

Assessment on the Use of Information and Communication Technology (ICT) For Teaching And Learning In Arabic Secondary Schools (Case Study: Kano State, Nigeria)

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Abstract

Information and Communication Technology (ICT) has changed the world entirely. These change span across all sectors, ranging from transportation, economic, health, military, banking, education, to mention a few. The rise of communication technologies has provoked great interest in the way in which they can be applied in education to improve its efficiency and effectiveness. This study aimed at determining the use of Information and Communication Technology (ICT) for teaching and learning in Arabic Secondary Schools in Kano State, Nigeria. The study focused on six (6) Arabic Secondary Schools in Kano Municipal, among the schools are: School for Arabic Studies Kano (SAS), Government Arabic College Gwale (GAC Gwale), Abdullahi Bayero College of Qur'an, UmmuWarqa Government Girls Arabic School, Hasiya Bayero Government Girls Arabic School and Balarabe Haladu Government Arabic School Kano. A survey research design method was adopted to conduct the study. The population used for the study consisted of the teachers and students from the six Arabic schools. Two different questionnaires were designed and distributed among the teachers and their students. The first questionnaire is for the students which consist of four sections and the second questionnaire is for the teachers which are under six sections, two hundred samples are used in each case. The findings showed that 26% of the teachers are using ICT applications for teaching and learning, while 74% of the teachers are not using ICT tools for teaching and learning. On the other hand, 34% of the students are using ICT applications for teaching and learning, while 66% of the students are not using ICT tools for teaching and learning

Keywords: Arabic, Qur'an, Secondary, School, Information Communication Technology,

INTRODUCTION

Information and Communication Technology (ICT), are devices and/or techniques that apply knowledge in order to process or communicate data (Heeks, 2018). The devices include computers, the Internet, broadcasting technologies (radio and television) and telephony. Fast ICT development is changing our world, and it covers all sectors. These

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changes affect sectors like banking, health, defense, economy, oil and gas, and education (Castells, 2021). In education, ICT is now a driving force for both teaching and learning. The rise of computers and the Internet has provoked great interest in the ways in which they can be applied in education to improve its efficiency and effectiveness at all levels (Webber, 2003). Older technologies, such as the telephone, radio and television have long been used as instructional tools. Radio and television have been used for open and distance learning, although print has remained the cheapest, most accessible and most dominant delivery mechanism in developed as well as developing countries.

ICT changes the learning processes from teacher-centered to learner-centered, and can be taken anywhere at any time (Assar, 2015). It impacts student learning when teachers are digitally literate and understand how to integrate it into the curriculum. Schools use a diverse set of ICT tools to communicate, create, disseminate, store, and manage information (Blurton, 2000). In some contexts, ICT has also become integral to the teaching-learning interaction, through such approaches as replacing chalkboards with interactive digital whiteboards, using students' own smartphones or other devices for learning during class time, and the "flipped classroom" model where students watch lectures at home on the computer and use classroom time for more interactive exercises. E-learning (Tîrziu and Vrabie, 2015) is the process of learning via the internet, and it gives learners flexibility and a personalized way of learning. E-readers are electronic devices that can hold hundreds of books in digital form, and they are increasingly utilized in the delivery of reading material. Mobile devices can also offer programs ("apps") that provide extra support to students with special needs, with features such as simplified screens and instructions, consistent placement of menus and control features, graphics combined with text, audio feedback, ability to set pace and level of difficulty, appropriate and unambiguous feedback, and easy error correction (Rodriquez *et al.*, 2013).

When teachers are digitally literate and trained to use ICT, these approaches can lead to higher order thinking skills, provide creative and individualized options for students to express their understandings, and leave students better prepared to deal with ongoing technological change in society and the workplace (Goodwin, 2012). According to Kenny (2011), Over 87% of students learn best through visual and tactile modalities, and ICT can help these students 'experience' the information instead of just reading and hearing it.

Nigerian government operates a formal western education system and a non-formal Arabic and Islamic education system (Oladosu, 2012). Arabic schools in Nigeria are called Qur'anic schools, and both Arabic and Islamic education are taught in it (Adeyemi, 2016). These school are operated in Nigerian Muslim communities, particularly in the northern part of the country. Government recognition of Qur'anic schools is very low (Adeyemi, 2016) as such, the schools lack tools for effective teaching and learning processes.

Several works highlight the importance of ICT in education, and also discuss the challenges students and teachers are facing. The role of ICT for teaching and learning are discussed in Bhattacharjee and Deb (2016). Assar (2015); Hernandez (2017) discussed the impact and challenges of ICT in education. The authors emphasize the prospect of ICT for teaching and learning.

In the context of Nigeria, Hamilton-Ekeke and Mbachu (2015) find out whether the ICT facilities are available and being used in Niger Delta universities in Nigeria. The study of Apagu and Wakili (2015) examines the availability and utilization, the benefits and challenges of ICT facilities in teaching and learning vocational and technical education in

Yobe state technical college, Nigeria. Also, Ameen, Adeniji and Abdullahi (2019) examine the level of utilization of ICT for teaching and learning mathematics in Ilorin Nigeria.

The role of ICT in Nigerian educational system was investigated by Bhattacharjee and Deb (2016). While Adedokun-Shittu and Shittu (2015) evaluated the impact of ICT development for teaching and learning in high school in Nigeria.

Oyeronke and Fagbohun (2013) conducted an assessment of Computer and ICTs skills among Secondary School Teachers in Ota Ogun State, Nigeria. Eze and Aja (2014) investigated availability and utilization of Information and Communication Technology (ICT) devices in senior secondary schools in Ebonyi Local Government Area of Ebonyi State of Nigeria. Lastly, Abubakar (2016) conducted an investigation to assess the use of ICT for teaching and learning in secondary schools in the Northeastern region of Nigeria.

Some significant roadblocks to the use of ICT in secondary education in Nigeria have been identified by Aduwa-Ogiegbaen and Iyamu (2005). These include high cost of computer hardware, software and internet access; lack of infrastructure, human skills and knowledge in ICT; lack of culturally appropriate software for Nigeria; insufficient furniture, textbooks, classrooms etc.

However, Afshari *et al.* (2009) claims that the effectiveness of ICT deployment in schools is not decided by the presence or absence of a single factor, namely; availability if I.T. infrastructure, teacher training and support, competence and attitudes towards computers etc. But by a dynamic process involving a number of these connected factors.

A study by Buabeng-Andoh (2012) also identified similar factors influencing the adoption of ICT into teaching. These include limited access to ICT; rigid structure of traditional education systems; restrictive curricula; lack of teacher ICT skills; lack of teacher confidence; lack of pedagogical teacher training; absence of adequate educational software; lack of teacher confidence; lack of pedagogical teacher training etc. They strongly advocate for the proper identification of the particular factor affecting any institution in order to know the appropriate way of addressing such.

Alharbi (2014) asserts that although both teachers and students may have ICT skills, these skills are not transferred into the classroom setting. He states the problem of lack of ICT adoption in the classroom is mainly attributed to government failure.

Another study on the barriers against the use of ICT in teaching with focus on Saudi Arabia has revealed the problems to be mainly lack of access to ICT; lack of training, insufficient preparation and classroom time (Al Mulhim, 2014).

In the same vein, Lawal (2017) investigated the challenges of teaching Arabic in Nigeria. He found that lack of adequate infrastructure and well-trained personnel is a major problem. In addition, the national policy on education doesn't promote the use of ICT at early learning stages. Insufficient power supply as well as the remote location of schools in rural areas significantly hinder the usage of ICT in education in Nigeria.

From the related literature seen above, it can be observed that the majority of the studies focus on the general adoption and usage of ICT in teaching. But most ICT products are developed with English as the medium of communication. As such, a language or communication barrier may be expected to be an additional factor influencing the usage of ICT in Arabic schools. This research attempts to undertake this investigation in order to find out whether the commonly found factors in other studies are also the same in Arabic schools or not.

METHODOLOGY

Survey method was used for this research, to gather information on the use of Information and Communication Technology (ICT) by Teachers and Students in Arabic Schools in Kano State. The research instrument used in the study was the questionnaire, two different questionnaires were designed for the research; one for the students and the other for teachers. The major difference between the two questionnaires are the ICT technologies, and applications. For the students, familiarity with digital cameras, search engines, emails and messaging apps were investigated while for teachers, adoption and usage of software such as word processing, spreadsheet, presentation, emails etc was investigated.

In order to measure the consistency of the results, pilot study was carried out using a test-retest method whereby sixty-five (65) questionnaires were pilot tested in some Arabic Secondary Schools that are out of the samples of this study in order to ascertain the reliability of the instrument. These schools were selected randomly to form the sample for the preliminary research using Cronbach's Alpha Reliability Coefficient.

The population used for this study consisted of teachers and students from Arabic Secondary Schools in Kano State, which are run by the Kano state government. The schools are; School for Arabic Studies Kano (SAS), Government Arabic College Gwale (GAC Gwale), Abdullahi Bayero College of Qur'an, UmmuWarqa Government Girls Arabic School, Hasiya Bayero Government Girls Arabic School and Balarabe Haladu Girls Arabic Secondary Schools.

Four hundred (400) respondents were selected, 200 teachers, and 200 students of the six (6) Arabic schools used in the research.

Simple tables, frequency, percentages and charts were used in the analysis and presentation of the data generated for the study. These statistical tools are chosen, because of their suitability.

RESULTS

Two hundred (200) students' questionnaires were distributed and one hundred and ninety-four (194) copies were returned as valid ones; this gave a response rate of 97.0%. Also, two hundred (200) teachers' questionnaires were distributed and one hundred and seventy-nine (179) were returned out of this number, thirty (30) were not properly filled. Therefore, the totals of one hundred and forty-nine (149) were valid questionnaires. This gave a response rate of 74.5%.

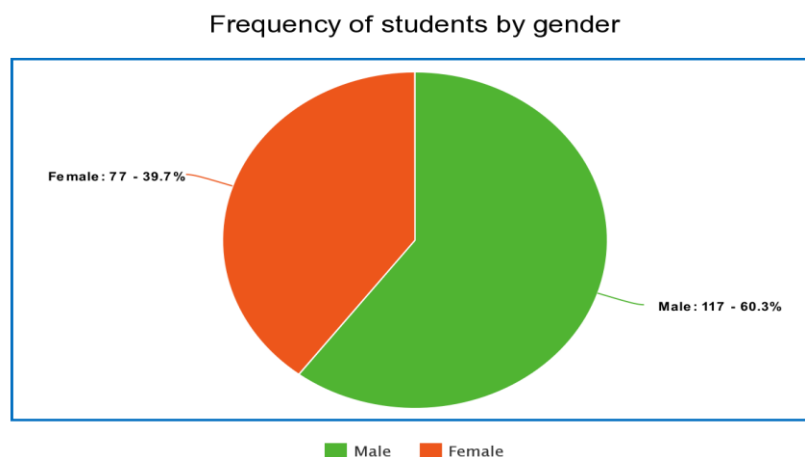


Figure 1: Frequency distribution of the students by gender

Frequency of students by gender

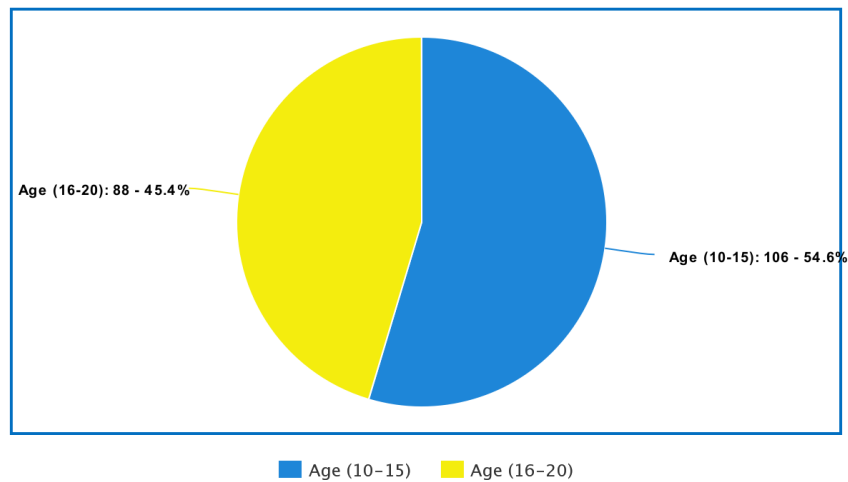


Figure 2: Frequency distribution of students by age.

Figure 1 shows that 117 of the respondents were male (60.3%) while 77 respondents were female (39.7%). This shows that the majority of the respondents that took part in the research were male students. Figure 2 showed that students with age range 10-15 are 106 (54.6%) while students with age range 16-20 are 88 (45.4%).

Frequency distribution of students' ICT usage for learning

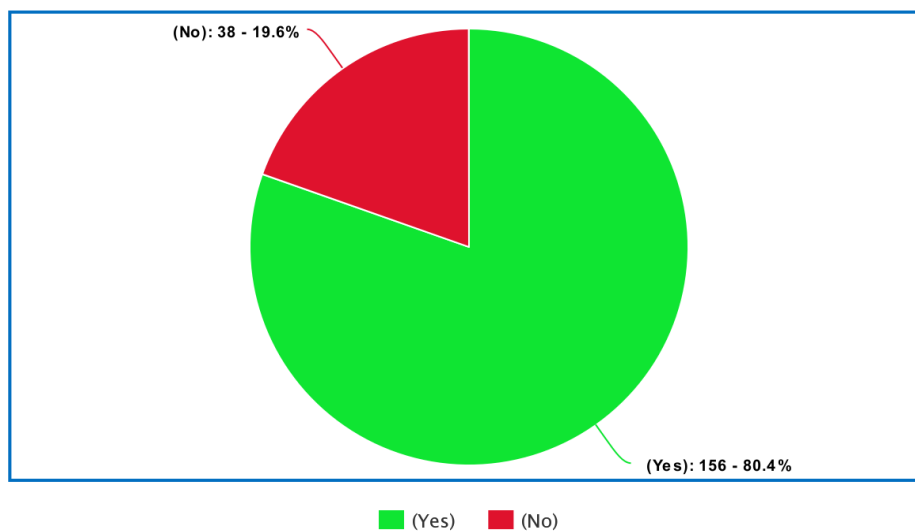


Figure 3. Student usage of ICT devices.

Figure 3 showed that 38 respondents use ICT (digital cameras, internet, search engines, email and messaging apps) for learning purposes with 19.6%, while 156 respondents with 80.4% indicated no, as they are not using ICT devices.

As indicated in figure 4, 131 (67.53%) are not using digital cameras against 63 (32.47%) that are using it. While 123 (63.40%) have no access to the internet for browsing, and 71(36.60%) have access to the internet for browsing. Also 163 (84.02%) are not using search engines to search for information on the internet, while 31 (15.98%) are using search engines for information retrieval. 112(57.73%) are not using email applications, while 82(42.27%) use them. 112(57.73%) are not using chat rooms but 82(42.27%) are using.

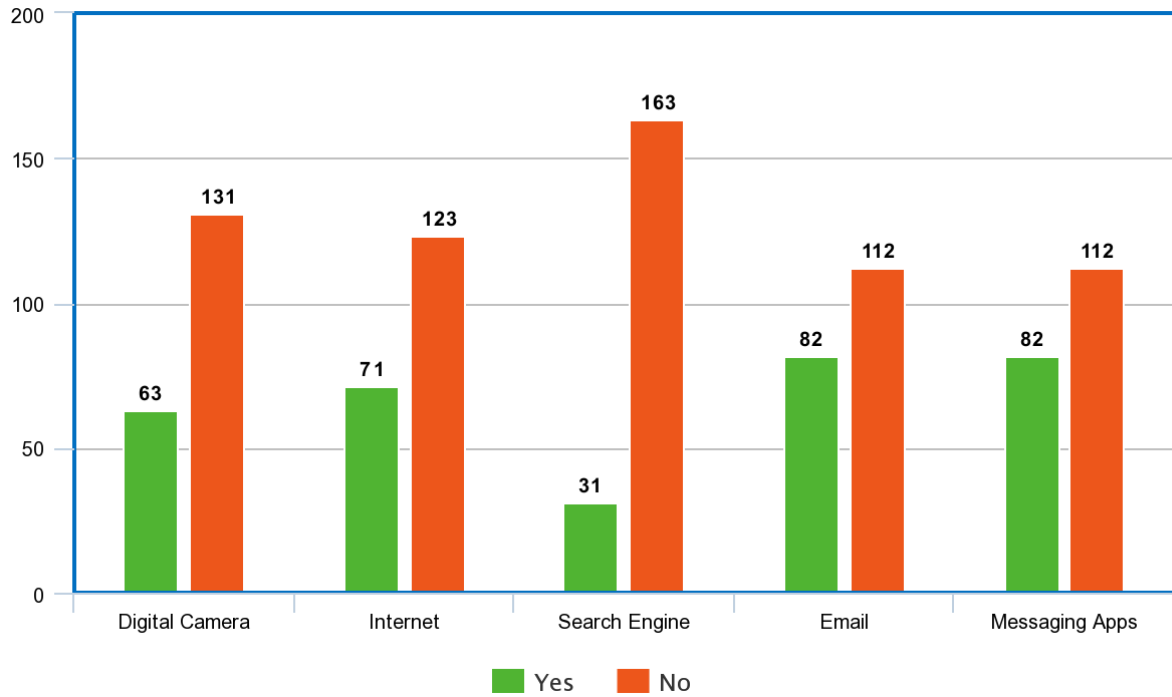


Figure 4. ICT applications used by students.

The teachers' responses were also collected and analyzed. Figure 4A shows their gender frequency, while figure 4B indicates their highest qualifications

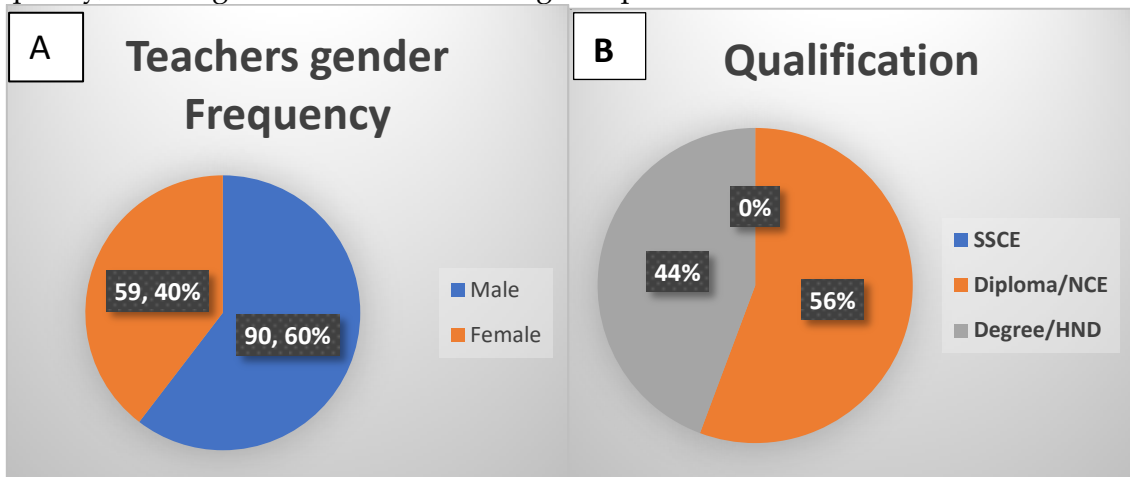


Figure 5: (A), Teacher's gender frequency. (B), Teachers Highest Qualification

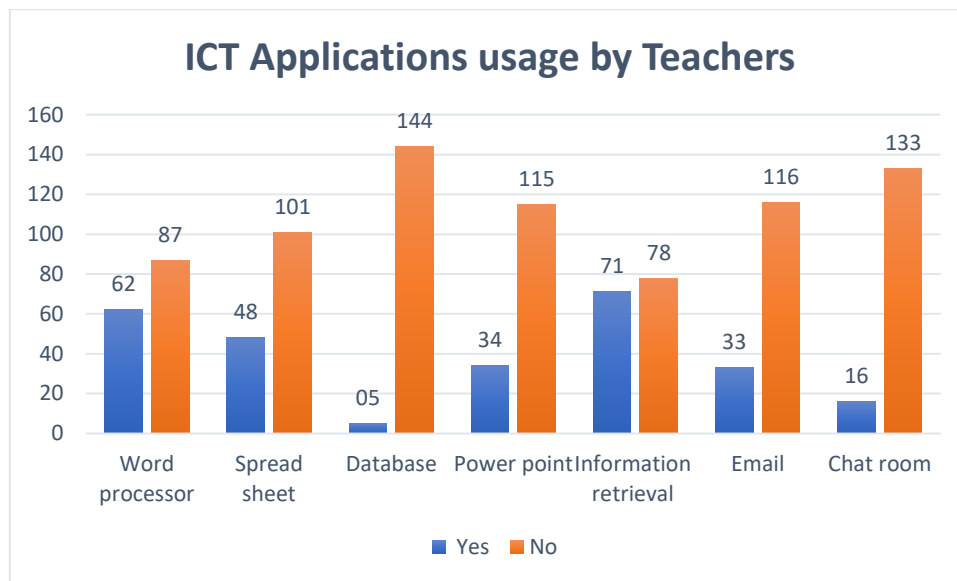


Figure 6. ICT Application Usage by Teachers

Teachers' responses on the usage of ICT application for teaching is presented in Figure 6, and it shows that 62 (41.60%) use word processors to aid their work while 87 (58.40%) didn't. 48 (32.2%) teachers use spreadsheets and 101(67.8%) are not using them. Only 5 (3.40%) teachers use database applications against 144 (96.6%) that are not using any database application. 34(22.8%) use PowerPoint for presentation while 115(77.2%) do not. The frequency of those that are using information retrieval are 71(47.70%) compared to 78 (52.3%) that are not using it. There are 33(22.1%) that use Email and 116 (77.9%) that don't, lastly, 16(10.7%) teachers use chat rooms, and 133(89.3%) do not. Overall, only 34% of students have used at least one of the technologies in question while

DISCUSSION

From figure 6, we can deduce that 38.43 of the teachers, which represents 26% are using ICT applications such as word processor, spreadsheet, power point, database e.t.c for teaching and learning. While 110.57 of teachers which represents 74% are not using ICT application for teaching and learning. As seen in figure 4, 65.8 which represents 34% of the students are using applications, against 128.2, that represents 66% of the respondents.

The results from this research have shown that the level of ICT adoption and usage in Arabic schools in Nigeria is very low both amongst students and teachers. This is in spite of the numerous advantages of incorporating these technologies in the teaching learning process as suggested by UNESCO. This makes Arabic schools on par with other conventional schools in terms of the adoption and usage of ICT in teaching and learning process when compared with the reviewed literature especially those that were carried out in Nigeria.

As highlighted by Sulaiman (2015), challenges like; lack of funds, lack of ICT skills, and lack of awareness are among the factors that hinder the adoption and usage of ICT in Arabic and Islamic school.

CONCLUSION

No doubt, ICT is transforming education but the findings obtained from this study showed that Arabic secondary schools in Kano are left behind in terms of using Information and Communication Technology. Stakeholders need to provide the basic ICT tools for both

students and teachers. Also, students and teachers need to be given ICT skills and knowledge needed to support their learning and teaching processes respectively. Hence, future research needs to look at why the majority of students and teachers are not using Information and Communication Technologies to support their learning and teaching.

REFERENCES

- Abubakar, A. M. (2016) *An Assessment of the Use of ICT in Teaching and Learning in Public Secondary Schools in Northeastern Nigeria*. Eastern Mediterranean University (EMU) - Doğu Akdeniz Üniversitesi (DAÜ). Available at: <http://i-rep.emu.edu.tr:8080/xmlui/handle/11129/2994> (Accessed: 15 May 2021).
- Adedokun-Shittu, N. A. and Shittu, A. J. K. (2015) 'Assessing the impacts of ICT deployment in teaching and learning in higher education: Using ICT impact assessment model', *Journal of Applied Research in Higher Education*, 7(2), pp. 180-193. doi: 10.1108/JARHE-02-2013-0012.
- Adeyemi, K. A. (2016) 'The Trend of Arabic and Islamic Education in Nigeria: Progress and Prospects', *Open Journal of Modern Linguistics*, 06(03), pp. 197-201. doi: 10.4236/ojml.2016.63020.
- Aduwa-Ogiegbaen, S. E., & Iyamu, E. O. S. (2005). 'Using information and communication technology in secondary schools in Nigeria: Problems and prospects'. *Journal of educational technology & Society*, 8(1), 104-112.
- Alharbi, E. (2014). 'Study on the Use of ICT in Teaching in Secondary Schools in Kuwait' (Doctoral dissertation).
- Ameen, K. S., Adeniji, S. M. and Abdullahi, K. (2019) 'Teachers' and students' level of utilization of ICT tools for teaching and learning mathematics in Ilorin, Nigeria', *African Journal of Educational Studies in Mathematics and Sciences*, 15(1), pp. 51-59. doi: 10.4314/ajesms.v15i1.5.
- Apaju, v.v and Wakili, B. A (2015) 'Availability and utilization of ICT Facilities for Teaching and Learning of Vocational and Technical Education in Yobe State Technical Colleges'. *American journal of Engineering Research (AJER)* vol 4(2), pp 113-118
- Afshari, M., Bakar, K. A., Luan, W. S., Samah, B. A., & Fooi, F. S. (2009). 'Factors affecting teachers' use of information and communication technology'. *Online Submission*, 2(1), 77-104.
- Al Mulhim, E. (2014). 'The Barriers to the Use of ICT in Teaching in Saudi Arabia: A Review of Literature'. *Universal Journal of Educational Research*, 2(6), 487-493.
- Assar, S. (2015) 'Information and Communications Technology in Education', *International Encyclopedia of the Social & Behavioral Sciences: Second Edition*, 12, pp. 66-71. doi: 10.1016/B978-0-08-097086-8.92104-4.
- Bhattacharjee, B. and Deb, K. (2016) 'Role of ICT in 21st Century's Teacher Education'. *International Journal of Education and Information Studies*. Available at: <http://www.ripublication.com>.
- Blurton, C. (2000). 'New Directions of ICT-Use in Education'. United National Education Science and Culture Organization (UNESCO).
- Buabeng-Andoh, C. (2012). 'Factors influencing teacher's adoption and integration of information and communication technology into teaching: A review of the literature'. *International Journal of Education and Development using ICT*, 8(1).
- Castells, M. (2021). 'The Rise of the Network Society: The Information Age: Economy, Society, and Culture (Information Age: Economy, Society, and Culture)' (Paperback) - Common. Wiley-Blackwell.
- Etubi, M. (2009). 'ICT and Library in the Teaching of Arabic and Islamic Studies'.

- Eze, P.I and Aja, S.N (2014). 'Availability and utilization of information and communication technology (ICT) In Ebonyi Local Government area of Ebonyi State: implications for effective teaching and learning'. *International Educational Research Journals* vol.5(4) pp.116-121 DOI: <http://dx.doi.org/10.14303/er.2014.066> Available online@[HTTP://WWW.interestjournals.org/ER](http://WWW.interestjournals.org/ER)
- Goodwin, K. (2012). 'Use of Tablet Technology in the Classroom'. Strathfield, New South Wales: NSW Curriculum and Learning Innovation Centre.
- Hamilton-Ekeke, J.-T. and Mbachu, C. E. (2015) 'The Place of Information, Communication and Technology (ICT) in Teaching and Learning in Nigerian Tertiary Institutions', *American Journal of Educational Research*, 3(3), pp. 340–347. doi: 10.12691/education-3-3-13.
- Heeks, R. (2018). *Information and Communications Technologies for Development (Ict4d)*. Routledge.
- Hernandez, R. (2017) 'Impact of ICT on Education: Challenges and Perspectives', *Journal of Educational Psychology*, 5(1), pp. 325–347. Available at: <http://revistas.usil.edu.pe/index.php/pyr/article/view/149>.
- Lawal, I. (2017). 'Using ICT for Teaching Arabic as a Foreign Language in Nigeria: Issues and Challenges'. In *The IAFOR International Conference on Language Learning* (Vol. 9).
- Oladosu, A. G. a S. (2012) 'Arabic and Islamic Education in Nigeria: The Case of Al-Majiri Schools', *International Journal of Social, Behavioral, Educational, Economic and Management Engineering*, 6(11), pp. 650–654.
- Oyeronke, A. and Fagbohun, M. O. (2013) 'An assessment of computer and ICT skills among secondary school teachers in Ota Ogun state', *Library Philosophy and Practice*, 2013(February), pp. 1–8. doi: 10.5281/zenodo.163209.
- Rodriquez, C. D., Strnadova, I. and Cumming, T. (2013) 'Using iPads with students with disabilities: Lessons learned from students, teachers, and parents.' *Intervention in School and Clinic*. 49(4).
- Sulaiman, K. O. (2015) 'The Effects Of Information And Communication Technologies (ICT) On The Teachings/ Learning Of Arabic And Islamic Studies', *Ar-Raniry, International Journal of Islamic Studies*, 2(1), p. 1. doi: 10.20859/jar.v2i1.27.
- Tirziu, A.-M. and Vrabie, C. (2015) 'Education 2.0: E-Learning Methods', *Procedia - Social and Behavioral Sciences*, 186, pp. 376–380. doi: 10.1016/j.sbspro.2015.04.213.
- Webber, C. F. (2003). 'New technologies and educative leadership. *Journal of Educational Administration*', 41(2), 119–123. <https://doi.org/10.1108/09578230310477013>