

## Information Communication Technology and Social Studies Instruction in Delta State, Nigeria

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Received: December 2021; Revised: December 2021; Published: March 2022

### Abstract

Introducing Information Communication Technology (ICT) resources and skills to Social Studies as instructional materials and aids can provide an accessible and flexible Social Studies education at the primary and secondary school levels in Delta State. Hence the aims of this study were to consider various ICT resources that can be harnessed and used by Social Studies teachers for social studies instructions; outline the benefits of ICT to students and teachers of Social Studies and identify the challenges affecting its usage for Social Studies instructions in Delta State. The study employed the survey research design, a sample of sixty (60) Social Studies teachers from six primaries and six Junior Secondary Schools selected randomly from six Local Government Areas of the state. The main instrument for data collection was a well-structured questionnaire designed to obtain data and centered around the main objectives of the study. Sixty (60) copies of the questionnaire were distributed and sixty (60) copies were retrieved and used for data analysis. While data gathered were analyzed using statistical tools of mean and percentages. The result revealed that ICT resources and skills such as android phones, internet browsing, power point projection, virtual learning and computers assist in teaching Social Studies concepts. Secondly, the study revealed that ICT skills and facilities contribute meaningfully to Social Studies instructions when used by teachers, students will derive holistic knowledge when taught with ICT tools. Meanwhile the findings showed that there exist many setbacks and challenges in ICT usage such as funding, capacity building and lack of electricity supply amongst others. Based on these findings, one of the recommendations made was that stakeholders in the education sector both government and private organizations, should be concerned with the provision of ICT facilities in primary and junior secondary schools across Delta State.

**Keywords:** Information Communication Technology; Social Studies; Instruction; Facilities; Resources; Skills; Benefits and Challenges

**How to Cite:** Atubi, O. F. (2022). Information Communication Technology and Social Studies Instruction in Delta State, Nigeria. *Jurnal Penelitian Dan Pengkajian Ilmu Pendidikan: E-Saintika*, 6(1), 1-10. <https://doi.org/10.36312/esaintika.v6i1.579>

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## INTRODUCTION

Information Communication Technology (ICT) is a vital component of educational practice in the 21<sup>st</sup> century, as it helps in measuring up with rapidly growing technologies around the world. Presently, there has been a shift in paradigm for educational patterns and practices worldwide courtesy of ICT driven learning. The innovation of ICT to educational settings in Nigeria has become imperative as a driver for educational advancement. Though it must be stated that government investment in ICT as it concerns the educational sector have not yielded enough dividend as it has in the communication sector (Badariyya, 2021). The educational field in Nigeria is

yet to be transformed by the impact of ICT which is penetrating educational practice worldwide, as majority of Nigerian schools are still using traditional teaching methods and old technologies for lesson delivering.

The benefits of ICT are felt in all sectors and professions including that of Social Studies education. Its influence on learning has greatly improved education all over the world, despite the many setbacks and challenges facing its usage especially in developing countries like Nigeria. Agyeman (2007) stated that ICT has brought education much value in Africa, to the extent that in 2007, an ICT department was introduced in the Federal Ministry of Education. This department was burdened with the role of taking care of ICT needs in Nigerian schools. Adeoye et al. (2013) opined that ICT holds enormous promise for education and shaping the quality of the workforce in Nigeria. The application of ICT multimedia applications to education has been tied to different resources and skills such as android phones, computers, internet browsing, power point presentations, virtual learning and social web (Atubi, 2021). The role of ICT in education was given prominence during the Covid-19 pandemic that ravaged the world and caused the shutting down of all schools. This brought about the popularity in e-learning that helped to overcome the barriers of time, space and distance.

Candidates who are not proficient at ICT skills have experienced challenges in Computer Based Test (CBT) and Computer Based Examinations (CBE). Giving this scenario Social Studies learners and teachers may have problems when they come across ICT applications, that is why this study is poised to check their knowledge of ICT resource and its benefit to Social Studies. Teaching as a profession is changing due to the increase in usage of ICT in virtually all areas of endeavors, therefore all who desire to belong to the profession should be well grounded in ICT acquisition and facilities. There is need for would be teachers and teachers in service to be conversant with the technology, tools and skills needed for implementing ICT in education, if this is not done they will soon become redundant or out of place in a world that is daily experiencing the growth and advancement of ICT (Ogbaji, 2017).

Mathews (2017) described ICT in education as the application of technologies to present classroom activities, with resources such as computer hardware, social networking, virtual learning, android phones, power points and the internet. The availability and usage of ICT technologies provides learners and teachers with a wide variety of information to assimilate during classroom instructions. Even scholars have asserted that ICT will always play a significant role in education because ICT is a basic repository of knowledge (Acquah-Doughan, 2015). Most importantly, for students to improve their academic performance, they must acquire ICT adaptive skills as the world is advancing very fast in technology usage. It is therefore certain that ICT has a major place to perform in Social Studies instructions, as connecting students actively to their environments cannot be complete without the application of ICT resources. ICT help to beef up educational knowledge, increase access to knowledge and improves the processes of teaching and learning. Teachers need to have mastery of ICT to be able to teach the subjects in which they specialized, or for which they are trained.

Jamilu (2012) submitted that with the recent development in ICT in Nigeria and the world at large, the internet is the fastest, accurate and up-to-date avenue for sourcing or conveying information be it real life picture, video, communication or in written form. Social studies teachers can make use of the internet as an ICT tool to

search for the most current information from all over the world and even encourage students to search for information by themselves. This will go a long way to enrich the teachers and students' knowledge of the most recent changes and activities not only in their environments and country but also the world at large. ICT tools such as the internet, social media, computers, social networks, power points and virtual learning are relevant and appropriate resources to supplement Social Studies textbooks.

Information Communication Technologies are of immense benefit to Social Studies as they help to consolidate what is taught by a teacher during Social Studies lessons and facilitate teaching and learning for the sake of making the contents of instructions more practical and less vague. It therefore follows that ICT enhances the acquisition and evaluation of knowledge, skills, attitude morals and values (Esu & Inyang-Abia, 2004). Words and traditional teaching aids such as board and chalk have been found to be inadequate and ineffective for teaching Social Studies. ICT tools are proficient channels through which, knowledge, ideas messages, and information are disseminated to students more easily. They are easy to visualize, felt, manipulated, heard, or talked about. The interactive nature of ICT tools or resources makes the learner a participator in the learning process. Atubi and Obro (2020) opined that as far as teaching of Social Studies is concerned, any ICT resource, if effectively utilized can be used to teach the subject.

Lydia et al. (2015) opined that ICT facilities enhances students interest and learning outcome. Linways (2017) posited that the utilization of ICT will simplify the implementation of Social Studies curriculum. Akpabio and Ogiriki (2017) stated that instructions in Social Studies can be influenced by applying ICT resources to compose lesson notes and present issues. Many studies have asserted that introducing ICT to Social Studies topics can be motivational for learners, as it has been revealed that employing ICT in educational institutions promotes students' performance (Afolayan & Oyekunle, 2014; Eickelmann et al., 2017; Natia & Al-hassan, 2015).

Major challenges/setbacks to the application of ICT has been identified by many scholars in Nigeria and beyond. Ogbomo (2011) identified many hindrances to the effective usage of ICT in educational institutions across Nigeria to include infrastructural deficit, financial cost involved in its usage, capacity building and sustainability challenges. Tinio (2002) put that lack of effectiveness, sustainability and equity are major challenges of ICT, while McDougall and Squires (1997) identified the challenge of building teachers' capacity to enable them adopt ICT for educational purposes. This is paramount to a successful ICT integration into any educational system. Onwuagboke et al. (2015) and Garba (2014) identified the non-introduction of ICT at the teacher training stage as a major challenge mitigating against its usage during school lessons. Other challenges militating against the usage of ICT for Social Studies instructions in Nigeria are lack of electricity supply in schools, as virtually almost all government owned schools have no access to electricity. Poor internet connection, financial factors as the hardware's and soft wares needed for ICT are expensive therefore they are in short supply. The non-availability of a proper policy to guide the administration of ICT in schools is also a strong factor affecting ICT use in Social Studies and other school subjects in Nigerian schools.

For instance, Demirci et al. (2007) studied how ICT can be used for geography lessons in Turkey the study revealed that only 48% of schools has computers, 35% had LCD projectors and just 26% have connections to internet. From the 48% schools with computers just 7% declared that they use the computers and 2% agreed that they make

use of LCD projectors in geography lessons. This data shows that less than 50% of schools has ICT resources to make use in Turkey, yet the figure of teachers that make effort in using the few available ones is less than 10%. This therefore implies that teacher's willingness and preparedness to apply ICT materials for teaching is very important to its application in Social Studies education.

While many developed and developing countries are fast in their advancement and exploration of ICT resources in their educational sectors, the practical application of ICT for education in Nigeria is still a far cry from reality and still being investigated upon. Consequently, many studies that have investigated the ICT and its benefit to Social Studies education have not been subject specific but assumed a general look at ICT and education.

The Nigeria's National Policy on Education, has placed great emphasis on ICT education but the execution of this aspect of the policy is yet to be actualized as observation has revealed non-adherence to ICT education in most schools across the country. The implementation of ICT in the curriculum cannot be achieved without the integration and provision of critical infrastructure and teachers' expertise needed for providing such education in Nigerian schools. According to Ogechukwu and Osuagwu (2009), ICT in Nigeria's educational sphere is still in its teething stage, as the country is not making quick progress. They submitted that 90% of educational institutions are in ICT teething stage, while 7% of schools carry out real application of ICT in schools and only a paltry 3% is in ICT transformation stage (Ogechukwu & Osuagwu, 2009). Hence it is the opinion of many researchers that in order to transcend forward from this teething stage, functional research, funding and implementation is needed.

Hence the core objective of this study was to examine the various resources of ICT and skills can be utilized in the Social Studies the classroom; to explain the benefits of ICT to Social Studies and to identify the challenges militating against the usage of ICT in Social Studies across primary and secondary schools in Delta State Nigeria. The study raised the following research questions: What are the ICT resources that can be employed for teaching Social Studies in primary and Junior Secondary Schools in Delta State; what benefits will the application of ICT have for the teaching of Social Studies in Delta State and what are the challenges facing the usage of ICT in primary and Junior Secondary Schools in Delta State.

## **METHOD**

### **Research Design**

The study was carried out in Delta State, Nigeria, it adopted the survey research design. The survey research design, is a design in which a phenomenon is studied through the collection of information from a sample of people or things (Nworgu, 2006). The result from this sampled studied is then generalized on the entire population.

### **Participants**

The population of the study is made up of all primary and Junior Secondary School Social Studies teachers of government schools in Delta State. The Delta State Ministry of primary and secondary Education Board (2021) recorded a total of six hundred and fifty-three (653) teachers of Social Studies in junior secondary schools across Delta State. For the state owned primary schools, every classroom teacher is a



Social Studies teacher. Random sampling technique was used to select sixty (60) teachers from six junior secondary schools and six primary schools, with five teachers from each school. The sixty teachers constituted the sample for the study, this figure represent 10% of the population. This percentage was taken because according to Gall et al. (2003) in a population of 600-1000, a percentage of 10 or above is appropriate.

### Research Instrument

The main instrument for data collection was a diligently designed questionnaire by the researcher, centered around the major variables of the study, which are ICT resources; ICT benefits to Social Studies and challenges facing the usage of ICT for Social Studies instructions. The research instrument is a four-point Likert type scale questionnaire with 24 items titled Resources, Benefits and Challenges of ICT in Social Studies (RBCISS). The instrument was made up of three sections A to C, that addressed the major variables in the study. The face validity of the instrument was done by a professor of Social Studies, while the reliability was conducted with test-retest reliability method. A Pearson's Product Moment Correlation Coefficient of 0.77 was obtained showing that the instrument was fit for collecting the required data. The instrument was used to gather information from the teachers on their perception about the three major variables under study.

### Data Collection

The instrument was administered to respondents in the six primary and six junior secondary schools with the help of four (4) research assistants, the research assistants and researcher met with the Social Studies teacher one on one. Discussed the nature of research and how to tick the option chosen, after which the instrument were distributed to the teachers. The research assistants waited patiently for the respondents to attend to the 24 item instrument and same were collected on the spot, this approach made it possible for all 60 questionnaires to be returned.

### Data Analysis

Data gathered from the field were analyzed using descriptive statistics of mean and percentages, the mean cut-off point was 2.50 and percentage cut off point was 50. Any item with a mean score above 2.50 was accepted while those below the mean cut off point were rejected, similarly any item with percentage below 50 is rejected while those above 50 is accepted.

## RESULTS AND DISCUSSION

### Results

Results from Table 1 point to the fact that all ICT tools except for email were accepted by the respondents as being fit and viable for Social Studies education. This is because the items reported mean scores of above the 2.50 cut off point and percentages of above 50, with only the exception of one item.

**Table 1.** Various ICT resources that can be employed in Social Studies education

No.	Item Description	Mean	Percentage (%)	Remark
1	Android Phones	3.49	70	Accepted
2	Internet Browsing	4.00	80	Accepted
3	Computers	2.78	56	Accepted
4	Email	1.99	40	Rejected
5	Virtual Learning	3.87	77	Accepted

No.	Item Description	Mean	Percentage (%)	Remark
6	Power Point Presentations	2.97	59	Accepted
7	Educational Websites	4.08	82	Accepted
8	Social Networking	2.99	60	Accepted

Table 2 results revealed that all items listed as benefits of ICT for Social Studies were all accepted as their mean score were above the 2.50 cut off point and percentages were all above 50. This signifies that ICT will be beneficial in promoting Social Studies instructions and classroom interactions.

**Table 2.** Benefits of ICT for Social Studies

No.	Item Description	Mean	Percentage (%)	Remark
1	Consolidate Learning	3.83	77	Accepted
2	Facilitate learning	4.02	80	Accepted
3	Acquisition of knowledge	4.14	83	Accepted
4	Practical learning	4.09	82	Accepted
5	Interactive learning	3.60	72	Accepted
6	Information Dissemination	4.16	83	Accepted
7	Motivate learning	3.79	76	Accepted
8	Promote students' performance	3.66	73	Accepted

Result from Table 3 shows all items were accepted as major challenges militating against the usage of ICT in Social Studies instructions across the primary and junior secondary schools in Delta State as all items recorded mean scores above 2.50, also the percentage score for all the items were above 50 percent. Therefore, these are all challenges limiting the application of ICT to the teaching of the subject.

**Table 3.** Challenges of ICT Application for Social Studies

No.	Item Description	Mean	Percentage (%)	Remark
1	Unavailability of Computers	4.79	96	Accepted
2	Lack of electricity supply	4.20	84	Accepted
3	Teachers poor computer skills	4.36	87	Accepted
4	High cost of ICT resources	3.96	79	Accepted
5	Poor internet connection	3.62	73	Accepted
6	Lack of finance from school management	3.67	73	Accepted
7	Limited time during school hour	3.42	68	Accepted
8	Untrained manpower	3.44	69	Accepted

## Discussion

This study centered on examining different ICT resources can be employed to teach Social Studies, benefits of ICT for Social Studies and the challenges militating against the application of ICT for Social Studies education in Delta State. Data were collected from teachers of Social Studies across public junior secondary and primary schools in Delta State to assess these variables. The findings reported that Social Studies teachers accepted that android phones, internet browsing, computers, virtual learning, power point presentations, educational websites and social networking ICT resources can be adopted for educational use for Social Studies instructions. This result could be linked to the fact that most of these facilities are not new to the teachers as all of them has android phones, they browse for personal information and during the Covid-19 lockdown were expose to virtual meetings which forced them to interact

have meetings on zoom and other social networking sites. The email item was rejected, this must have been influenced by the observation that the use of email by most Nigerians is rather personalized, as most people see email as a means of receiving and sending messages only. This ICT tool has not been widely explored for interactions between teachers and students especially at the primary and secondary school level. Attempt at using email for educational purpose, has only been made at the tertiary education level and even at that only a small percentage of lecturers make use of email as an interaction tool with students. This finding is in line with Matthew (2017); Atubi and Obro (2020) and Atubi (2021). These studies affirmed that ICT tools like those examined in this study are viable tools for Social Studies, by submitting that these tools or ICT skills are good as has been observed during the Covid-19 pandemic. As they have promoted online learning with high prospect for Social Studies lessons.

Secondly, the study discovered substantial benefits of these ICT resources to Social Studies as they help in facilitating and concretizing learning. They also help immensely in knowledge acquisition and likewise in the provision of practical learning experience. This finding isn't strange as the benefits of these and other ICT resources is very glaring, teachers who must have been exposed to these tools know that they are exciting and motivating to teach with them. The teachers themselves know that teaching students Social Studies with ICT resources will be of immense advantage to both the teachers, pupils and students. The teachers will find it easy and more interesting to teach and the learners academic performance will also improve as they learn better under a visual environment. All they need do is to acquire the expertise needed to teach Social Studies with these facilities. This is in agreement with studies that demonstrated the positive effect of technologies for educating learners in Social Studies (Esu & Inyang-Abia, 2004), the gain of ICT in promoting the development of knowledge in Ghana schools (Natia & Al-hassan, 2015), availability, accessibility and frequency of ICT is beneficial for health practitioners thus will also be beneficial for practitioners in the education sector (Afolayan & Oyekunle, 2014) and ICT can increase cognitive achievement of post-primary students in mathematics (Eickelmann et al., 2017).

Finally, the many challenges facing the usage of ICT for Social Studies was revealed by this study, the findings show that the application of ICT may pose difficulties for primary and junior secondary schools in Delta State. Challenges such as teacher factor, non-availability of computers and their accessories, limited or no provision of electricity, sustainability problems, poor internet connection and many others. The findings above were obtained because many teachers in Nigeria's primary and secondary schools are not computer literate. The government itself is not making enough effort to solve the problem, the little effort being made is sabotage by corrupt officials in the education ministries. Similarly, it is a fact that public schools in Nigeria are not connected to electricity supply, the schools cannot even boast of an electricity generating set. The computer hardware and software appliances and applications aren't available either. How can ICT education be achieved under these conditions? The findings were also discovered by McDougall and Squires (1997), who identified lack of framework in developing teachers' capacity for the application of ICT as a major setback to its usage. Tinio (2002) submitted lack of effectiveness, sustainability and equity is a major problem of ICT application in schools and Ogbomo (2011) pointed out similar hindrances to the effective deployment of ICT in educational institutions across Nigeria. These challenges included infrastructural deficit, financial

cost of ICT resources, capacity building and sustainability challenges. This study reveals that teachers themselves are aware of these challenges in utilizing ICT tools for Social Studies instructions, these findings give credence to previous studies on ICT resources, benefits and challenges and education.

### **Limitations and Future Research**

The study had some limitations firstly, Social Studies teachers only were sampled therefore generalizing the result on teachers of other subject may pose some problems. Secondly, their ICT literacy level and educational qualification wasn't put into consideration, these factors are important to how their response would be. From the result of this study, further study on ICT usage and other school subjects should be conducted to see if a similar result would be obtained. Furthermore, this study should be replicated in other states of the country to do a comparative analysis of how ICT facilities can be used for school lessons, verify the benefits of ICT and enlighten other state governments about the challenges of applying ICT in Nigerian schools.

### **CONCLUSION**

The study was centered on the application of ICT resources and skills, their benefits and challenges in the teaching of Social Studies. The length to which ICT resources like social media, virtual learning, internet, educational applications and websites can influence instructions in Social Studies. It was also discovered that these resources are of immense benefits to Social Studies instructions and the study concluded that the low usage of ICT in Social Studies lessons in both primary and Junior secondary schools of Delta State is due to major challenges and setbacks such as non-availability of ICT resources in the schools, lack of teachers training in ICT skills and electricity provision amongst many others.

### **RECOMMENDATION**

The study therefore recommended that the government of Delta State in collaboration with Ministry in charge of Basic and Secondary Education provide ICT facilities for primary and Junior Secondary schools across the state in order to facilitate teaching and learning of Social Studies as well as other school subjects. The recommended ICT resources to be provided should include a good number of computer systems, internet subscriptions, electricity supply, power point presentations equipment, educational software etc. It is also recommended that all Social Studies teachers should be equipped with practical training on computer operation skills in basic computer programming and ICT skills during teacher training and in-service trainings. The provision of ICT/ computer room in all primary and junior secondary schools for the teaching of Social Studies.

### **ACKNOWLEDGMENT**

This research received no specific grant from any funding agency in the public, commercial, or not for profit sectors.

### **DECLARATION OF INTEREST**

The author/s declare no conflict of interest.

### **REFERENCES**

Acquah-Doughan, M. (2015). Availability and utilisation of information and communication technology facilities in teaching social studies in public senior



- high schools in Sekondi-Takoradi Metropolis [Thesis, University of Cape Coast]. <http://ir.ucc.edu.gh/jspui/handle/123456789/2925>
- Adeoye, Y. M., Oluwole, A. F., & Blessing, L. A. (2013). Appraising the role of information communication technology (ICT) as a change agent for higher education in Nigeria. *International Journal of Educational Administration and Policy Studies*, 5(8), 177-183. <https://doi.org/10.5897/IJEAPS12.027>
- Afolayan, O. T., & Oyekunle, R. A. (2014). Availability, accessibility and frequency of use of ICT tools by health professionals in Ilorin metropolis. *Covenant Journal of Informatics and Communication Technology*, 2(1), 1-27.
- Agyeman, O. T. (2007). ICT for Education in Nigeria (pp. 1-12) [SURVEY OF ICT AND EDUCATION IN AFRICA: Nigeria Country Report]. infoDev. [https://www.infodev.org/infodev-files/resource/InfodevDocuments\\_422.pdf](https://www.infodev.org/infodev-files/resource/InfodevDocuments_422.pdf)
- Akpabio, E., & Ogiriki, I. B. (2017). Teachers Use of Information and Communication Technology (ICT) in Teaching English Language in Senior Secondary Schools in Akwa Ibom State. *Equatorial Journal of Education and Curriculum Studies*, 2(2), 28-33.
- Atubi, O. F. (2021). Influence of multimedia on Social Studies: Exploring teachers and students' experiences in Delta State, South South Nigeria. *Library Philosophy and Practice (e-Journal)*, 5319. <https://digitalcommons.unl.edu/libphilprac/5319>
- Atubi, O. F., & Obro, S. (2020). Covid-19 pandemic lockdown and the upsurge of online learning: Prospects for social studies in Nigeria. *Journal of the Social Sciences*, 48(3), 4002-4009.
- Badariyya, S. I. (2021). Role of Information Communication Technology (ICT) in transforming education system in Nigeria. *Ibadan Journal of Educational Studies (IJES)*, 18(1), 73-78.
- Demirci, A., Taş, H. İ., & Özel, A. (2007). The use of technology at secondary school geography lessons in Turkey. *Marmara Coğrafya Dergisi*, 15, 37-54.
- Eickelmann, B., Gerick, J., & Koop, C. (2017). ICT use in mathematics lessons and the mathematics achievement of secondary school students by international comparison: Which role do school level factors play? *Education and Information Technologies*, 22(4), 1527-1551. <https://doi.org/10.1007/s10639-016-9498-5>
- Esu, A. E. O., & Inyang-Abia, M. E. (2004). *Social Studies Technologies, Methods & Media*. Double Diamond Publication.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research: An introduction*. Pearson.
- Garba, S. A. (2014). Towards the effective integration of ICT in educational practices; a review of the situation in Nigeria. *American Journal of Science and Technology*, 1(3), 116-121.
- Jamilu, S. J. (2012). Application of ICT to Social Studies [A paper presented in partial fulfilment of course work in Ahmadu Bello University Zaire].
- Linways, T. (2017). ICT enabled education: The alchemy of mixing technology & education. Medium. <https://stories.linways.in/ict-enabled-education-d190bcc91bf0>
- Lydiah, N., Wilson, S., & Pachomius, W. (2015). Students' Attitude Towards' Use of Information and Communication Technology (ICT) in Teaching and Learning

- in Public Secondary Schools: A Case of Kieni East Subcounty, Nyeri County-Kenya. *International Journal for Innovation Education and Research*, 3(1), 127-139. <https://doi.org/10.31686/ijer.vol3.iss1.306>
- Mathews, H. E. (2017). A comparison of the availability and utilization of audio-visual instructional tools in bookkeeping classes of Sacramento County public high schools [Doctoral Thesis]. University of Kenya.
- McDougall, A., & Squires, D. (1997). A framework for reviewing teacher professional development programmes in information technology. *Journal of Information Technology for Teacher Education*, 6(2), 115-126. <https://doi.org/10.1080/14759399700200008>
- Natia, J. A., & Al-hassan, S. (2015). Promoting teaching and learning in Ghanaian Basic Schools through ICT. *International Journal of Education and Development Using Information and Communication Technology*, 11(2), 113-125.
- Nworgu, B. G. (2006). *Educational research: Basic issues and methodology* (3rd ed). University Trust Publishers.
- Ogbaji, D. I. (2017). Teachers' perception of the utilization of instructional materials in teaching social studies in junior secondary schools in Calabar municipality, Cross river state, Nigeria. *Global Journal of Educational Research*, 16(2), 95. <https://doi.org/10.4314/gjedr.v16i2.3>
- Ogbomo, E. F. (2011). Issues and challenges in the use of Information Communication Technology (ICTs) in education. *Information Impact: Journal of Information and Knowledge Management*, 2(1), 1-19. <https://doi.org/10.4314/ijikm.v2i1>
- Ogechukwu, N. I., & Osuagwu, C. C. (2009). *ICT IN education: The achievement so far* [Report on National Policy on Computer Education]. NERDC Press.
- Onwuagboke, B. B. C., Singh, T. K. R., & Fook, F. S. (2015). Need for ICT Integration for Effective Instructional Delivery in Nigerian Colleges of Education. *Journal of Education and Practice*, 6(3), 51-56.
- Tinio, V. L. (2002). *ICT in Education* (pp. 1-34) [UN Development Programme]. [https://wikieducator.org/images/f/ff/Eprimer-edu\\_ICT\\_in\\_Education.pdf](https://wikieducator.org/images/f/ff/Eprimer-edu_ICT_in_Education.pdf)