# EFFECT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON STUDENTS LEARNING DURING CORONAVIRUS PANDEMIC IN SECONDARY SCHOOLS IN AWKA SOUTH LOCAL GOVERNMENT AREA OF ANAMBRA STATE

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**Abstract**
This research investigated the effects of information and communication technology during coronavirus pandemic in secondary school in Awka south local government area of Anambra state. The population of the study comprised of 495 teachers in the 19 public secondary schools in Awka South L.G.A. of Anambra State. Multi-stage sampling technique was used to select 10 public secondary schools, out of the 19 public secondary schools in Awka south, while 25 teachers were randomly selected from each of the 10 schools to give rise to the sample of 250 teachers. The researcher designed a questionnaire related to the subject matter. Data collected in the study were analyzed using mean; the raw scores were presented in tables showing relative frequencies of each item or group of items. Findings of the study are grouped into, positive and negative aspect. On the positive aspect, students were able to learn online during the Coronavirus Lockdown, students were able to get ICT knowledge and skills in their various schools prior to the Coronavirus Pandemic Lockdown, students were able to carry out some research on their own concerning the non-familiar terms used by their teachers in the course of teaching, students were able to provide answers to the assignment given to them and explore more online. While on the negative aspect, the results showed that students usually missed online classes since data was expensive, they encountered the issue of poor power supply while learning online, network always affect classes in session, because they do not have enough computer facilities, learning wasn't that easy, some teachers do not know how to teach using online mechanism, some teachers preferred classroom teaching to online teaching.

**Keywords:** Information Communication and Technology (ICT), CORONA VIRUS

## Introduction

Education plays a pivotal role in the economic growth and development of the country. It is considered as the cornerstone for meaningful and sustainable growth, development and achievement in art, science and technology. It is also the tool for improving the quality of life of individuals through refinement of one's potentials and inculcating in student desirable skills, values and character necessary for the development of the society. Yusuf, Afolabi & Loto (2015), defined Information and Communication Technology as an indispensable part of the contemporary world as culture and society adjusts to the changing demands of the contemporary age. The potentials of information technology on the educational system seems to be neglected by both government and individuals, as it has the potentials to enhance and facilitate teacher's professional activities and can make education more efficient and productive. But this is not the case as only few schools adopt information technology practices in the learning process as it projects high cost to school management. Prior to the outbreak of coronavirus pandemic, Okudishu (2015) discovered that the unavailability of some ICT components in school's hampers teachers use of ICT. Lack of adequate research skills and of access points in the schools were reported as factors inhibiting the use of the internet by school teachers. The absence of ICT equipment in most Nigerian schools leads students to resort to cybercafé for internet access. Most cybercafé clients in Nigeria are students. The ICT revolution is yet to attain that critical mass required for it to register the necessary impact in teaching students and civilian population nationwide.

The Nigeria's education system seems to adopt more of traditional pedagogical learning, which is more focused on the physical learning environment. However, the outbreak of COVID -19 has revealed the inadequacies of this mode of education. The outbreak of COVID-19 unveiled the inadequacies in the educational sector as some schools which adopted information and communication technology before the insurgence of COVID-19 engaged their students through online learning while secondary schools which have not adopted the information technology were left behind, including all public schools (UNESCO, 2015), parents who have the resources had to subscribe to online classes for their children so that they will not be left out. Wikipedia defines

Information and Communication Technology (ICT) as an extensional term for information technology (IT). That stresses the role of unified communication and the integration of telecommunication (telephone lines and wireless signals) and computers as well as necessary enterprises software, middleware storage and audiovisual, that enable users to manipulate information. ICT is also used to refer to the convergence of audiovisuals and telephone networks with computer network through a single cabling or link system. There are large economic incentives to merge the telephone with the computer network system using a single unified system of cabling, signal distribution, and management. ICT is an umbrella a term that includes any communication device, encompassing radio, television, cellphone, computer and network hard ware, satellite system and application appliances with them such as radio, conferencing and distance learning. ICT also includes analog technology, such as paper communication and any mode that transmits communication

ICT is a broad subject and the concepts are evolving, it covers any products that will store, retrieve, manipulate, transmits, or receive information electronically in a digital form e.g.; personal computers, including smartphones, digital televisions, email, or robots. Skills framework for the information age is one of many models for describing and managing computers for ICT professionals in the 21st century. Integration of Information and Communication Technology (ICT) in education refers to the use of computer -based communication that incorporates into daily classroom instructional process. In conjunction with preparing students for the current digital era, teachers are seen as the key players in using ICT in their daily classrooms. This is due to the capability of ICT in providing dynamic and proactive teaching - learning environment (Arnseth & Hatlevik, 2012) while, the aim of ICT integration is to improve and increase the quality, accessibility and cost-efficiency of the delivery of instruction to students, it also refers to benefits from networking the learning communities to face the challenges of current globalization (Albirini, 2016). Process of adoption of ICT is not a single step, but it is ongoing and continuous steps that fully support teaching and learning and information resources (Young, 2013).

ICT can be used in various ways where it helps both teachers and students to learn about their respective subject areas. A technology -based teaching and learning offers various interesting ways which includes educational videos, stimulation, storage of data, the usage of database, mind-mapping, guided discovery, brainstorming, music, World Web (www) that will make the learning process more fulfilling and meaningful (Finger & Trinidad, 2012). On the other hand, students will benefit from ICT integration where they are not bounded to the limited curriculum and resources, instead hands-on activities in the technology-based courses is designed to help them to stimulate their understanding about the subject. It also helps teachers to design their lesson plans in an effective, creative and interesting approach that would result in students' active learning. Previous researches proved that the use of ICT in teaching will enhance the learning process and maximizes the students' abilities in active learning (Finger & Trinidad, 2012).

Hermas, Van-Braak and Valcke (2018) identified three main stages for ICT to be highly valued and regarded by the teachers; integration, enhancement and complementary. Integration approach is about implementing right use of ICT in particular subject area that involved complex concepts and skills to improve students' achievement and attainment. Enhancement approach is about using ICT to give great emphasis on the topic introduced. For instance, Microsoft Power point can be used to present a topic in a very innovative and creative way that will lead into discussion and exchanging of ideas and thoughts. Finally, complementary approach is when the ICT is used to aid and support the student's

learning. This approach allows students to be more organized and efficient in which they can take, obtain the notes from computer, submit their works by email from home as long as they meet the deadline and looking for information from various sources provided online to fulfill the task given to them (Hermans, 2018).

Technology -based teaching and learning can make many changes in school that requires for proper planning and policy making. Researchers and policy makers must both have the same insight about the future plan. (Dudency, 2010) noted that national ICT policies can serve several crucial functions. They provide a rational, a set of goals and a vision of how education systems runs if ICT is integrated into teaching and learning process and they are beneficial to students, teachers, parents and the general population of a given country. Ministry of Education Malaysia has formulated three main policies for ICT in Education. The first policy insist on all students are given opportunity to use ICT. This is aimed to reduce the digital gap amongst the schools. The second policy focuses on the role and function played by ICT in education. Besides that, another policy stressed on the use of ICT for accessing information, communication and as productivity tool (Chan, 2017).

However, infrastructure and facility of ICT is then needed to supply to the schools throughout the nation. A key factor in use of ICT is sufficient computer labs and ICT equipment's. This is to ensure that subjects teachers are easily access to ICT tools whenever needed (Hennessy, Ruthven, Brindley, 2015). Lack of adequate ICT equipment and internet access is one of the key problems that schools specifically in rural areas are facing now. For example, results of a research show that in Kenya, some schools have computers but this could be limited to one computer in the office only. Even in schools with computers, the student-computer ratio is high. In addition, the report continues revealed that the schools with ICT infrastructure are supported by parents' initiative or community power (Chapelle, 2011).

In most schools, technical difficulties sought to become a major problem and a source of frustration for students and teachers and cause interruptions in teaching and learning process. If there is lack of technical assistance and no repair on it, teachers are not able to use the computers temporarily (Jamieson-Proctor, 2013). The effect is that teachers will be discouraged from using computers because of fear of equipment failure since they are not given any assistance on the issue.

Schools in Awka south Local Government Area of Anambra State is not left out in the failure to adopt information and communication technology in the learning process of secondary school students. While few schools could adopt the virtual learning for their students during the covid -19 school closure, major schools in Awka South Local Government Area lacked the capacity to adopt the change introduced by covid-19. The schools that adopt online classes during the corona virus pandemic seems to have advantage over schools that do not have the facilities for online classes. More schemes were covered by schools that engaged students in online classes and the schools were rated over schools that don't have facilities for online classes. Aside benefit of ICT to the image of schools, ICT seems to benefit students learning capacity as it has the potential of impacting ICT skills to students, creative skills and vocational skills in ICT world.

There seems to be challenges in the adoption of ICT in the learning process of students as the challenges ranges from poor internet and energy power, inadequate skilled personnel and high cost of adoption among others. This seems to discourage the effective use of ICT in Secondary schools because the challenges disrupt learning process. It is against this background that it becomes necessary to study the effect of information and communication technology on students learning during coronavirus pandemic in selected secondary schools in Awka South Local Government Area of Anambra State. Findings of the study indicated that some students were able to learn online through with the help of ICT, while some students couldn't learn because of the unavailability of ICT facilities, unprofessional on the use of ICT which hinders the effectiveness of students learning during the period of corona- virus. Also some could not participate on the online teaching and learning because of poor network in some areas in Awka South Local Government of Anambra state.

**Research Questions;** What are the effects of information and communication technology on students learning during coronavirus pandemic in secondary schools in Awka South Local Government Area of Anambra State?

## METHODS

The design of the study was descriptive survey design, according to Nwaorgu (2015), descriptive survey design is employed in a study to collect data based on the opinions of the representative sample of the population or sometimes from the entire population. The population of the study comprised all 495 teachers in the 19 public secondary schools in Awka South L.G.A. of Anambra State The sample for the study comprises 250 teachers in Awka south local government area, using a multi-stage sampling technique. The instrument used for data collection is a well-structured questionnaire of 4 points scale designed by the researcher. The instrument was face & content validated by two experts from the Department of Educational Management and Policy and another one expert from measurement and Evaluation in the Department of Educational Foundations, all from the Faculty of Education, Nnamdi Azikiwe University, Awka. The Cronbach alpha statistics was used to ascertain the internal consistency of the developed Instrument for which a reliability co-efficient values of 0. 86, and 0.85 were obtained. These results indicated that the instrument was quite reliable. The researcher employed direct delivery and retrieval method in the administration of the instrument to the respondents. A total of 250 copies of the questionnaire were distributed to the respondents by hand with the help of two research trained assistants. Data collected were analyzed using mean; the raw scores were presented in tables showing relative frequencies of each item or group of items. Four –point scaling of strongly Agree (SA)4, Agree(A) 3 and Disagree(D) 2, strongly Disagree (SD) 1, were used for the study. The decision role was that any item with mean score of 2.50 and above would be taken as having attracted positive response, while any item with mean score below 2.50 would be taken to have attracted negative response.

## Results / Findings

What are the effects of Information and Communication Technology on students learning during Coronavirus Pandemic in secondary schools in Awka south Local Government Area of Anambra State?

**Table:** Response on the effects of adopting Information and Communication Technology on students learning during Coronavirus Pandemic in secondary schools in Awka South Local Government Area of Anambra State.

| S/N | **Items** The effects of adopting Information and Communication Technology on students learning during Coronavirus pandemic in secondary schools | **SA** | **A** | **D** | **SD** | **Score Total 250** | **Mean X** | **Remark** |
|---|---|---|---|---|---|---|---|---|
| 1 | Most times they failed to do the task assigned to them | 133 | 100 | 20 | 7 | 879 | 3.5 | Agree |
| 2 | They mistook lecturers for fun | 123 | 107 | 15 | 5 | 848 | 3.4 | Agree |
| 3 | Most times they divert from the task given to them to charting with their friends online | 300 | 120 | 0 | 15 | 975 | 3.9 | Agree |
| 4 | They became lazy to school activities | 123 | 100 | 27 | 0 | 846 | 3.4 | Agree |
| 5 | Most times some don't have access to the internet at homes | 127 | 78 | 40 | 5 | 827 | 3.3 | Agree |
| 6 | They are clumsy in class activities | 155 | 58 | 30 | 17 | 871 | 3.5 | Agree |

The above table, on the effect of adopting Information and Communication Technology on students learning during Coronavirus Pandemic in secondary schools in Awka South Local Government Area of Anambra State reveals that respondents on items 1,2,3,4.5 and 6 with various mean values of 3.5, 3.4,3.8,3.4,3.3 and 3.5 were above 2.5 respectively which indicated agree.

## Summary of the Findings

The summary of the findings includes: The Findings implied that most times students failed to do the task assigned to them. They mistook lecturers for fun, most times they divert from the task given to them to charting with their friends online, they became lazy to school activities Most times some don't have access to the internet at homes They are clumsy in class activities.

**Discussion of Findings**

The Findings revealed that most times students failed to do the task assigned to them. They mistook lecturers for fun, most times they divert from the task given to them to charting with their friends online, they became lazy to school activities Most times some don't have access to the internet at homes They are clumsy in class activities. Although students were able to learn online during Coronavirus Lockdown, they were able to get ICT knowledge and skills in their various schools prior to the Coronavirus Pandemic Lockdown, they were able to carry out some research on their own concerning the non-familiar terms, used by their teachers in the course of teaching, they were able to provide answers to the assignment given to them and explore more online while recording of online classes for easy replay was a bit difficult for them to handle in Awka South Local Government Area of Anambra State. The finding is in line with Ogbonna (2011), who stated that Information and Communication Technology is an improved measure in the educational system.

**Conclusion**

The findings of this research indicated that Information and Communication Technology contributed both negatively and positively on students learning during Coronavirus Pandemic in secondary schools in Awka South Local Government Area of Anambra State. The study showed that constant use of social media by secondary school's students often interfered with their learning and thus, reduced their active participation in classes online.

**Recommendations**

Based on the findings of the study, it was recommended that:

1. The Federal Government of Nigeria has a major role to play in providing modern ICT equipment's in schools for easy internet access.
2. There should be adequate service training of teachers in secondary schools so as to guide student the correct way and time to use ICT for effective and positive learning.
3. Parents should endeavor to get a computer system for their children to aid the learning process and to enable them get acquainted with the use of ICT.

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