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NEED FOR ADOPTION OF INFORMATION AND COMMUNICATION TECHNOLOGY FACILITIES IN TECHNOLOGY EDUCATION RESEARCH BY UNIVERSITY EDUCATORS AMID COVID-19 PANDEMIC PREVALENCE

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ABSTRACT
Despite the usefulness of information and communication technology (ICT) facilities in research and educational enterprise globally, there seem to be dearth of empirical information concerning ICT adoption in technology education research among university educators. This situation has prompted the researchers to carry out this study especially, in respect of the new normal, COVID-19 era. The study however, assessed the level of ICT fusion in technology education research by university educators in Adamawa State. The study employed a survey research design, and guided by three research questions as well as a null hypothesis tested at 0.05 level of significance. Population of the study consisted of all the categories of technology education educators in all the universities in the state. The population of the study was 0000, which was manageable hence, there was no sampling and sampling techniques. The instrument for data collection was a30itemquestionnaire of a five-point rating scale, face validated by three experts in the field. Cronbach Alpha reliability was used to establish the reliability coefficient of 0.79 which was appropriate for the study. Data collected were analysed using mean, standard deviation and Pearson product moment correlation. The study revealed among others that analytical tools, internet, projectors and telephoning are the most available ICT facilities, which if adopted and optimally utilized could enhance teaching and research in technology education amid COVID-19 pandemic prevalent. Based on the findings, it was therefore, recommended that efforts should be made by concerned of government to address all the barriers to the adoption of ICT facilities in research in the 'new normal' of COVID-19 era.

Keywords: Adoption, ICT, Technology Education Research, University Educators, Covid-19

Introduction

Information and Communication Technology (ICT) utilization in educational delivery and in other human endeavours has helped in diverse ways as regards as effectiveness and efficiency. It has also played a vital role in conducting, analyzing and reporting research activities, thereby enhancing the visibility of research outcomes and onward communication of results. The 21st century has witnessed unprecedented advancement in the use of ICT facilities to enhance teaching and learning (Gowon &Tika, 2017). The ICT, having been used in various research activities, has shown an appreciable potency in fostering quality teaching and learning. Evidently, the application of ICT via the internet has robustly facilitated information sharing and other interactions among scholars globally. Indeed, the versatility of ICT made it highly essential not only in the classroom engagements (Almekhafi & Almeqdadi, 2010); but also indispensable, in virtually every spectrum of human endeavour. Inconvertibly, the application of ICT in academic enterprise enables scholars can access unlimited and valuable research resources.

Information and Communication Technology integration according to the National Forum on Educational Statistics (2005) is the incorporation of ICT facilities and ICT practices into the daily routine of work, business and education. Suffice it to say that, the use of ICT facilities have enhanced the way research is done amid COVID-19. These include using internet services to source relevant literature through internet browsing, collecting and analyzing data as well as disseminating research findings to end users. For instance, the internet is used to access data search engines such as ProQuest, Sage, Emerald, ABI, Peer Reviewed Journals, Business New and a host of other useful applications that could help researchers to access data and information whenever necessary. Research processes and outcomes can also be enhanced through the use of Computer Assisted Self- Interviewing (CASI) method, which uses audio and video automated telephone interviewing system to collect data. There are also mobile phones, Geographic Information System (GIS) which are used to collect various forms of structured data (Emeka & Nyeche, 2016). Others facilities include: Nvivo, Atlas, Video conferencing, Global Posting System (GPS) to mention but a few. In developed countries like America, China, United Kingdom, ICT facilities applications help researchers to expand the way data is collected, analysed and managed (Eze & Chinedu-Eze, 2018). It is observed that these facilities can also increase opportunities for interaction between researchers and respondents as well as help researchers to gain speed while saving time and resources. Information and communication technology facilities also enhance research information storage and retrieval as well as provide the enabling environment for conducting web based research which dictates the trend in covid-19 regime.

Regardless of the readily availability of ICT facilities and their importance in education delivery by the developed countries, the adoption in Nigeria has been confronted with a lot of problems. Buttressing this analogy, Gowon and Tika (2017) observed that e-learning activities especially in Nigeria is limited as a result of infrastructure problems, which are attributed to lack of funds, expertise and political instability. Alshahrani, Ahmed and Ward (2017) noted that most countries in Africa are plagued with internal conflict and political instability that has impaired progress in ICT utilization in education. Nigeria has been facing different security challenges and

threats ranging from kidnapping, vandalism, ritual killings, sexual violence, child trafficking, religious intolerance, insurgence, domestic violence, bombing, unrest, unwarranted agitations among others (Nnajiofor, Cyrill& Gowon, 2019). Citing the case of Zimbabwe, Chityo and Harmon (2009) contended that more than 10 years of political instability in the country has impeded access and the use of information technology as a learning resource. With these cases in view, Bukhari (2010) affirmed that, universities in most developing countries have suffered limited resources and awareness, inadequate manpower and training, epileptic power, amidst poor internet services and network facilities in their bid to exhaustively optimized ICT facilities in their academic and administrative operations.

The utmost aim of every tertiary institution isto impartin learners' knowledge, skills, attitudes, values and norms that would enable them earn a worthy living as well as contribute significantly to national transformation and development (Okoye, &Nnajiofor, 2019). In the same, Amadi and Urho (2015) posit that the primary objective of establishing university education is to set the pace in terms of learning and character building, production of competent and resourceful graduates with high moral standards in our society, and the total development of men and women in an enabling environment through appropriate teaching, research and service to humanity (Odim, Annastashia & Solomon, 2018). Universities are usually in the forefront of any social, economic and political challenges, especially with the power of research being focused on areas that will promote human development and solve existential problems. For instance, in Califonia, the university is the incubator where virtually all solutions to their socio-economic problems are hatched and optimized for their wellbeing. This is achieved mostly with the uninterrupted research being carried out, in order to identify their problems as well as proffer enduring solutions. The situation is quite regrettable and indeed a serious concern in Nigerian education system, particularly in technology/technical education where research is being stalled owing to the sudden lockdown occasioned by the pandemic. Obviously, this lacuna seemed to have not only threatened the process of acquiring necessary skills that could enable the country wriggle out of the predicament, but also had incapacitated the nation's ability to independently and favourably brandish its own antidote through the optimization of its local contents. Suffice it to say that the ongoing break in technology education research occasioned by the Covid-19 pandemic has adversely affected socio-economic situations of almost every continents of the world with high expectancy of recession and poverty index.

The need for effective application of ICT facilities as research tools, in order to encourage and facilitate studies in the 'new normal' era occasioned by the emergence of COVID-19 pandemic (newly discovered coronavirus which has spread over the world) cannot be overemphasized. According to National Centers for Disease Control and Prevention (NCDC), the first confirmed case of the pandemic of coronavirus disease in Nigeria was announced on February 27, 2020, when an Italian citizen in Lagos was tested positive for the virus. On 9th March, 2020, a second case of the virus was reported in Ogun State, a Nigerian citizen who had contact with the Italian citizen, and the virus gradually spread across the entire state of the federation. As a result of this pandemic, the Federal Government of Nigeria announced lockdown of major cities in the country so as to

curb the rapid spread of the virus. Furthermore, Nigeria implemented a sweeping quarantine in three major states (Lagos, Ogun and Abuja) and eventually the entire state in the country as best possible way to slow the spread of COVID-19(Mbah, 2020). Apparently, the optimization of state-of-arts ICT facilities in the treatment of patients and management of essential information regarding the aware and control of the pandemic toppled the front burner of the discourse about the ravaging virus. As such, the adoption of ICT facilities in this new normal is quite ideal, and the ubiquitous connectivity of internet and networks will improve university educators' ingenuity and opportunities given that societies have consciously depend on real-time information to be proactive. Eze, and Chinedu-Eze, (2018) posited that ICT facilities are essential in saving substantial costs for physical research, teaching and learning infrastructure, contributing to the digitization of course contents to easily share and adopt learning contents anytime and anywhere, and integrating the global educational environment. It is hoped that the adoption of ICT facilities in technology education research by University educators will discount the spread of COVID-19 through contacts of person involved in research processes.

Despite the overwhelming importance of ICT and the pervasiveness of application of ICT in technology education, and in particular, technology education research, the optimization of these facilities seemed to be very low in some Nigerian universities. Incidentally, most studies on ICT adoption seem to center on integration in classroom and delivery of teaching and learning activities. This situation has left a gap in other areas of education such as research, which this study intends to fill in respect of the "new normal" caused by COVID-19.

Purpose of the Study

Specifically, the study identified:

1. ICT facilities available to educators in technology education research.
2. Perceived benefits from the use of ICT facilities for technology education research by university educators amid COVID-19 pandemic.
3. Challenges of the effective use of ICT facilities for technology education research in universities.

Research Questions

The following research question guided the study:

1. What are the ICT facilities available to educators in the technology education research?
2. What are the perceived benefits from the use of ICT facilities for technology education research by Nigerian university educators amid COVID-19 pandemic?
3. What are the major challenges of the effective use of ICT facilities for technology education research in Nigerian Universities?

Hypothesis

The hypothesis below was tested at 0.05 level of significance:

1. There is no significant relationship between available ICT facilities and utilization by educators.

Research Method

The study employed a descriptive survey design. It was carried out in Adamawa State, which is located in the North-East region of Nigeria, with a geographical coordinates of 9° 20′North, 12° 30′ East and a land mass of about 39,742,12 km² (Adebayo & Tukur, l999). The population of the study comprises all the forty-two (42) technology education educators from the two universities (consisting of 32educators from Modibbo Adama University of Technology, Yola and 10 from Adamawa State University Mubi) both in Adamawa State. No sampling technique was used since the population was manageable. A structured questionnaire developed by the researchers titled "Adoption of Information and Communication Technology Facilities in Technology Education Research by Nigerian University Educators (AICTFTERNUE)" was used for data collection. The instrument was validated by three experts in the field and trial test educing 5 respondents from Benue State University that was not part of the population. The reliability coefficient was established using Cronbach Alpha Correlation Co-efficient whichyielded0.79; which indicated high internal consistency which proved that the instrument was reliable to be used for the study. The questionnaire consisted of two sections (A and B), with 5-point Likert rating scale of strongly agree (SA=5) to strongly disagree (SD=1). Data generated from the research questions were analyzed using mean and standard deviation while the null hypothesis was tested at 0.05 level of significant with the SPSS version 22. Ameancut-offpointof 3.50wasusedfordecisionmaking whereby anymeanscoreof3.50 and above was agreed upon while any mean score below 3.50was disagreed upon for all the research questions. The decision rule on testing the hypothesis was based on comparing the computed R-value with 0.05 level of significance. If the r-value is less than or equal to 0.05 level of significance, the null hypotheses was accepted. However, when the r-value is greater than or equal to 0.05 level of significance, the null hypotheses were rejected.

Results

Research Question One: What are the ICT facilities available to educators in the technology education research?

Table 1: Major ICT Facilities Available to Technology Education Educators' Research

S/N	ICT Facilities Available to Educators	$\bar{X}$	σ	Remark
1	Nvivo	2.94	0.34	Disagreed
2	Atlas	3.35	0.54	Disagreed
3	Social media (Twitter, Facebook, Google group)	3.13	0.62	Disagreed
4	Bar code	2.76	0.33	Disagreed
5	Refwork	3.49	0.44	Disagreed
6	Video Technology (Youtube, Video)	3.31	0.32	Disagreed
7	Global Information Systems GIS	3.29	0.37	Disagreed
8	Computer Assisted Telephoning	3.52	0.34	Agreed
9	Computer Aided Drawing/Drafting	3.13	0.52	Disagreed
10	Language translator	3.26	0.36	Disagreed
11	Analytical tools	3.94	0.34	Agreed
12	Internet services	3.62	0.64	Agreed
13	Smart boards	3.19	0.30	Disagreed
14	Learning management system	3.35	0.34	Disagreed
15	Projectors	3.82	0.42	Agreed
16	Global posting system GPS	2.84	0.24	Disagreed

Key:$\bar{X}$ =mean responses,σ=standard deviation

Table 1 shows the major ICT facilities reported to be available for technology education research. Analytical tools such as SPSS, SAS, Epinfo, Stagraph, and Excel among others were said to be the most available ICT facilities for technology education research with the highest mean 3.94. This is followed by projectors with mean response of 3.82, internet services 3.62 and computer assisted telephoning (mobile phones/tablets) with 3.52 in their order of availability. Other suggested ICT facilities such as language translators, video technology (youtube, Skype conferencing among others), global information systems, Refwork, Barcode, computer aided drawing/drafting, global posting system, learning management system, smart board, social media such as twitter Facebook and Google group, Nvivo and Atlas were reported not available for technology education research in Nigerian universities. The standard deviation from 0.24-0.64forallrespondentsindicatesthattheresponses were closely undisputed. It was therefore concluded that only few facilities needed to drive technology education research amid COVID-19 by university educators are available.

Research Question Two: What are the perceived benefits of using ICT facilities for technology education research by Nigerian university educators amid COVID-19?

Table 2: Perceived Benefits of using ICT Facilities for Technology Education Research by Nigerian University Educators amid COVID-19

S/N	Perceived Benefits of ICT Facilities	$\bar{X}$	σ	Remark
17	Availability of numerous sources of materials on the internet has brought improvement in research	3.94	0.34	Agreed
18	ICT facilities can enhance research outcomes	3.76	0.54	Agreed
19	ICT facilities give access to limitless literature	3.74	0.62	Agreed
20	ICT facilities are useful in data analysis	3.91	0.33	Agreed
21	Educators can always use ICT facilities to collect data while observing social distancing	3.98	0.44	Agreed
22	ICT facilities are useful in the sourcing of information at different locations including remote areas amid COVID-19	4.40	0.32	Agreed
23	ICT facilities can ease research process, that is, a task that would be completed over a long period of time now takes a short period of time to execute in the 'new normal'	3.70	0.37	Agreed
24	ICT facilities are useful in processing of research report	3.64	0.34	Agreed

Key: $\bar{X}$=mean responses, σ=standard deviation

Table 2shows the responses of the respondents on the perceived benefits of using ICT facilities for technology education research by Nigerian university educators amid COVID-19. The result from the table indicated that all the suggested benefits were agreed upon to be useful in various research studies. Prominent among the perceived benefits was said to be ICT facilities are useful in the sourcing of information at different locations including remote areas amid COVID-19 with mean response of 4.40. In a similar vein, respondents consented, that ICT could enhance their research findings and the outcome. The respondents also agreed with the statement; ICT facilities can ease research process, that is, a task that would be completed over a long period of time now takes a short period of time to execute in the 'new normal'.

Thestandarddeviationbelow1.00forallresponsesofeducatorsindicatesthattheresponses were closely unanimous. As regards the usefulness of ICT in data analysis, access to limitless literature among other benefits, the respondents admitted that ICT facilities are useful for technology education research amid the COVID-19. In summary it could be deduces from the result that adoption of ICT facilities for technology education research by Nigerian university educators amid COVID-19 is significant owing to it numerous perceived benefits.

Research Question Three: What are the major challenges of effective use of ICT facilities for technology education research in Nigerian Universities?

Table 3: Major Challenges of Effective Use of ICT Facilities in Technology Education Research in Nigerian Universities

S/N	Major Challenges of Effective Use of ICT Facilities	$\bar{X}$	σ	Remark
25	ICT facilities for research requires time to get acquainted with	3.82	0.64	Agreed
26	The facilities are often expensive	3.72	0.73	Agreed
27	ICT facilities are often not accessible	3.67	0.61	Agreed
28	Infrastructural problems	4.11	0.78	Agreed
29	Familiarity of research assistants/respondents with the ICT facilities	3.63	0.76	Agreed
30	Altitude/belief of research assistants/respondents with the ICT facilities	3.51	0.68	Agreed

Key: $\bar{X}$ = mean responses, σ = standard deviation

Table 3 revealed some challenges facing educators in using ICT facilities for technology education research. The respondents agreed with all the six factors militating against effective adaptation of ICT facilities for technology education research in Nigerian universities. The major challenge is infrastructural problems with the highest mean response of 4.11, followed by the much time required to get acquainted with ICT facilities for technology education research with 3.82 mean. Other challenges acknowledged by the respondents are that ICT facilities are expensive in nature, often not accessible, familiarity of research assistants/respondents with the ICT facilities. This result explains why it is often difficult to carry out technology education research using ICT facilities even in the era of COVID-19 pandemic. The standard deviation showed close but different ranges with each item having a standard deviationbelow0.78, which indicates that the responses of the respondents were closely related to each other. It was also found that using ICT facilities during research are often expensive.

Hypothesis

Hypothesis 1: There is no significant relationship between available ICT facilities and utilization by educators.

Table 4: Pearson Product Moment Correlation Coefficient of Relationship between Available ICT Facilities and Utilization by Educators

		Available ICT Facilities	Utilization by Educators
Available ICT Facilities	Pearson Correlation	1	0.79**
	Sig. (2-tailed)		0.00
	N	42	42
Utilization by Educators	Pearson Correlation	0.79**	1
	Sig. (2-tailed)	0.00	
	N	42	42

***. Correlation is significant at the 0.01 level (2-tailed).*

Result in Table 4shows PPMC analysis which tested the relationship between available ICT facilities and utilization by educators. The result showed that there is significant positive relationship between available ICT facilities and utilization by educators, r = 0.79, p <0.05. This result indicates that a high positive relationship exist between available ICT facilities and their utilization by educators in Nigerian universities. It can be concluded that when there is high availability of ICT facilities then utilization by educators will increase.

Discussion of Findings

Three research questions were formulated to guide data collection for this study. Research question one sought to determine ICT facilities available for researchers in technology education in the university. It was found that only few facilities needed to drive technology education research amid COVID-19 by university educators are available. These were analytical tools such as SPSS, SAS, Epinfo, Stagraph, and Excel among others, projectors, internet services and computer assisted telephoning (mobile phones/tablets). This finding is in consonance with Emeka and Nyeche, (2016) who agreed that analytical tools, mobile phones, internet services, GIS are used for collection of various forms of structured data. Others facilities include; Nvivo, Atlas, Video conferencing, Global Posting System (GPS) to mention but a few. In developed countries, ICT facilities applications help researchers to expand the way data are collected, analysed and managed optimally. The table however, revealed poor availability of ICT facilities in Nigerian universities. This is also in line with the findings of Bukhari (2010) which affirmed that, universities in most developing countries have suffered limited resources and awareness, inadequate manpower and training, power instability, and poor internet services and network required to optimally exploit available facilities.

Findings on the benefits of adopting ICT facilities in technology education research by Nigerian university educators amid COVID-19 appeared highly significant. This suggests that the utilization of ICT facilities in technology education research by University educator would in addition to speeding up the process, could immensely curtail the spread of COVID-19. The finding is in agreement with Eze, and Chinedu-Eze (2018) which posited that effective use of ICT facilities by universities educators could help in saving substantial costs for physical research, teaching and learning infrastructure, contributing to the digitization of course contents to easily share and adopt learning contents anytime and anywhere, and integrating the global educational environment.

The study revealed an array of challenges bedevilling the adoption of ICT facilities for research in technology education. These include infrastructural problems, time required for technology education researchers to get acquainted with ICT facilities, expensive nature (high cost) of ICT facilities, ICT facilities not often accessible and research assistants/respondents not always familiar with the ICT facilities. These findings show that efforts at maximizing ICT utilization could be limited even in the era of COVID-19 pandemic; these could be attributed to poor funding and budgeting constraints, inefficient internet access and connectivity, absence of appropriate staff development and capacity building opportunities, unstable electricity (power) supply, cultural and contextual relevance, absence of ICT policy and integration framework and lack of appropriate and relevant expertise. The finding is similar to those of Gowon and Tika (2017) which observed that e-learning activities especially in Nigeria is limited as a result of infrastructure problems, largely orchestrated by lack of funds, expertise and political instability. Substantiating the foregoing assertion, Alshahrani, Ahmed and Ward (2017) noted that most countries in Africa are plagued with internal conflicts and political instability, which have in turn, impaired the expected progress in ICT utilization in knowledge economy.

Conclusion and Recommendations

The findings posited that the usefulness of ICT facilities in fostering unlimited but quality researches in the 'new normal' cannot be overemphasized. Most of the available ICT facilities such as internet resources, analytical tools such as SPSS, SAS, projectors and computer assisted telephoning are utilized ICT facilities by technology education educators in Nigerian universities. However, there are several factors militating against the application of these facilities. The implication is more critical in developing countries such as Nigeria where technology development is stagnated, and funding of education is grossly inadequate. This therefore calls for concerted efforts by governments, institutions of learning and individual researchers to fashion out lasting solutions to the challenges

militating against the adoption of ICT facilities in technology education research. To this end, the government should ensure adequate funding of education at all levels with special emphasis on technology education. This would enable educational institutions acquire necessary infrastructure that could enhance ICT integration in the institutions. The institutions on the other hand, should ensure that funds provided for them are appropriately utilized in procuring needed software. Since, it is not enough to acquire the needed software, efforts should also be made to ensure that they are optimally utilized for capacity building of technology education practitioners. The individual researchers should ensure that they are ICT savvy and compliant by familiarizing themselves with the various ICT facilities in order to enhance their research abilities and outcomes. The integration of information and communication technology in technology education research has become imperative in the era of strict observance of social/physical distancing occasioned by COVID-19 or coronavirus pandemic because they could guarantee safety and relevant research outcomes.

The paper recommends that there is therefore the need for governments at all levels, and other relevant bodies in the country to invest massively not only in the acquisition of ICT facilities but also in the training and retraining of professionals, in order to boost their ICT know-how especially in the area of research. This could seamlessly mitigate the seemly intricate relationships that exist among ICT facilities, research and development in respect of the new normal necessitated by COVID-19 prevalence. Hence, the imperative to adopt and integrate ICT facilities in technology education research so to develop and sustain edge cutting model which guarantees sustainable development of a country, most especially the Nigerian state.

References

Almekhlafi, A. G. & Almeqdadi, F. A. (2010). Teachers' perception of technology integration in the United Arab Emirates school classrooms. *Educational Technology and Society*,*13*(1), 165-175.

Alshahrani, S. Ahmed, E. and Ward, R. (2017). The influence of online resources on student–lecturer relationship in higher education: A comparison study. *Journal of Computer Education, 4*(2), 87-106.

Amadi, E. C and Urho, P. (2015). Educational management planners' view of strike action and its effects on educational management in Universities in Rivers state. *Singaporean Journal of Business Economics and Management Studies, 4*(7), 45 – 55.

Bukhari, R. A. (2010). *Information technology for e-Learning in developing countries*, (pp. 1–85). School of Business and Informatics: University of Boras.

Chitiyo, R. & Harmon, S.W. (2009). An analysis of the integration of instructional technology in pre-service teacher education in Zimbabwe. *Education Tech, Research Dev. 57 807-830.* D234OI 10.1007/s11423-009-9136-7

Eze, S. C., &Chinedu-Eze, C. V. (2018). Examining information and communication technology (ICT) adoption in SMEs: A dynamic capabilities approach. Journal of Enterprise Information Management, 31(2), 338–356

Eze, S. C., &Chinedu-Eze, C. V. (2018). Examining information and communication technology (ICT) adoption in SMEs: A dynamic capabilities approach. Journal of Enterprise Information Management, 31(2), 338–356

Eze, S. C., &Chinedu-Eze, C. V. (2018). Examining information and communication technology (ICT) adoption in SMEs: Adynamic capabilities approach. *Journal of Enterprise Information Management*, *31*(2), 338–356.

Emeka, U.J. and Nyeche O.S. (2016). Impact of internet usage on the academic performance of undergraduates' students: a case study of the university of Abuja, Nigeria. *International Journal of Science and Engineering Resources, 7*(10), 1018-1029.

Gowon, K. E., &Tika, T. J. (2018). Strategies for optimizing e-learning opportunities for effective teaching and learning of building trades in technical colleges in Adamawa State, Nigeria. *Journal of Technology and Industrial Studies,2*(1), 48-56.

National Forum on Education Statistics (2005). *Forum Unified Education Technology Suit.* Washington DC Author. Retrieved from http://nces.ed.gov/forum/pubtechsuit.asp 25/5/2020

Nnajiofor, F. N. Cyril M. U. & Gowon, K. E. (2019). *Integration of security awareness education in technical and vocational education training curriculum: the technical teachers' opinion in Nigeria.* A paper presented at the International Vocational and Training association conference held at Abuja, Nigeria November, 2019.

Mbah, F. (2020). Nigeria Announces Lockdown of Major Cities to Curb Coronavirus. Retrieved from https://www.aljazeera.com/amp/news/2020/03/nigeria-announces-lockdown-major-cities-curbe-oronavirus-200330095100706.htmlAccessed on 23th May, 2020.

Odim, O. O., Annastashia I. A. and Solomon, A. A. (2018). Effect of strikes on management and planning of educational activities in Nigerian universities. *Global Journal of Educational Research,* 17: 1-8.

Okoye, P.I. & Nnajiofor, F.N. (2019). Technical and Vocational Education and Training and Inclusive Education: Towards Entrenching Creative Innovation for Technological Advancement in Nigeria. *Interdisciplinary Journal of African and Asian Studies, 5*(2),14-28.