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TEACHERS' PERCEPTION ON UTILIZATION OF DIGITAL TECHNOLOGIES IN EARLY CHILDHOOD EDUCATION SETTINGS IN SOKOTO AND JIGAWA STATES, NIGERIA

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Abstract
This study assessed the perception of teachers on utilization of digital technologies for instructional purpose in public early childhood education settings in Sokoto and Jigawa states, Nigeria. Essentially, the study is delimited to the Sokoto and Hadeja metropolises. The study has five specific objectives and five research questions. Descriptive survey design was used for the study. The population consists of teachers of from selected public primary schools having early childhood education (ECE) classes in Sokoto and Hadeja. The sample size used in the study was 100 teachers selected through purposive sampling. The instrument used was a questionnaire designed by the researchers and titled: Teachers' Perception on Utilization of Digital Technologies Questionnaire (TPUDTQ). The Mean statistics was used to answer the research questions. The results show among others that most of the relevant modern digital technologies are not readily available in public ECE settings. Also, teachers are not actively involved in the use of digital technologies for instructional purpose. However, majority of the ECE teachers in Sokoto and Jigawa are in possession of the required skills to utilize digital technologies. The study recommends among others, that ECE teachers in the two states should commit themselves to proper and extensive utilization of digital media for instructional purpose in ECE settings. Also, agencies in charge of policy, practice and provision of ECE in Sokoto and Jigawa states should expediate action toward addressing the challenges of digital technology utilization in public ECE settings to enable effective instruction that is ideal for the 21st century classroom.

Keywords: Teachers, Perception, Utilization, Digital technologies, Instruction and Pubic ECE settings, Sokoto, Hadeja

Introduction

Globalization and technological changes have created new thrust in the process of educational delivery throughout the world. Digital technologies such as the computer and other related information and communication technology (ICT) devices are accepted in the global academic circle and integrated in the processes of teaching, learning and research activities. As noted by Ujah and Muhammad (2018), the 21st century brought about changes, especially those related to technology with reference to the application of computers in education. Thus, the renewed expectations and hopes for the advancement of teaching and learning become obvious. As noted by Aladejana (2013), information technology can help in transforming the learning environment into one that is learner-centered when used appropriately. This realization has reinvigorated the need for application of digital technologies for instructional purpose at every level of schooling, so as to provide teachers, learners and others in the academic field with the competence to utilize technologies in the classroom.

The advent of technology brought about a wide acceptance of technological devices as important tools in life and education. In fact, nothing has changed living in modern society as deeply as the massive use of computers and other related digital media in everyday life. These forms of digital technologies have cut through each and every area of human endeavors, making many activities (including those which are educational) much simpler than before. In the past, people in the academia used to search for information in huge stock of books displayed in the school libraries. Today, through the digital technologies an information seeker can preview hundreds and even thousands of data in less time and effort. The world is indeed witnessing deep changes, brought about by digital technologies. It is a common scenario to see children and young people, as well as adults in the society constantly engage in direct contact with the computers and other digital technologies such as mobile phones, iPhone, Tablets and so on. Ibe-Bassey (2013) noted that the use of internet as a global computer-network, connects more people together to share vital information all over the world. Thus, the impact of information technology on learning, is the vision that it enables learning 'anywhere, anytime and anyhow'. With information technologies, learning is not constrained by geographical proximity; they offer more possibilities for sharing, educating and retrieving knowledge. Apagu and Wakili (2015) reported that an ICT driven project known as 'school net' was launched by the Federal Ministry of Education in Nigeria with the intention of equipping all schools in Nigeria with computers and other communication devices. As noted by Aladejana (2013), the use of information technology in education usually refers to implementing digital tools, techniques and equipment to support teaching, learning and other cognitive activities. Extending this to the instructional processes at the grassroots level of education, provide for the educators in Nigeria early childhood education (ECE) settings the opportunity to use various forms of digital technologies to the quality of instruction in schools.

In view of the above assertion therefore, the new thrust in educational delivery in the 21st century emphasized the integration of emerging technologies in classroom teaching. Today, computers are a big part of the school system including the early childhood schools. More and more children learning at the pre-primary and lower classes in the primary school are showing tendencies of becoming extremely familiar with various technological devices. This has therefore underscored the fact that digital media could be effective in teaching

preschoolers (especially those in the public ECE settings). Thus, technology as one of the applicable tools in early childhood education learning, its usage becomes a necessity for teachers, as they are expected to play important roles in the classroom by inculcating into children the knowledge and information that they would not have received until a later age. Hence, Achukwu (2012) pointed out that, ICT provides a window of opportunity for educational institutions (and of course the teachers and learners there in) to harness and use technology to support the teaching and learning process.

The term 'Digital Technologies' is however, used in the context of this study to denote technological devices such as Computers, Tablets, iPhones, Smart Phones, Interactive White Boards and other Digital Tools which are required in the school for enhancement of learning activities. Thus, going by the importance of teachers (especially those handling the pre-primary or ECE classes) who are considered as the foundation builders in the Nigerian education system, the need to utilize digital technologies for effective teaching and learning. As noted by Mohammed and Abba (2024), emerging technologies are relevant in early childhood education as they can enhance creativity as well as improve engagement and motivation among children. However, these benefits are highly dependent on the specific technology used, effective teacher guidance, and proper integration into the curriculum to avoid potential negative impacts, such as reduced attention span or social isolation from excessive use of these technologies by children. To this end, Mohammed, Abba and Ihisota (2024) posited that, Artificial Intelligence (AI) as a digital tool is relevant in public ECE schools as it can enhance the productivity of teachers and provide personalized learning experiences for learners, if well utilized.

Literature on digital technologies in education are plentiful and the application is in various aspects, including early childhood education, which study is becoming a trend along with diverse developments. Some of these literary works have been examined in the current study. For instance, Sulistyaningtyas, Astuti and Yuliantoro (2023) established that implementation of technology in the class can had a positive effect on teacher and children of self-confidence, curiosity, creativity, motivation, interest in learning, children's emotional, social, moral and physical abilities. Blackwell et al. (2014), report that early childhood educators agreed that using digital technology, such as cameras, video games, computers, tablets, TV, ebooks, internet, smartphones, etc., had a strong influence in assisting learning. Ujah and Muhammad (2018) posits that teachers' involvement is required for the integration of technology into learning. Early childhood educators with positive perceptions and understanding of technology can apply it to teach effectively. Mohammed and Usman (2025) established that pupils taught using cell phone scaffolding, performed better than those taught using the conventional lecture method.

Statement of the Problem

With the advent of technology in the modern world, technological devices have experience major progress in recent years and represent emerging technology which are regarded as advantageous to the education sector, and educators are making effective use of this advantage. Hence, it is not astonishing that many classroom teachers in Nigeria are now in possession of knowledge and experience of handling technological devices for instructional purpose. Even in the remote areas, many teachers have become exceptionally good in the use of computers and technological devices Thus, the flow of emergent

technologies into classrooms has created the opportunity for teachers operating at the various level of the education system in Nigeria to deliver digital-driven instructions in the classroom. However, despite the benefits of technologies into the classroom, their application in public early childhood education (ECE) settings in north west region of Nigeria remain elusive. Many public primary schools having ECE sections in this region could hardly be described as standard in terms of appropriate and relevant modern instructional resources. It is therefore not certain how teachers are to meet the objective of developing children social, cognitive, emotional and physical tendencies. For instance, the researchers who are stakeholders in childhood education observed that, in Sokoto and Jigawa states, most of the public primary schools are not well equipped. As such, it is obvious that the ECE settings located in these public primary schools, are equally under equipped. This situation could be seen as triggering the teachers' indifferent attitude toward teaching and of course, showing less interest in the integration of digital devices for instructional purposes schools. It is obvious that the very few ECE teachers having interest in digital technologies for instruction, may have their efforts thwarted due to non-availability, inadequacy and inaccessibility of the relevant digital devices required in ideal ECE settings. Early childhood educators have the task of fostering children's growth and development by building on children's interests, needs and strengths. However, this can be possibly achieved when the learning environment is well prepared; made safe and caring. Achieving this, is obviously a situation to which the researchers are deeply concerned, and the decision for conducting this study was prompted by this concern.

Objectives of the Study

The study has the following specific objectives;

1. To find out the perception of teachers on the relevant modern digital devices required for quality instruction in ideal early childhood education settings in Sokoto and Hadeja metropolises.
2. To find out the perception of teachers on the availability of relevant digital devices for instruction in public ECE settings in Sokoto and Hadeja metropolises.
3. To find out the perception of teachers on acquisition of skills for digital technologies usage in contemporary public ECE settings in Sokoto and Hadeja metropolises.
4. To find out the perception of teachers on the extent of utilization of digital technologies for instructional purpose in public ECE settings in Sokoto and Hadeja metropolises.
5. To find out the perception of teachers on the challenges faced in utilization of digital technologies for instructional purpose in public ECE settings in Sokoto and Hadeja metropolises.

Research Questions

The following research questions were raised in the study:

1. What is the perception of teachers on the relevant modern digital devices required for quality instruction in ideal early childhood education settings in Sokoto and Hadeja metropolises?
2. What is the perception of teachers on the availability of relevant digital devices for instruction in public ECE settings in Sokoto and Hadeja metropolises?

3. What is the perception of teachers on acquisition of skills for digital technologies usage in contemporary public ECE settings in Sokoto and Hadeja metropolises?
4. What is the perception of teachers on the extent of utilization of digital technologies for instructional purpose in public ECE settings in Sokoto and Hadeja metropolises?
5. What is the perception of teachers on the challenges faced in utilization of digital technologies for instructional purpose in public ECE settings in Sokoto and Hadeja metropolises?

Methodology

The descriptive survey design was used for this study. According to Amajuoyi and Joseph (2016), the descriptive survey design involves descriptive recording and interpretation of conditions that now exist. The area of the study is Sokoto and Jigawa states, however, the study was restricted to Sokoto and Hadeja metropolises. The population of this study consists of teachers in selected public early childhood education settings established within public primary schools in Sokoto and Hadeja metropolises. A sample size of 100 teachers was selected based on convenience and used in the study. Similarly, 15 schools were selected from Sokoto and 10 schools selected form Hadeja based on convenience. However, a total of 100 teachers were selected (60 from Sokoto and 40 from Hadeja). The purposive sampling technique was applied in picking up the 100 teachers from the 25 schools selected for the study. Essentially, four (4) teachers were drawn from each of the schools.

The instrument used was a questionnaire designed by the researchers and titled: Teachers' Perception on Utilization of Digital Technologies (TPUDTQ). The instrument has thirty (30) items which are indices of the five research questions raised in the study. All the items were measured on a 4-point scale of Strongly Agreed (SA) = 4, Agreed (A) = 3, Disagreed (D) = 2 and Strongly Disagreed (SD) = 1. All the researchers participated in the constructing the evaluative items using relevant literature as guides. The questionnaire was validated by three senior lecturers, two from Usmanu Danfodiyo University, Sokoto and one from Sule Lamido University, Kafin Hausa, Jigawa state. The questionnaire was also subjected to a trial testing (test and retest) using 20 early childhood educators selected from two public ECE schools which were not part of the main study and correlation value of 0.81 was obtained.

All the 100 copies of the questionnaires were distributed to the early childhood teachers in the selected settings by the researchers with assistance from the head teachers of the schools involved in the study. The data analysis was done using mean and standard deviation. A bench mark of 2.50 was set, so that on the 'Strongly Agree and Agree scale' any mean score ranging from 2.50 and above is regarded as being Agreed with by majority of the respondents. Similarly, any mean that is below 2.50 on the 'Disagree and Strongly Disagree scale' is regarded as being Disagreed by majority of the respondents. However, in the analysis of data, the Mean (X) of the frequencies (Frq.) of responses obtained was used to make decision (Dec).

Results

Research Question One: What is the perception of teachers on the relevant modern digital devices required for quality instruction in ideal early childhood education settings in Sokoto and Hadeja metropolises?

Table 1: Mean rating of teachers' perception on the relevant modern digital devices for quality instruction in ideal early childhood education settings
N = (100)

S/N	ITEM STATEMENT	FRQ	X	DEC
	Relevant digital devices require in an ideal ECCE schools			
1.	Touch-screen devices (Tablets)	79	3.24	A
2.	Interactive (Smart) White Boards	69	3.14	A
3.	Kid-Safe Laptops	80	3.26	A
4.	Educational Robots	60	3.05	A
5.	Digital Cameras	69	3.13	A
6.	Audio Players	56	2.96	A
7.	Film Projectors	56	2.90	A
8.	Smart Speakers (Kids friendly)	60	3.05	A
9.	Scanners devices for children	60	3.00	A
10.	Desktop computers (PCs)	60	3.02	A
	Cluster Mean (x)		**3.08**	**A**

FRQ. (Frequency), **X** (Mean), **DEC** (Decision)

Table 1 shows that all the 10 items which are indices of research question number 1had mean ratings above the 2.50 criterion mean. This implies that, based on the perception of majority of the respondents, all the ten items presented in Table 1, constituted some the modern digital technologies required for quality teaching and learning in an ideal early childhood education setting. The cluster mean (x) of 3.08 (which is higher than the criterion mean of 2.50) further confirmed the perception on the digital technologies relevant for instructional purpose in ECE settings.

Research Question Two: What is the perception of teachers on the availability of relevant digital devices for instruction in public ECE settings in Sokoto and Hadeja metropolises?

Table 2: Mean rating of teachers' perception on the availability of relevant digital devices for instruction in public ECE settings
N = (100)

S/no	Item Statement	Frq	X	Dec
	Availability of relevant digital devices in public ECE settings			
1.	The ECE section in my school has Touch-screen devices (Tablets)	21	2.14	D
2.	The ECE section in my school has Interactive (smart) whiteboards	31	2.04	D
3.	The ECE section in my school has Durable Kid-Safe Laptops	40	2.26	D
4.	The ECE section in my school has Programmable floor robots for children hands-on play.	20	2.25	D
5.	The ECE section in my school has digital cameras for children	30	2.13	D
6.	The ECE section in my school has Audio Players for children.	60	2.96	A
7.	The ECE section in my school has film Projectors	70	3.00	A
8.	The ECE section in my school has Smart Speakers (kid-friendly)	20	2.02	D
9.	The ECE section in my school has Scanners devices for children	55	3.07	A
10.	The ECE section in my school has adequate Desktop computers PCs	80	3.00	A
	Cluster Mean (x)		**2.49**	**A**

Frq. (Frequency), **X** (Mean), **Dec** (Decision)

Table 2 shows that only four out of the ten items of research question number 2 had mean ratings above the 2.50 criterion mean. This means that the other six items (i.e. items 1, 2, 3, 4, 5 and 8) have been perceived with by majority of the respondents as modern digital devices which are not readily available for instruction in public early childhood education settings in Sokoto and Hadeja metropolises. However, the cluster mean (x) of 2.49 (which is slightly less than the criterion mean of 2.50) further confirmed the non-availability of certain categories of relevant digital technologies for instructional purpose in public ECE settings.

Research Question Three: What is the perception of teachers on acquisition of skills for digital technologies usage in contemporary public ECE settings in Sokoto and Hadeja metropolises?

Table 3: Mean rating of teachers' perception on acquisition of skills for digital technologies usage in contemporary public ECE settings
N = (100)

S/no	Item Statement	Frq	X	Dec
	Teachers acquisition of digital skills			
1.	I acquired digital skills through workshops on ICT usage organized for primary school teachers in my state	64	2.60	A
2.	I acquired digital skills from commercial computer training institutes.	67	2.68	A
3.	I learned how to operate the computer from friends.	60	3.08	A
4	I acquired computer operating skills by serving as an apprentice to computer repairers for a period of time	55	2.57	A
5.	I learned how to operate the compute through constant/ comprehensive reading of computer manuals.	72	2.91	A
	Cluster Mean (x)		**2.77**	

Frq. (Frequency), **X** (Mean), **Dec** (Decision)

Table 3 shows that four out of the five items of research question three had mean ratings above the 2.50 criterion, whereas the remaining one item had mean ratings below the 2.50 criterion. This implies that only four items have been agreed with by majority of the respondents as some of the ways by which teachers acquired skills for utilization of modern digital devices in public early childhood education settings in Sokoto and Jigawa states. However, the first item (item 1) was disagreed with by majority of the respondents, implying that many teachers have not acquired their digital skills from workshops on ICT usage organized by the state for teachers in operating public early childhood education settings in Sokoto and Hadeja metropolises. However, the cluster mean (x) of 2.77 (which is higher than the criterion mean of 2.50) further confirmed that the ECE teachers are in possession of digital technologies skills.

Research Question Four: What is the perception of teachers on the extent of utilization of digital technologies for instructional purpose in public ECE settings in Sokoto and Hadeja metropolises?

Table 4: Mean rating of teachers' perception on utilization of digital technologies for instructional purpose in public ECE settings
N = (100)

S/no	Item Statement	Frq.	X	Dec
	Teachers usage of digital technologies in public ECE settings			
1.	I use of the Desktop PCs install in the school computer rooms to prepare materials for lesson.	23	2.14	D
2.	I use my personal laptop computer to prepare materials for teaching children in the classroom.	65	2.99	A
3.	I use the school internet to access online books for children learning.	18	1.94	D
4.	I use commercial internet facility to access online educative materials to teach children in the classroom.	20	1.95	D
5.	I use relevant child-friendly applications embedded in smart cell phones to aid children learning in the classroom	25	2.06	D
	Cluster Mean (x)		**2.22**	

Frq. (Frequency), **X** (Mean), **Dec** (Decision)

Table 4 revealed that four out of the five items of research question number 4 (i.e. item 1, 3, 4 and 5) had mean ratings below the 2.50 criterion, whereas only item 2 had mean ratings above the 2.50 criterion. This implies that based on the perception of majority of the respondents, teachers have not been making adequate use of modern digital devices for instruction in public early childhood education settings in Sokoto and Hadeja metropolises. But the respondents had positive perception on teachers used of personal laptop computer to prepare materials for teaching children in the classroom (item 2). However, the cluster mean (x) of 2.22 (which is below the criterion mean of 2.50) further confirmed the ECE teachers' limitations in using digital technologies for instructional purpose.

Research Question Five: What is the perception of teachers on the challenges faced in utilization of digital technologies for instructional purpose in public ECE settings in Sokoto and Hadeja metropolises?

Table 5: Mean rating of teachers' perception on the challenges faced in utilization of digital technologies for instructional purpose in public ECE settings
N = (100)

S/no	Item Statement	Frq.	X	Dec
	Digital technologies utilization challenges			
1.	Inadequacy of computers and other ICT facilities in public ECCE and primary schools.	62	3.00	A
2.	Non possession of personal computers and other ICT related devices by many teachers operating at the childhood education level.	82	3.31	A
3.	Teachers in public childhood education settings are not encouraged to use the digital technologies.	60	2.94	A
4.	Workshops for childhood education teachers in ICT/computer are not practically inclined.	60	2.98	A
5	Childhood education teacher's laziness and negative attitudes towards self improvement	85	3.35	A
	Cluster Mean (x)		**3.12**	

Frq. (Frequency), **X** (Mean), **Dec** (Decision)

Table 5 shows that five items of research question number 5 had mean ratings above the 2.50 criterion. This implies that based on perception of majority of the respondents, all the five items presented in Table 5, constituted parts of the challenges commonly faced by teachers in the utilization of digital technologies for quality instruction in public childhood education settings in Sokoto and Hadeja metropolises. However, the cluster mean (x) of 3.12 (which is above the criterion mean of 2.50) further confirmed the ECE perception of the ECE teachers on the stated items as challenges facing the utilization of digital technologies for instructional purpose in public ECE settings.

Discussion of Findings

The first finding of this study revealed that all the 10 items which are indices of research question number1had mean ratings above the 2.50 criterion mean. This implies that, based on the perception of majority of the respondents, devices such as Smart Boards, Kid-Safe Laptops, Educational Robots, Digital Cameras, Interactive Projectors, Smart Speakers, Scanners and Desktop PCs are all examples of modern digital devices required for quality teaching and learning in an ideal early childhood education setting. This perception of the teachers was further confirmed by the cluster mean (x) of 3.08 which is higher than the criterion mean of 2.50. This finding is in line with the work of Blackwell et al. (2014), which revealed the agreement of many early childhood educators on the need for using digital technology, such as cameras, video games, computers, tablets, TV, ebooks, internet, smartphones, etc. due to their strong influence in assisting learning.

The second finding of this study revealed that only three out of the ten items of research question number 2 had mean ratings above the 2.50 criterion mean. This means that only technological devices such as audio players with child size headphones for language learning, interactive projectors (touch-sensitive learning boards) and Desktop PCs are available in most of the public ECE settings. However, the other seven items (i.e. items 1, 2, 3, 4, 5, 8 and 9) have mean values below 2.50, these include devices such as PBC Kids and endless alphabet touch screen, interactive whiteboards that can enable the class to play educational video and run interactive lesson, laptop computers with simplified interfaces for children basic typing, programmable floor robots for teaching children problem solving through hands-on play, simple point-and-shoot cameras for children photo journalism projects and field trips documentation, Smart Speakers (kid-friendly voice assistants' devices) for children to play educational songs and Scanners devices for turning children drawings into digital files for e-book portfolios. These devices were all perceived by majority of the respondents as modern digital devices that are not readily available for instruction in public ECE settings in Sokoto and Hadeja metropolises. The cluster mean (x) of 2.49 which is slightly less than the criterion mean of 2.50, further confirmed the non-availability status of the said digital technologies for instructional purpose in public ECE settings. This finding proved the claim of Rabiu (2016) that many public early childhood schools in Sokoto state lack modern facilities for teaching and learning. The finding also lends support to the work of Mohammed (2021) which revealed inadequacy of ICT facilities in public primary schools having ECCE sections in Sokoto state.

The third finding of this study revealed that all the five items of research question number 3 had mean ratings slightly higher than the 2.50 criterion mean. This implies that, majority of the respondents perceived that ECE teachers acquired digital skills

through ways that include; attending organized workshops on ICT usage, enrolling in commercial computer training institutes, learning the computer operation from friends, engaging apprenticeship under computer repairers as well as through constant and comprehensive reading of computer manuals. This finding has by implication, indicates that teachers in public ECC settings in Sokoto and Jigawa metropolises have explored various means to possessed digital skills. This finding is in line with the view of Achukwu (2012) who pointed out that, ICT provides a window of opportunity for educational institutions (and of course the teachers and students there in) to harness and use technology to support the teaching and learning process.

The forth finding of this study revealed that four out of the five items of research question number 4 (i.e. item 1, 3, 4 and 5) had mean ratings below the 2.50 criterion mean. However, only one item number 2 (which denotes teachers' usage of personal laptop computer to prepare materials for teaching children in the classroom) had mean ratings above the 2.50 criterion. This implies that based on the perception of majority of the respondents, the ECE teachers have not been making adequate use of the Desktop PCs install in the school computer rooms to prepare materials for lesson or using the school internet to access online books for children learning. The teachers also appeared not to be using the commercial internet facility to access online educative materials to teach children in the classroom and they are also not using relevant child-friendly applications embedded in smart cell phones to aid children learning in the classroom. However, the cluster mean (x) of 2.22 (which is below the criterion mean of 2.50) further confirmed the problem of this study, which was based on the notion that majority of the teachers in public primary schools have not commit their knowledge and skills in digital technologies utilization for academic purpose. This finding deviated from the work of Mohammed and Usman (2025) which discovered that usage of mobile phones (as digital technology) can enhance acquisition of number skills among children in public early childhood education schools.

The fifth finding of this study revealed that all the five items of research question number 5 had mean ratings above the 2.50 criterion. This implies that based on perception of majority of the respondents, issues such as inadequacy of computers and other ICT facilities in public ECCE and primary schools, non-possession of personal computers and other ICT related devices by many ECE teachers, teachers are not encouraged to use the digital technologies as well as teachers laziness and negative attitudes towards self-improvement constituted parts of the challenge of digital media utilization in public early childhood education settings in Sokoto and Hadeja metropolises. This finding lends support to the work of Muoghalu (2019) which found lack of access to computer and other internet facilities in the school for both staff and students, inadequate power supply and poor staff development in ICT as some of the challenges for adequate utilization of digital technologies among teachers.

Conclusion

The study explored teachers' perception on utilization of digital technologies for instruction in early childhood education settings in Sokoto and Hadeja metropolises. The findings revealed that teachers generally have a positive perception of digital technologies, pointing out the relevance of such technologies in enhancing instruction at the grassroots level of education. Digital technologies have the tendency to strengthen the learning process by having dominance over the conventional

methods in so many aspects. Recently, many private early childhood education settings in Nigeria have been paying attention to the use of emerging technologies in teaching and learning. This shows that integrating technological devices into ECE settings can enhance children's self-esteem, motivation, curiosity, and critical thinking skills. However, in spite of the various forms of digital technologies which are regarded as very useful educational tools, it appeared from the findings of this study, that utilization of digital technologies for academic purpose by ECE teachers in Sokoto and Jigawa states is very low. Given the importance of technology in ECE, the two states can harness its potentiality to improve teachers' instructional delivery in line with global best practices.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. The Sokoto and Jigawa state governments should as matter of urgency, provide the modern digital technologies required for quality teaching and learning in all public ECE settings in the two states so as to uplift the standard of public ECE settings to meet global expectations.
2. Teachers in public ECE schools in Sokoto and Jigawa states should commit themselves to proper and extensive utilization of digital technologies for instructional purpose. This will lead widening access to educational resources and quality improvement in ECE settings.
3. Teachers in public ECE schools in Sokoto and Jigawa states, should explore more ways of acquiring digital skills that will enable them to be more conversant modern devices for instructional purpose in the 21st classroom setting.
4. Teachers handling ECE sections in public primary schools in Sokoto and Jigawa states should promote their profession by leveraging on digital technologies to transform curriculum contents and instructional methodologies at the ECE level in the two states.
5. The agencies in charge of policy, practice and provision of ECE in Sokoto and Jigawa states should as a matter of urgency expediate action toward addressing the challenges facing utilization of digital technologies in public ECE settings.

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