American International Journal of Contemporary Research
ISSN: 2162-139X (Print), 2162-142X (Online)

BRPI

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Teachers' Perspections Towards ICTs In Teaching and Learning

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Article History:

Published: 5 September 2025

Abstract The major rationale behind the choice of this paper was that, ICT happens to be the newest technology in use for learning and in most remote areas especially in Nigeria are yet to get accustomed to its usage, its importance and the scope. Therefore, this study explains why it's good to embark on research of this nature. The following research questions guided the study, why is ICT important for teaching and learning according to teacher's perception? How did ICT change the role of teachers and learners according to teachers' perception? What is ICT-based teaching-learning approaches used in schools? And what are the challenges in integrating ICT in school education according to Teacher's perception? Findings from the study revealed that majority of the respondents were of the opinion that, ICT changes the role of teachers and learners according to teacher's perception and that there is a significant ICT-based teaching-learning approaches used in school

Volume 15, 2025

Publisher: The Brooklyn Research and Publishing Institute, 442 Lorimer St, Brooklyn, NY 11206, United States.

DOI: https://doi.org/10.30845/aijcr.v15p5

Reviewers: Opted for Confidentiality

Citation: Emenike, S. U. J. (2025). Teachers' Perspections Towards ICTs In Teaching and Learning. *American International Journal of Contemporary Research*, *15*, 43-52. https://doi.org/10.30845/aijcr.v15p5

Introduction

This chapter will present a brief continue of research findings related to the teacher's perceptions towards ICTs in teaching and learning. In the present context, the interest of the researcher is to review the findings of past researches. The previous researches help the researchers to theorize and assume occurrence, and do critical appraisal which may contribute with regard to design appropriate methodology. Keeping in mind these objectives, the researcher reviewed literature in order to obtain information and the status of work being done in this area. Therefore, literature from various sources was extensively reviewed in the light of the present investigation.

Concept of ICT

There is substantial literature on the integration of ICT in classrooms. In a global context, both developed and developing countries recognizes the value of integrating ICT tools for their economic development. Developed countries, like US, for instance, spends more than US$10 billion annually in educational technology in public schools while Nigeria spends approximately N8 billion in ICT integrated related activities in schools (Albugarni& Ahmed, 2015). Likewise, a number of developing countries like India, Nigeria have adopted programs aimed at implementing ICT integrated pedagogies to reinforce the teaching-learning process (Ssewanyana &Busler, 2017). As they believe the use of considerable ICT tools act as sufficient drivers to boost the country's education towards creating economy-based development. Previous research indicates that the sheer presence of ICT does not directly influence teaching but instead it should be effectively integrated with teaching contents and pedagogies (Earle, 2012).

In recent years, education has undergone a substantial transformation as a consequence of the effect of ICT (Skiba, et.al., 2017). Methodological strategies have been developed, thanks to technology, strengthening active methodologies. These include the flipped classroom (Bond, 2019), game-based learning (Dostal, et.al. 2017), and project- or problem-based learning (Vanbecelaere, et.al, 2020). Different studies have analyzed the use of ICT for teaching mathematics in primary schools (Kim, 2020), secondary schools (Panahi, 2019), and for higher level studies (Mora, 2020). The importance of their integration has even been shown in classrooms with students with disabilities. The available literature postulates that the proper use of ICT benefits collaborative work and student learning and has an impact on their academic performance (Mikropoulos, 2020). Nevertheless, teachers continue to use traditional methodologies with textbooks and boards [30].

Teachers' Perception on ICT Integration in Teaching

The education system in developing countries like Nigeria has rapidly changed with the advancement of technology. With the implementation of its K to 12 curriculums, integration of ICT in teaching is strengthened starting at the basic education to enhance the 21st century skills the learners need to cope with the demand of time. The Department of Education (DepEd) believes that technology has the capability to provide proactive, easy access and comprehensive teaching and learning environment

Teaching refers to the process of imparting knowledge and skills from teacher to learner. It is encompassing the activities of educating or instructing. It is an experience that has a formative effect on the mind, character or physical ability of an individual. Today ICT is changing, teaching in various ways. In teaching process, the role of teachers is always crucial. The human element has limits and others interventions (ICT) need to be brought to bear strongly in to the process of delivery and transformation of knowledge. (Haddad, 2020) Teachers are able to planning and preparation of lessons and designing their teaching material. Teachers using power point and other computer programmes to improve their presentation. (Scott, 2019)

Learning is the act of acquiring new or modifying and reinforcing existing knowledge, behaviors, skills and values. We are living in the evolving digital world. ICT has an impact on every aspect of our lives especially in learning process. There is a wide spread belief that ICTs have an important role to play in changing and modernizing educational system and way of learning. (Punie, D Zmnbauer, and M Cabrara). Students are actively participating in ICT centered learning. The use of computers as tutors for drill and practice and for instructional delivery combined with traditional instruction results increase in learning in the traditional curriculum and basic skills areas. Students also learn quickly, demonstrate greater retention and are better motivated to learn when they work with computers (Victoria &Tinio, 2019).

Statement of the Problem

Teachers at any grade level can easily create collaborative activities for students on the web. Many of devices are still on the beginning of their using in the education, but they have got high potential as iPads and tablets (Sullivan, 2013). Researchers found that iPads help special needs students improve basic skills, such as reading and writing, and increase their attention and interests in learning. The basic results of some researches regarding too presented problematic are described below. As it is possible to see, all authors described some problems with the adoption and integration of ICTs into education process, but nearly all authors see the big importance of ICTs in the education process. For example, Cavas, Cavas, Karaoglan, and Kısla (2019) realized research among Nigerian science teachers. The results indicated that Turkish science teachers had positive attitudes towards ICTs and although teachers' attitudes towards ICTs did not differ regarding gender However, it differed regarding age, computer ownership at home and computer experience.

Martinovic and Zhang (2012) examined pre-service teachers' expectations of and attitudes towards the learning and integrating of ICTs into their teaching and their perceptions of the availability and usage of ICTs. The main results were, there was not enough comfort with ICTs usage among future teachers, despite skill level; future teachers had high expectations in learning and teaching with ICTs; access to ICTs was limited in the schools. AlZaidiyeen, Mei, and Fook (2010) found out teachers had a low level of ICTs usage for educational purpose, teachers hold positive attitudes towards the usage of ICTs, and a significant positive correlation between teachers' level of ICTs usage and their attitudes towards ICTs was found.

Peeraer and Van Petegem (2011) found out among Vietnamese teachers the usage of ICTs applications in teaching practice remains limited, mostly replacing traditional teaching practices. The factors currently determining the usage of ICTs in teaching practice are ICTs skills and computer confidence. Rana (2012) made research among teachers from India. The results showed that most of the teacher educators had positive attitudes towards the general role that ICTs could play in education and in the educational process. The findings showed no gender differences on attitudes towards ICTs in teacher training, but it is possible to see differences in attitudes with respect to age. Alazam, Bakar, Hamzah, and Asmiran (2012) found out that teachers' ICTs skills were at moderate levels, and that a vast majority of teachers who participated in this study were moderate users of ICTs in classroom teaching.

Research questions

i. How do ICT change the role of teachers and learners according to teachers' perception?
ii. What is ICT-based teaching-learning approaches used in school

Hypotheses

The research hypotheses highlighted in this study are:

1: ICT does not change the role of teachers and learners according to teachers' perception.

2: There are no significant ICT-based teaching-learning approaches used in school.

Methodology

The population for this study was teachers in some selected secondary schools in Imo state, Nigeria. The age range of the selected teachers are 25 – 30, 31-36, 37-42, 43-48, 49 and above. The reason for choosing Imo state is because of its proximity to the researcher. A total of 100 respondents were selected from the population figure out of which the sample size was determined**.** The study was conducted in 4 selected Secondary schools in Owerri West, Imo State. The schools are:

a). Princess Shekinah International School, Ihiagwa (Private School)

b). FUTO Staff Secondary School, Ihiagwa, (Public School)

c). Community Secondary School, Ihiagwa (Public School) and

d). Eternal Word Christian Secondary School, Nekede, (Private School).

The researcher used SPSS Package for data analysis of quantitative data. The researcher also ensured that the questions were very clear, brief and unambiguous. The researcher used closed questions to ensure that the questionnaire was so easy to complete by the respondents. The researcher used a design of the scale to measure

satisfaction. He also used a more typical Likert-type format where the respondent indicates the extent to which they agree with a statement. After the successful completion of this research project, the outcomes are the changes or the results that schools both International and or National expects to achieve. Looking at the statement of the problem that prompted this study, I said, teachers at any grade can easily create collaborative activities for the students. At the end, there will be friendly usage of the technology ICT in the dispense of their duties in the classroom. There will be better understanding by the students i.e., learning becomes easier that what it had been. The teacher's skill in the use of ICT tools will turn more confident and teaching will be interesting. Finally, some remote school will make budget to accommodate teachers training to increase their skills in the use of ICT software and other technologies.

Method of Data Analysis

Data collected were analyzed using frequency table, percentage and mean score analysis while the nonparametric statistical test (Chi- square) was used to test the formulated hypothesis using SPSS (statistical package for social sciences). Haven gathered the data through the administration of questionnaire; the collected data were coded, tabulated and analyzed using SPSS statistical software according to the research question and hypothesis. In order to effectively analyze the data collected for easy management and accuracy, the chi square method was used for test of independence.

Results

Analysis of Demographic Data of Respondents

Table 1: Gender of Respondents

		Frequency	Percent	Cumulative Percent
Valid	Male	65	65.0	65.0
	Female	35	35.0	100.0
	Total	100	100.0	

Source: Field Survey.

Table1 above shows the gender distribution of the respondents used for this study. Out of the total number of 100 respondents, 65respondents which represent 65.0percent of the population are male. 35 which represent 35.0 percent of the population are female.

Table 2: Age range of Respondents

		Frequency	Percent	Cumulative Percent
Valid	20-30years	15	15.0	15.0
	31-40years	10	10.0	25.0
	41-50years	25	25.0	50.0
	51-60years	20	20.0	70.0
	above 60years	30	30.0	100.0
	Total	100	100.0	

Source: Field Survey.

Table 2 above shows the age grade of the respondents used for this study. Out of the total number of 100 respondents, 15 respondents which represent 15.0percent of the population are between 20-30years. 10respondents which represent 10.0percent of the population are between 31-40years. 25respondents which represent 25.0percent of the population are between 41-50years. 20respondents which represent 20.0percent of the

population are between 51-60years. 30respondents which represent 30.0percent of the population are above 60years.

Table 3: Educational Background of Respondents

		Frequency	Percent	Cumulative Percent
Valid	FSLC	20	20.0	20.0
	WASSCE/GCE/NECO	25	25.0	45.0
	OND/HND/BSC	35	35.0	80.0
	MSC/PGD/PHD	15	15.0	95.0
	OTHERS	5	5.0	100.0
	Total	100	100.0	

Source: Field Survey.

Table 3 above shows the educational background of the respondents used for this study. Out of the total number of 100 respondents, 20 respondents which represent 20.0percent of the population are FSLC holders. 25 which represent 25.0percent of the population are SSCE/GCE/WASSCE holders. 35 which represent 35.0percent of the population are OND/HND/BSC holders. 15 which represent 15.0percent of the population are MSC/PGD/PHD holders. 5 which represent 5.0percent of the population had other type of educational qualifications.

Table 4: Marital Status

		Frequency	Percent	Cumulative Percent
Valid	Single	30	30.0	30.0
	Married	55	15.0	45.0
	Divorced	5	20.0	65.0
	Widowed	10	15.0	80.0
	Total	100	100.0	

Source: Field Survey.

Table 4 above shows the marital status of the respondents used for this study. 30 which represent 30.0percent of the population are single. 55 which represent 55.0percent of the population are married. 5 which represent 5.0percent of the population are divorced. 10 which represent 10.0percent of the population are widowed.

Table 5: ICT changes the role of teachers and learners according to teacher's perception

		Frequency	Percent	Cumulative Percent
Valid	Strongly agree	30	30.0	30.0
	Agree	42	42.0	72.0
	Undecided	10	10.0	82.0
	Disagree	10	10.0	92.0
	Strongly disagree	8	8.0	100.0

		Frequency	Percent	Cumulative Percent
Valid	Strongly agree	30	30.0	30.0
	Agree	42	42.0	72.0
	Undecided	10	10.0	82.0
	Disagree	10	10.0	92.0
	Strongly disagree	8	8.0	100.0
	Total	100	100.0	

Source: Field Survey.

Table 5 shows the responses of respondents if ICT changes the role of teachers and learners according to teacher's perception. 30 respondents representing 30.0percent strongly agreed that ICT changes the role of teachers and learners according to teacher's perception. 42 respondents representing 42.0percent agreed that ICT changes the role of teachers and learners according to teacher's perception. 10 respondents representing 10.0 percent were undecided. 10 respondents representing 10.0percent disagreed that ICT changes the role of teachers and learners according to teacher's perception. 8 respondents representing 8.0percent strongly disagreed that ICT changes the role of teachers and learners according to teacher's perception.

Table 6: ICT does not have any significant role in teaching and learning

		Frequency	Percent	Cumulative Percent
Valid	Strongly agree	10	10.0	10.0
	Agree	15	15.0	25.0
	Undecided	5	5.0	30.0
	Disagree	40	40.0	70.0
	Strongly disagree	30	30.0	100.0
	Total	100	100.0	

Source: Field Survey.

Table 6 show the responses of respondents if ICT does not have any significant role in teaching and learning. 10 of the respondents representing 10.0percent strongly agree that ICT does not have any significant role in teaching and learning. 15 of the respondents representing 15.0percent agree that ICT does not have any significant role in teaching and learning. 5 of them representing 5.0percent were undecided. 40 of the respondents representing 40.0percent disagree that ICT does not have any significant role in teaching and learning. 30 of the respondents representing 30.0percent strongly disagree that ICT does not have any significant role in teaching and learning.

Table 7: The ICT-based teaching-learning approaches used in school is not beneficial

		Frequency	Percent	Cumulative Percent
Valid	Strongly agree	60	60.0	60.0
	Agree	25	25.0	85.0
	Undecided	10	10.0	95.0
	Disagree	5	5.0	100.0

		Frequency	Percent	Cumulative Percent
Valid	Strongly agree	60	60.0	60.0
	Agree	25	25.0	85.0
	Undecided	10	10.0	95.0
	Disagree	5	5.0	100.0
	Total	100	100.0	

Source: Field Survey.

Table 7 show the responses of respondents if the ICT-based teaching-learning approaches used in school is not beneficial. 60 of the respondents representing 60.0percent strongly agree that the ICT-based teaching-learning approaches used in school is not beneficial. 25 of the respondents representing 25.0percent agree that the ICT-based teaching-learning approaches used in school is not beneficial. 10 of them representing 10.0percent were undecided. 5 of the respondents representing 5.0percent disagree that the ICT-based teaching-learning approaches used in school is not beneficial. The result showed thus, because, the majority of strongly agreed were from the community Secondary school, which is situates in the remote village within the jurisdiction of the researcher.

Table 8: Many Nigerian schools do not use any ICT-based teaching-learning approaches

		Frequency	Percent	Cumulative Percent
Valid	Strongly agree	25	25.0	25.0
	Agree	32	32.0	57.0
	Undecided	13	13.0	70.0
	Disagree	15	15.0	85.0
	Strongly disagree	15	15.0	100.0
	Total	100	100.0	

Source: Field Survey.

Table 8 shows the responses of respondents if many Nigerian schools do not use any ICT-based teaching-learning approaches. 25 of the respondents representing 25.0percent strongly agree that many Nigerian schools do not use any ICT-based teaching-learning approaches. 32 of the respondents representing 32.0percent agree that many Nigerian schools do not use any ICT-based teaching-learning approaches. 13 of the respondents representing 13.0percent were undecided. 15 of the respondents representing 15.0percent disagree that many Nigerian schools do not use any ICT-based teaching-learning approaches. 15 of the respondents representing 15.0percent strongly disagree that many Nigerian schools do not use any ICT-based teaching-learning approaches.

Discussion of Findings

Majority of the teachers are unable to use hardware in teaching learning process due to, mainly shortage of resources. This indicates that most teachers in the college are not integrating ICT in the course they teach. Most of the teachers in the college agree that the contribution of the college on employing technical support units in ICT sector is good to satisfactory. Few teachers responded that the contribution is very poor. The respondents' percentage on Very Good and poor is the same. This indicates that there is no equal support service by the technical support units in ICT sector. FUTO Secondary School is found as poor by most of the teachers in preparing ICT trainings. Few teachers agree that the contribution of the college in preparing ICT trainings is very good. But the trainings are mainly on computer basics rather than on how to integrate ICT to each course. Majority of the teachers in the college are able to search information using search engine. Teachers who can use search engine are 63.8 percent higher than those who

can't use it. The reasons mentioned by the teachers who cannot search information using search engine are the unavailability of network expansion to all departments, knowledge gap, a smaller number of computers in departments and lack of consecutive trainings as the technology is changing radically. The mean of the factors that encourage technology ranged from 2.72 to 2.99 which indicate that all mentioned factors that encouraged technology are important to apply ICT in teaching-learning process.

The mean for the perception of teachers about ICT usage ranged from 4.28 to 4.79 from the five likert scale shows that Adwa College teachers have strong positive perception to use ICT in teaching-learning process. The results of the correlation indicated that there is significant relationship between teachers' perception towards ICT integration into Teaching-learning process and the factors that encourage ICT usage.

This indicates that the teacher's perception towards ICT integration into teaching-learning process increase if ICT usage is encouraged and vice versa. Moreover, the results of the correlation indicated that there is significant relationship between teachers' perception toward ICT usage to increase quality of courses they teach and their productiveness due to ICT usage. This indicates that the teachers' productiveness is realized if ICT is integrated to the course they teach. To apply ICT in teaching learning, availability of recourses is one of the key factors.

Conclusion

The purpose of this study was to examine the teachers' perceptions towards ICTs in teaching and learning. Two hypotheses were formed to test that: ICT does not change the role of teachers and learners according to teacher's perception; there is no significant ICT-based teaching-learning approaches used in school. Findings from the study revealed that majority of the respondents were of the opinion that, ICT changes the role of teachers and learners according to teacher's perception and that there is a significant ICT-based teaching-learning approaches used in school

Recommendations

Based on the findings, the following recommendations are given:

- Investments of the college on teachers training programs for instructional technologies and support services of instructional technologies should be prioritized to integrate ICT into teaching-learning process.
- It is important to motivate and rewarding teachers to use ICT in instructional activities
- Technology should be incorporated during curriculum design in order to apply it easily and the college should also give attention in creating comfortable environment which motivates to use this technology.

Conflict of Interest: None declared.

Ethical Approval: Not applicable.

Funding: None.

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