & Ejupi, 2018).

The level to which students dislike to read for academic purpose evident in the number of students who finish their homework before going to school the next day, finished reading the assigned contents before going to the class for lecture, it is also shown in the number of students who overstay in their program and also in their grade level which they graduate with. Clump, Bauer and Breadley (2004) reported that only a small proportion of students finished their assigned contents and take home assignment as at when due.

All these attest to the fact that some students had compromised their primary aim to some other things. This implies that they had left what they are supposed to do for other things that are not their primary reason to be in the universities. In other words, they are not focussed on the primary reason for being in the university but on other things outside their primary task. This process of shifting their attention from their primary purpose to some other thing is a distraction.

Distraction is anything that does not allow one to focus or give full attention to the primary tasks in one's life at a given time. It could be something that an individual allows to direct his/her focus on some other thing that does not really matter. To Pang (2016), distraction is anything that hijacked attention from focusing on the right thing to do at a given time. It occurs in different ways such as:

- Texting while driving- driving distraction
- Texting while eating – eating distraction
- Playing video games when one is supposed to be doing homework – study distraction.

- Watching home movies when one is supposed to attend lectures. Learning distraction.
- Scrolling Facebook when one is supposed to read and prepare for the examination. Academic-reading distraction.

Reading distraction is anything that diverts one's attention from reading. While academic-reading distraction is anything that diverts one's attention from reading the academic materials to reading any other material like romantic books which is not the right thing to be done at the given time. For instance, when a student is staring out through the window instead of paying attention to the teaching going on in the class. It could also occur when a student is using the internet for entertainment purpose like playing games when he/she is supposed to use it for academic purpose. Distraction occurs when one is focusing on the wrong thing, or when one's focus is not under his/her control (Pang, 2016).

Indeed, distraction is like a plant that is called "plant" when it grows where it is wanted and changes to "weed" when it grows where it is not wanted. So the task/stimuli that caused distraction may be an individual primary task that requires to be given attention when it surfaces at the right time (it is the primary focus of the student). On the other hand, it could also be a distraction when it is a task that caused the students to digress his/her attention from their main focus that is when it surfaces at the wrong time. Distraction could be enjoyable at times, like when the students are scrolling through Whatsapp messages while waiting for the bus to be filled. On the other hand, it can also be disastrous for example when a student is scrolling through Facebook during lectures.

Distraction is very prevalent in our modern lives mostly in this 21st century that is characterised with abundant information Skenderi and Ejupi (2018) in their study observed that different factors like busy schedule at school, time spent with friends, lack of will to read, watching television and social networks usage (Facebook, Snap chat and Instagram etc.) contribute to academic-reading distraction. Nansoh and Shehu (2014) reported that social network negatively impacts on the students' reading habits. That is because some students do not view social media and its component as a tool for enhancing academic activities, rather it was viewed as a tool for entertainment and relaxation.

Theoretical Framework

A distraction is any stimuli/task that is not related to the individual's primary aim. In life activities, an individual gives attention to the primary task but if distracted the attention given to the primary task is divided. Distraction occurs when the pressure to attend to all stimulus is equal and the individual cognitive capacity to control the arousal of distraction is inadequate. The primary task and distraction require different sensory channels. The individual's cognitive capacity determines where the attention will be directed to. This is because the presence of the irrelevant stimuli in addition to the primary task can lead to attentional conflicts. Attentional conflicts occur in the presence of multiple stimuli when the individual has the interest to attend to the entire stimulus.

To this end, distraction conflict theory was employed to give an explanation on how the presence of another object/stimuli (distraction) can influence individual performance on the primary task. It states that in the presence of other stimuli there is a conflict between attending to the primary task/stimuli and the other stimuli that are not of primary interest to the person at that moment. This conflict between giving attention to the primary stimuli and the attention to other secondary interest to the person is termed attentional conflict. The theory also assumes that an individual performance on a simple task is facilitated by arousal while in individual performance in a complex task is hindered by the same arousal. On this basis, the present study is anchored on this distraction conflict theory.

To the researcher, distraction is one's failure to focus on a given ongoing task by doing something else. Thus, when one who utilises the time he/she supposed to be reading (primary focus) for

some other activities (secondary focus), such a person is termed to be experiencing reading distraction.

Furthermore, experience has also shown that some students prefer to watch movies to reading while in the class. Others prefer browsing, playing games, chatting sending and receiving of emails, engaging in social media activities while lecturers are ongoing. For instance, one of the researchers was in her office one day watching some students who were waiting to enter their class to do a test, were discussing among themselves "please let us seat together I did not read I was watching Jenifa dairy", and the second student then said, please tell me what happened?" These are students whose test is due to less than 30mins. Again the researcher has also observed how students lament the failure of a test taken, saying imagine after purchasing the recommended textbooks and materials I still failed." Also, it has been observed that noted during examinations, some student's loose self-confidence when they are reshuffled. Some even take the risk of jumping from heights when noticed as impersonators, and thus one who is well-prepared will not exhibit such level of anxiety. Similarly, cheating with mobile phone was also one of the other things noticed. In a three-hour examination, it is often noticed that most students can hardly leave their mobile phones at home so as not to be left out with any trending happenings or news. This is to say that, they prefer giving attention to technological innovation than reading for academic purposes.

Technological principles model that directs man on the new way of producing and utilising goods and services. (Naude & Szirmai, 2013) while innovation is an introduction of an original novel thing different from previous ones that affect the society, organization or nation. It means something entirely new that is very necessary to man. It could also be explained as a "new idea, device or method" (Wikipedia, 2017). This is realized through more effective products, processes, services, or ideas that are easily found in the markets. In other words, innovation also means a new and better thing from an earlier version.

To this end, when the new rules and ideas are applied to life activities it is termed as technological innovation. Technological innovations contribute to the achievements of higher levels of social and economic output, which in turn change human lives and capabilities. (Lipsey, Carlaw & Bekar in Naude & Szirmai, 2013). Before the turn of this decade, the use of mobile and smartphones with internet activities such as online learning, online banking, online shopping, browsing, playing of games, texting never existed. Today, however, their availabilities and usage are very rampant. Before it was pen, notebooks, textbooks etc., but now students carry small bags that can accommodate a note pad, not even a textbook, but they carry all sorts of digital gadgets ranging from phones, android, earpiece, app-filled phones, I-pad, I-pod, Bluetooth etc. These gadgets are used for various purposes such as note taking, snap-chat, instant picture.

Texting has introduced to our student's new use of spelling for phone abbreviations in emailing, playing games, chatting, web surfing, social media activities etc. These new ways of spelling are not restricted to their phone activities but have now been transferred to their academic works such as in classroom assignments and examinations. For example, instead of writing "for" they write "4". Again the use of technological devices has made students prefer sending and receiving text messages as well as calling and receiving phone calls to involving themselves in some academic activities. These may in one way or the other distracts them from reading their lectures notes or listen during lectures. Campbell (2006) opines that if schools could put a ban on phone ringing, students will be in favour so as to curb phone usage and reduce distraction.

There are a lot of potentials students can derive from technological innovations, and these include:

Preparation for the future: It is without a doubt that students need technology skills to communicate in many life activities.

Enhance motivation: Technological skills like online learning, virtual field trip, and application in the classroom motivate students.

Provision to wider and easy access to relevant information: Through technology, students can be in the classroom or hostel and receive information from any part of the world.

It also promotes intra-and inter-school collaboration in learning irrespective of the distance.

Despite these benefits students, can derive from technological innovation it is reported that technological innovation can cause confusion amongst students when not properly used. Harkema (2001) reported that technology can cause confusion in the learning environment, it can also lead to bringing down their morale.

Technology today has provided an overload of information referred to as cognitive overload, with students of today needing new thinking and learning as well as the ability to filter information. Technology is very important so it needs to be used wisely. Some technological innovations with regards to digital gadgets that students use in their school environment and homes include, smartphones, I pads, palmtops, tablets, laptops, earpiece, headphones, Bluetooth headphones, computers and these mentioned have internet and Wi-Fi, hotspot services. The existence and availability of all these are consequences of technological innovations. The focus of the tertiary institutions now to the students is gradually being taken over by technology, (Goundar, 2014). Today students rely more on these technological developments and do not even know when and where to use it. Sometimes, their interests and abilities are on technological innovation to the point that without the application of technology they cannot articulate well. Specifically, some students cannot add two-digit numbers without the use of a calculator. Also, due to over-dependence on technological innovation students spend most of their time on these technological devices than life activities which may include readings of their lectures notes and textbooks. Hence,

Kirschner & Karpinski (2010) noted that social media activities have really improved teacher-student dealings as well as their learning capability.

Texting has introduced to our student's new use of spelling skills for phone abbreviations, e-mailing, playing of games online and offline, chatting, web surging social media activities etc. Studies show that text messaging in class can improve and strengthen students' knowledge base when it comes to remembering and expansion. Hofferth and Moon (2012), assessed the relationship between children's use of cell phone and reading proficiency in decoding and reading comprehension. The researchers found that children who engage more in text messages (SMS) had better reading ability than those who do not. Valk, Rashid, & Elder, (2010) share this view that text messages (SMS) participants gain more and are more enthusiastic in taking part in class interaction and enjoy doing so, than non-SMS participants. Even early study shows that in a large college lecture room, SMS use avail students study access to materials and revision questions for study received through their phones, which probably have increased their grades than those who did not (Mcconatha, Praul, & Lynch, 2008). In all, use of technological innovation is a two-edged sword that can promote or demote learning depending on their usage and individual difference. It is on this note that the researcher decided to find out if the use of technological innovation is a factor of academic reading distraction. This was the major consideration for the conduct of this study.

Statement of the Problem

Education is the bedrock of every nation. That means a nation's development is greatly influenced by the number of its members that are literate and passionate. A literate individual is one that can read and write. Acquisition of good reading skills and interest has a lot of benefits to the individual such as self-improvement, relaxation, self-reliance, self-esteem and development of high achievement motivation. Therefore, for any serious-minded student to excel in the world of academics, reading which keeps them abreast of what is going on in the school cannot be relegated to the background. However, despite the role of reading in the development to a literate nation, it is found that students whose primary duty is to read their academic material have diverted their time, interest and energy to some other things. This is evident in the poor level of students' performance in their cognitive, affective and psychomotor domains. For instance, the

numbers of students who graduate with second class upper and first class grades are very few when compare to the numbers of students who graduate with 3rd and pass grades. Students are also involved deeply in some antisocial behaviours such as examination malpractice, school dropout, negative attitude towards attending lectures, examinations impersonation, poor completion of take-home assignments, etc. It is also noticed in their high level of anxiety and low self-concept. It is so observed that the general feeling is that many students in Nigeria do not like to read. This situation is detrimental to the self and to the society as it will hinder the achievement of Vision 2020 “Education for All”, and the actualisation of the seven goals of education in Nigeria mostly to build a united, strong and self-reliant nation will not be possible.

Aim and Objectives of the Study

The aim of the study is to find out if technological innovations are predictors of academic reading distractions among undergraduate university students in Rivers State

1. To determine how phone use and social networking site use jointly predict academic reading distraction among undergraduate students in Rivers State.
2. Find out how technological innovations devices (phone use and social networking site use) contribute to the prediction of academic reading distraction among undergraduates of universities in Rivers State and

Research questions

The following research questions are formulated to guide the study:

1. How do phone and social networking site use jointly predict reading distraction among undergraduates of universities in rivers state?
2. What are the independent contributions of each of the technological innovations devices (phone and social networking site usages) in the prediction of academic reading distraction among the undergraduate students of universities in Rivers State?

Hypotheses

1. Technological innovations of phone use and social networking site (SNS) use do not significantly contribute to the prediction of academic-reading distraction among undergraduate in universities in Rivers State.
2. Phone use and social networking site use jointly do not jointly predict academic-reading distraction among undergraduate in universities in Rivers State significantly.

METHODOLOGY

The study adopted the correlational research design. The population of the study consisted of 18,102 level 300 students in the three Universities in Rivers State namely, University of Port Harcourt (UNIPORT) with 7,052 students, Rivers State University (RSU) with 6,750 students, and Ignatius Ajuru University of Education (IAUE) with 4,300.

A sample of 1000 undergraduate students currently in their 300 level was used as the sample for the study. This sample size was determined based on the suggestion of Krejcie and Morgan (1970) who recommended a sample size of 377 for a population above 10,000. To get the sample size, proportionate stratified random sampling technique was used to determine the required number of students to draw from each institution. Nevertheless, after the administration, it was observed that 3 copies of instrument returned were not completely responded to hence a total of 997 copies were used for the analysis of data. This gave 99.97% retrieval/used rate while 0.3% was unused.

Instruments were validated two experts/lecturers in Educational Psychology to ascertain the face and content validities. The comments from the assessors were effected and the final draft subjected to a reliability test. The TUAS had an alpha coefficient of 0.777, while the RDAS yielded a value of 0.831. These values indicated that the instruments are suitable reliabilities for use for the study.

RESULTS

Research question 1: *How do phone and social networking usage jointly predict academic reading distraction among undergraduates of universities in Rivers State?*

Table 1: Summary of multiple regression analysis on the prediction of academic reading distraction on technological innovation

R	R ²	Adjusted R ²	Standard error of the estimate
0.168	0.028	0.026	4.26

Information in table 1 shows that the coefficient of multiple correlations of 0.168 was obtained when phone usage and social networking site usage was used to predict academic reading distraction among undergraduate student in universities in Rivers State. It was also showed that the coefficient of multiple determination (R²), obtained was 0.028 while the adjusted coefficient of multiple determination (adjR²) obtained was 0.026. On the basis of the adjusted R², it is deduced that only 2.6% changes in the academic reading distraction among undergraduates can be explained by the knowledge of the joint influence of phone and social networking usages. However, 97.4% of changes in academic reading distraction among students are unexplained by the knowledge of their phone and social network usages.

Hypothesis 1: Phone use and social networking use jointly do not significantly predict academic reading distraction among undergraduate in universities in Rivers State.

Table 2: Summary of Analysis of variance associated with multiple regressions on the prediction of academic reading distraction on technological innovation.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	523.64	2	261.817	14.45	.0005 ^b
	Residual	18005.17	994	18.114		
	Total	18528.81	996			

a. Dependent Variable: RD

b. Predictors: (Constant), Phone usage, SNS

From the information displayed in Table 2, it is shown that an F-value of 14.45 was obtained at df of 2 and 994 with a 0.0005 level of significance ($p < 0.05$) which is lower than 0.05, the chosen level of significance. Thus, technological innovation such as phone and social network usages had a significant joint prediction on academic reading distraction among undergraduates in Rivers State. The null hypothesis was therefore rejected.

Research question 2

What are the independent contributions of each of the technological innovations (phone and social networking usages) in the prediction of academic reading distraction among the undergraduate students of universities in Rivers State?

Hypothesis 2: Technological innovations of phone use and social networking use do not significantly contribute independently to the prediction of academic reading distraction among undergraduate in universities in Rivers State.

Table 3: Beta and t-values of technological innovations devices on the prediction of academic reading distraction

Model	Unstandardized Coefficients		Standardized Coefficients	p-values
	B	Std. Error	Beta	
			t-value	
(Constant)	14.409	.718		20.072 0.0005
1 SNS	-.002	.032	-.002	-.050 0.960
Phone usage	.122	.024	.169	4.988 0.0005

a. Dependent Variable: RD

Table 3 provided the information that the unstandardized regression coefficient (B) obtained are 14.409 for constant, -0.002 for social networking and 0.122 for phone usage. This led to the model equation to be used in predicting reading distraction on technological innovation related to phone and social networking usage as $Y_1 = 14.409 + 0.002X_1 + 0.122 X_2$ where Y_1 is the predicted score on reading distraction while X_1 and X_2 represent any given score on social networking and phone usages. It is further shown in table 4.9 that the standardized coefficient (Beta values) obtained are -0.002 and 0.169 respectively for social networking and phone usages. That means phone usage made a higher positive contribution than social networking users that made a low negative contribution to the prediction of academic reading distraction. It was also shown that t-values obtained are -0.50 for social networking at 0.960 level of significance ($p > 0.05$). Thus, social networking is not a significant predictor of academic reading distraction. On the other hand, phone usage had the t-value of 4.988 at 0.0005 level of significance ($p < 0.05$). Thus, it is obvious that phone usage independently predicted reading distraction significantly.

DISCUSSION OF FINDINGS

The result showed that phone usage contributed positively to reading distraction. This result is not surprising but expected because phone usage requires attention, and such attention limits the time and effort required for reading and understanding. The result of this study is in line with some researchers who examined different areas with regards to some of the gadgets used as seen as distracting and also useful to students. Onasanya, Ayelaagbe and Aleye (2012) study on mobile phones and adult education showed its usage has not been included in their curriculum but advice that it be added by curriculum planners since this new innovation has evidently come to stay. As it was noted in the study of the private university of Ogun state universities librarians, they believe technological innovations will assist them in their job. Onasanya, et al (2012), in their study carried out among 400 level students in universities in Kwara state concerning social networking sites and academic achievement, social networking sites and gender including hours spent online and also from one university to the other, their results showed no significant relationship which was not in line with this study and also the variables were different and the level studied was also different this study was on level 300 undergraduate students of universities in Rivers state. Berry and Westfall, (2015), agreed that distraction affecting students and learning is caused by the use of cell phones, which agrees that cell phones are a means of distraction to a student in the class while this work was on academic reading distraction. Tindell and Bohlander

(2012) believed that due to their lack of concentration students get themselves involve in texting in class, this explains its distracting nature.

CONCLUSION

From the result obtained after the analyses of data, it can be seen that technological innovations of social media usage, phone usage had a negative impact on academic reading as they are likely to predispose students to be distracted in their study. Phone usage has a great influence on academic reading distraction undergraduate students in universities in Rivers State.

Based on the analysis and conclusion made on this study recommendations are made:

1. Institutions of learning, especially universities should develop a policy and enforce same which is against the usage of mobile phones during classes. This recommendation is in line with the finding that students are easily distracted by the usage of their mobile phones. However, provision can be made for the usage of mobile phones and other technological devices that are needed for students to perform certain academic activities, such as data analysis or engineering drawing.
2. When school policy allows the use of mobile of devices, effort should be made to ensure that students do not use it for activities that do not contribute to the learning goals the devices are needed for. Sanctions should be imposed on defaulting students, as these have the possibility of discouraging other students from learning.
3. Students should be guided on how to use technological devices mostly when they are in the classroom as well as when it is proper for them to read their academic materials.

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