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Teacher's Attitude towards the Use of Digital Technologies for Capturing Students' Data in Secondary Schools in Imo State, Nigeria

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Abstract: Researchers found that secondary school teachers in Imo State continue to collect student data using inventory books, admission registers, and continuous assessment record booklets. Considering the present trend of digitalisation, this is unexpected. Thus, in secondary schools in the Orlu education zone in Imo State, Nigeria, the study looked at teachers' attitudes toward using digital tools to collect student data. A single research question directed the study, and two hypotheses were examined. The survey design used was descriptive. The study's population comprised 1209 teachers from the 105 public secondary schools in Imo State's Orlu education zone. 240 instructors from public secondary schools served as the study's sample, and a multi-stage sampling technique was employed. A self-administered, verified questionnaire served as the data-gathering tool. The questionnaire's internal consistency was assessed using the Cronbach alpha formula, yielding a coefficient of 0.83. The research issue was addressed, and the homogeneity of the respondents was ascertained using the mean and standard deviation. At the same time, the null hypotheses were tested at the 0.05 level of significance using the t-test. The results showed that teachers in secondary schools in the Orlu education zone have a good attitude toward using digital tools to collect student data. Regardless of their location or years of teaching experience, teachers' mean ratings about their positive attitudes toward using digital technology to collect student data in secondary schools did not significantly differ. Among other things, it was suggested that secondary school administrations hold ICT-related seminars to help teachers advance their ICT proficiency and, as a result, change their perspective on using digital tools to collect student data.

Keywords: digital technologies, capturing, secondary school, students' data, teachers' attitude.

Introduction

Electronic equipment or gadgets used for communication and information functions are known as digital technologies. Digital technologies are a part of information communication and offer teachers and students creative ways to operate, store, manipulate, and retrieve information, as well as support autonomous and active learning outside of the classroom (Aróstegui & Guerrero, 2014; Portero & Bravo, 2022). Digital technology has completely changed how educational institutions manage assessment data and conduct teaching-learning activities (Eleje et al., 2022; Marín-Suelves et al., 2022).

The synchronisation of data collected from people, things, and other sources in order to make decisions about them is known as data management. In its broadest sense, data management refers to efficiently coordinating personnel, tools, and processes to deliver timely, accurate, and necessary data for decision-making (Ezeagu, 2013; Odigwe et al., 2020). Within the educational setting, data management refers to student records that offer educational institutions valuable insights into a student's academic performance and support future school administration. Similarly, Ekuri claimed in Osika and Essien (2014) that there are three types of data in school management: staff absenteeism, enrollment, professional development, and state of the school plant, all of which influence the present conditions for kids' learning.

Information on elements that directly affect students' academic performance, such as attendance, staff assessment of students' development, parents' and students' perceptions of the quality of instruction, school environment, time allotted to essential subjects, dropout and transition rates, and teacher-to-student ratios. The scheme of work, the staff record register, the log book, the cash book, the inventory book, the admission register, and the continuous assessment record were among the data management tools used before the invention of ICTs. One advantage of ICTs is that they lessen the excessive reliance on manual data administration techniques and function well with paperless data storage methods. This may be the reason behind Onokpaunu's (2016) assertion that educators and educational institutions can use digital technologies for scheduling counselling sessions, managing student records, reducing clerical workloads, offering online courses and information to students, executing interactive mentorship programs, carrying out continuous assessment, and reporting grades. Digital technologies have been integrated into education at all levels in the past few years, and data collection has made it possible to see changes in the creative works and profiles of educators and students online.

Gathering pertinent information from paper or electronic documents is called data collection. Data capture, according to Ojohwhoh (2021), includes tasks related to the creation and preparation of office documents, such as accurately entering and editing text using a word processor, manipulating information, organising and analysing data into lists and tables using spreadsheet applications, and previewing, printing, and saving documents, among other tasks. Converting a document into an electronic format is known as data capture (Hamzah et al., 2018; Mpehle & Mudogwa, 2020). The act of gathering data and transforming it into a format that a computer can read and utilise is known as data capture. It converts a document into an electronic version that a computer can read and utilise. For electronic records management, data capture takes on the role of the conventional paper-based data collection process to expedite timely data capture.

Data capture speeds up content entry into particular business and organisational processes, lowers expenses, and minimises the amount of manual data entry that must be done. According to Bienkowski et al. (2012), data capture is an electronic data system of programs that facilitates the digital storage, processing, and extraction of information from a database. Planning, resource allocation, student placement, curriculum, and instruction are all influenced by the data captured about students and educational resources and procedures. Some data systems contain programs that can record transactions like attendance, manage curriculum resources, and analyse students' academic achievement, in addition to storing current and historical student data.

Researchers found that secondary school teachers in Imo State continue to collect student data using inventory books, admission registers, and continuous assessment record booklets. This is surprising considering the present surge of digitalisation (Eleje et al., 2019). In order to improve the accuracy and accessibility of students' track records after graduation, secondary schools in Imo State and throughout Nigeria must create data collection systems using digital technologies due to the rapid digitisation of today's workplaces and society. Teachers' attitudes may impact the effectiveness of using digital technology in Imo State secondary schools to collect data.

One's attitude toward someone or something is called one's disposition. According to Ikwuka et al. (2020) and Jain (2014), attitudes are general terms that describe people's preferences, feelings, emotions, and expectations toward a problem or an item. It is the classification that individuals create into excellent or terrible, like or dislike, and negative or positive. A person's attitude is a cognitive and neurological state of preparedness that has been moulded through experience and influences how they react to all things and circumstances. One of the most crucial ideas in decision-making is attitude, which plays a significant role in social judgments and behaviours. How educators feel about using digital tools to collect student data may vary depending on how long they have been in the classroom and where the school is located in Imo State.

Years of teaching experience is a term used to describe the professional experiences that secondary school teachers have accrued. Within the framework of this research, educators with ten years or more of experience are considered experienced, while those with fewer than ten years of experience are considered less experienced. Given their years of professional expertise, experienced teachers are likely to be better at using digital tools to collect student data than their less experienced peers. This presumption requires empirical proof to be backed up.

Alternatively, location describes a specific location within the physical environment (urban or rural) where the school is situated in other places (Okorie & Ezeh, 2016). In Imo State, rural areas lack the cultural richness of urban centres and are more homogeneous, consistent, and less complex. This is because rural communities in Imo State receive less favourable treatment when providing social amenities like pipe-borne water, electricity, and healthcare services than urban centres. In this study, "location" refers to the physical location—rural or urban—of Imo State's secondary schools. It is said that educators at Imo State's secondary schools located in metropolitan regions have greater access to digital tools for gathering student statistics compared to their peers in remote regions. Once more, there must be data to back up this claim.

Studies on teachers' attitudes regarding ICT use have been conducted. For example, Oparah et al. (2017) examined pre-service teachers' attitudes toward using information and communication technology (ICT) as a teaching tool in teacher education. They discovered that pre-service teachers, regardless of gender, had positive attitudes toward ICT as a teaching tool. Similarly, Mwila (2018) and Masegenya and Mwila (2023) evaluated secondary school teachers' attitudes toward the incorporation of information and communication technology (ICT) into the classroom in Tanzania's Kilimanjaro Region and discovered that both male and female teachers had positive attitudes toward this integration.

Although instructors' attitudes and ICT were included in the studies mentioned above, school location and years of teaching experience were not included in any of the examined studies. Furthermore, no study included a focus on data collection. In light of those mentioned above, the researchers set out to determine the attitudes of secondary school teachers in the Orlu education zone of Imo State, Nigeria, about the use of digital technology for student data collection, taking into account both the instructors' years of teaching experience and the school's location. This study aims

to determine how Imo State secondary school instructors feel about using digital technology to collect student data to fill the identified research gap.

Research Problem

In order to ensure qualitative learning, data collection is mainly utilised to monitor and react to student behaviour and instructor performance in the classroom. Before digital technologies became widely used, the primary data capture method was through paper-based systems. In contrast to digital technology, which may provide more effective real-time data collection and analysis, this system can be sluggish and prone to human error. This helps to promote a positive learning environment for kids. Additionally, paper-based data collection systems concentrate more on the cognitive assessment of students' performance than digital technologies, which do not measure students' subject-matter scores but rather assist teachers in identifying areas that require additional instruction, in addressing learning gaps in their students and in meeting the unique needs of each student. A pupil in the educational setting.

The degree to which teachers view the use of computers, computer databases, the internet, digital libraries, and CD-ROMs for student data collection—positively and negatively—will determine how well digital technologies work for student data collection. The researcher found that secondary school teachers in Imo State continue to collect student data using inventory books, admission registers, and continuous assessment record booklets. The problem with this approach is that educators cannot assist students needing immediate support or direction when obtaining the information they need on their academic transcripts. The absence of real-time data may make it challenging to improve student-teacher connections and measure how well kids perform academically and behaviourally accurately. Additionally, there are few empirical studies on how Imo State secondary school instructors feel about using digital tools to collect student data. Thus, "What are teachers' attitudes towards the use of digital technologies for capturing students' data in secondary schools?" is the issue statement for this study.

Research Focus

The main subject of this study was the attitude of instructors regarding the employment of digital technology in Imo State secondary schools to collect student data. The survey only included instructors employed by the Imo State government in public secondary schools in the Orlu education zone. Since the researcher is from the Orlu education zone, the largest in Imo State, the zone was selected for the study. It was established how respondents' characteristics, such as the number of years they had taught and the location of their schools, affected the attitudes and difficulties that instructors had when using digital tools to collect student data.

Research Aim and Questions

One research question directs the researchers' efforts:

How do educators feel about using digital tools to collect student data in Imo State's Orlu education zone for secondary schools?

To conduct the study, the researchers examined two research hypotheses at a significance level of 5% to see if they were rejected.

$H_0$1: Experienced and less experienced teachers do not differ significantly in the mean ratings of their attitude towards using digital technologies to capture students' data in secondary schools.

$H_0$2: Urban and rural teachers do not differ significantly in their mean ratings of their attitude towards using digital technologies to capture students' data in secondary schools.

Literature Review

Overview of Digital Technologies

Concern over the use of digital technology resources in instructional delivery methods, including computers, scanners, printers, intranets, the Internet, e-mail, videophone systems, teleconferencing devices, wireless application protocols, televisions, satellites, multimedia computers, and multimedia projectors, is growing in this era of technological advancement (Nwana, 2012). Nonetheless, according to Noor-Ul-Amin (2014), there seems to be a misperception that digital technologies are limited to computers and computing-related activities. It appears that other systems and technologies, including the Internet, e-learning, broadcasting, artificial intelligence, and the World Wide Web, are included in the category of digital technologies (Onokpaunu, 2016).

Digital technologies are classified into five categories, according to Chidobi (2015) and Kobia (2023): sensor, communication, display, analysis, and storage technologies. The following is a discussion of them:

1. *Sensing technologies*: These collect information or data and convert it into computer-understandable formats. Sensors, scanners, keyboards, mice, electronic pens, touch or digital boards, bar code sensors or readers, and voice recognition systems are a few examples of these sensing technologies.

2. *Communication Technologies*: These tools allow users to get information from sources and attempt to overcome inherent obstacles to information transport, such as distance and speed. Fax machines, telephones, email, the Internet, teleconferencing, and electronic bulletin boards are a few of the devices that fall under this category.

3. *Display Technologies*: These technologies serve as a conduit between users and sensing, communication, and analysis technologies. The visual display unit (VDU) or monitor on a computer, a printer, and a television are among them.

4. *Analysis Technologies*: These tools support research operations by facilitating data exploration, querying, analysis, and in-depth questioning to find solutions to primary and complicated phenomena.

5. *Storage Technologies*: These tools make it easier to store data effectively and efficiently in an easily accessible way. These consist of optical disks, CD-ROMs, magnetic tapes, and cassettes.

Objectives of Secondary School Education in Nigeria

Secondary school education provides opportunities for students to acquire advanced knowledge, skills, and competencies to become valuable and responsible citizens of a nation. The secondary education level in Nigeria is the foundation for higher manpower skills in tertiary institutions. The secondary school educational system has always played an indispensable role in shaping the economic realities of any society (Ige, 2013; Olatunji & Ajero, 2022; Owonikoko, 2021). Secondary education in Nigeria provides the beneficiaries with literary and basic skills, which the individual can use for themselves or in industries and government establishments while performing a task for a living. Hence, secondary school education mainly aims to expose students to the challenges in science and technology, arts and humanities, and business management with academic and some applied subjects.

Secondary education is the intermediate stage between the primary and tertiary levels of education. The importance of secondary school education cannot be overemphasised because it consumes primary school products and produces candidates for tertiary education in the nation (Abdulrahaman, 2016; Amaefule et al., 2022). As an essential channel, because it influences to a large extent the quality of the input to tertiary institutions and ultimately the output from tertiary institutions, it is mainly flooded with teenagers aged 13-19 years. Osagie and Okafor (2015) posited that Nigerian secondary education is divided into two stages of three years, each called the junior and senior schools. While the junior secondary is academic and pre-vocationally oriented, the senior secondary stage provides comprehensive education, preparing the students for higher education work and living. The junior secondary school leaving certificate is based on continual assessment. In contrast, the senior secondary school certificate is based on a national final examination known as the West African Examinations Council (WAEC) and the National Examinations Council Examination (NECO).

According to the Federal Republic of Nigeria (2013) and UNICEF (2021), secondary school education specifically aimed at:

a) Providing all primary school leavers with the opportunity for education of higher level irrespective of sex, social status, religious or ethnic background;

b) Offering a diversified curriculum to cater for differences in talents, opportunities, and future roles;

c) Providing trained manpower in applied science, technology and commerce at sub-professional grades;

d) Developing and promoting Nigerian languages, arts and culture in the context of the world's cultural heritage;

e) Inspiring students with a desire for self-improvement and achievement of excellence;

f) Fostering national unity with an emphasis on the common ties that unite us in our diversity;

g) Raising a generation of people who can think for themselves, respect the views and feelings of others, respect the dignity of labour, appreciate those values specified under our broad national goals, and live as good citizens; and

h) Providing technical knowledge and vocational skills necessary for agricultural, industrial, commercial, and economic development.

Components of Attitude

Individual likes and dislikes have been part of social life since its very beginning. As Nyaga (2013) provided, a holistic conceptual definition of attitude is a psychological tendency expressed by evaluating a particular entity with some degree of favour and disfavour. A person does not have an attitude until he or she responds to an entity (stimulus or attitude object) on an affective, cognitive, or behavioural basis. The components of attitude described by Eagly and Chaiken in Mensah et al. (2013) are briefly highlighted.

1) The cognitive component of attitude includes evaluative responses of thoughts, beliefs, or ideas about the attitude object. Beliefs are thereby understood to be associations or relationships that people establish between the attitude object and various attributes. The attributes that are associated with the attitude object express positive or negative evaluation and can, akin to the affective responses, be located on an evaluative continuum from highly positive (for example, functional, healthy, or wise) to extremely negative (for example, useless, unhealthy, or foolish). Furthermore, cognitive and affective responses can be expressed overtly (for example, affective reactions such as crying, laughing, or the verbal statement that somebody is emotionally affected by the attitude object; cognitive reactions as verbally stating one's beliefs) or covertly without any apparent effect. A cognitive learning process is assumed to occur when people gain information about an attitude object and form beliefs. This can proceed directly (through experience) or indirectly (through external information).
2) The affective component of attitude includes evaluative responses of emotions, feelings, or moods that people experience when confronted with a particular attitude object (for example, legal abortion, social welfare, ice cream, or information technology). On a measurement level, these responses can range from highly positive (for example, emotions of enthusiasm, hope, optimism, or joy) to highly negative (for example, anger, fear, pessimism, or depression). Regarding affective antecedents of attitude, Bohner and Dickel (2011) argued that preferences (for example, evaluations) often occur immediately in line with a person's first contact with the attitude object without being mediated by cognitive activities. An example of this phenomenon is the immediate sympathy/antipathy toward another person at first sight.

The behavioural component of attitude includes evaluative responses to overt actions that people perform concerning the attitude object. Although overt, these responses are also measured by an evaluative continuum. Taking, for instance, nuclear power as an attitude object, one group might demonstrate against it and chain themselves to the gate of a nuclear power plant. In contrast, another group might "only" express their unfavourable attitude by voting for a political party that opposes nuclear power. Expressed behavioural intentions concerning the attitude object are also categorised into the behavioural response class. The assumption that attitudes are derived from past behaviour is based on the premise that people tend to infer attitudes consistent with their behaviours.

Empirical Studies

Empirical studies that are relevant to this study are reviewed in this section as follows:

Ndum and Onukwugha (2020) investigated the relationship between school-based data and the management of technological innovations in public secondary schools in Cross River State. One hypothesis was formulated to guide the study. Ex-post facto design was used for the study. The population of this study consisted of 232 principals and 5,998 teachers in all 232 public secondary schools in Cross River State. A sample of 210 principals and 840 teachers was drawn using a stratified random sampling technique. A validated School-based Data and Management of Technological Innovation Questionnaire (SBDMTIQ) was the instrument used for data collection. Cronbach Alpha was used to establish the instrument's reliability, which yielded an overall coefficient of 0.79. Pearson's Product Moment Correlation Analysis was used to test the hypothesis. Results indicated that no significant positive relationship exists between school-based data and principals' management of technological innovation. This is why the necessary data cannot even be generated within the school system, let alone storing them for retrieval when necessary. Therefore, the study concluded that the principal's management of technological innovations requires adequate ICT facilities to realise the functional, valid, excellent and efficient achievement of ICT goals in Cross River State. It was recommended, among others, that the government should prioritise providing and distributing ICT facilities in schools to boost the management of innovations in schools.

The study of Ndum and Onukwugha (2020) is related to the present study because both examined teachers' digital technology use. Both studies also used a validated questionnaire for data collection, which was carried out in public secondary schools. However, Ndum and Onukwugha's study focused on secondary school principals and teachers in Cross Rivers State, while the present study focused on only teachers in secondary schools in Imo State. In addition, Okon and Essien's (2014) study adopted an ex-post facto research design, but the current study employed a descriptive survey research design. Statistically, Ndum and Onukwugha's study used Pearson's product-moment correlation analysis for data analysis, but the current study employed mean, standard deviation and t-test. More so, Ndum and Onukwugha's study focused on the relationship between school-based data and the management of technological innovations. However, the current study dealt with teachers' attitudes towards using digital technologies to capture students' data.

Chidobi (2015) identified the extent of ICT application in managing administrative and student personnel records in the public universities in Enugu State. Two research questions guided the study, and two null hypotheses were tested. The descriptive survey design was adopted. The population for the study comprises all the senior Administrative staff and all academic staff in the three government-owned universities in Enugu state. Namely the University of Nigeria Nsukka (UNN) (1882 academic and 2420 senior Administrative staff), Enugu State University of Science and Technology (ESUT) (760 academic and 800 senior administrative staff) and the National Open University of Nigeria Enugu study centre (NOUN) all 19 academic staff and all 49 administrative staff. The researcher adopted proportionate stratified random sampling techniques to ensure an accurate sample representation; 10% of the population strata were used to select the respondents. However, all the academic 19 and Administrative staff 49 were used for NOUN. Thus, a sample size of 654 respondents was given. A four-point rating scale validated questionnaire containing 20 items was used for data collection. Crombach Alpha was used to establish the instrument's reliability, which yielded an overall coefficient of 0.78. The two research questions were analysed using mean and standard deviation, while a t-test was used to test the hypotheses at a 0.05 significance level. The study's findings revealed, among others, that information communication technology (ICT) is not adequately applied in the management of both administrative and student personnel records in Nigerian universities. The study revealed no significant difference between the mean scores of academic and senior administrative staff on the extent of usage of ICT facilities in the university's administrative record and student personnel record management. The study concluded that ICT facilities are not used to a great extent in record management and handling of records. The study recommended that the manual recording of student personnel documents is old-fashioned and risky, and university administrators should insist on using ICT facilities to keep student personnel records like results and admission records, among others.

Chidobi's study (2015) is related to the present study because both studies examined the use of digital technologies in capturing students' data. Both studies used a validated questionnaire for data collection and a descriptive survey research design. Statistically, both studies adopted the same tools for data analysis. However, Chidobi's study focused on academic and senior administrative staff, while the present study focused on only teachers. While Chidobi's study was conducted in public universities, the current study was conducted in public secondary schools. More so, Chidobi's study was conducted in Enugu State, while the present study was in Imo State. In addition, Chidobi's study did not focus on teachers' attitudes towards the use of digital technologies for capturing students' data, which the current study covered.

Mbaegbu (2015) studied the status of electronic record management in federal higher institutions in the South-East of Nigeria. The study adopted a descriptive survey design. Four research questions guided the study, while four null hypotheses were tested at a 0.05 significance level. The study population comprised all administrative staff in charge of records in statutory units/offices in the institutions, giving 250 respondents, which also served as the sample. A 69-item structured questionnaire was developed for data collection and was face-validated. Its reliability was established using the Cronbach alpha approach, and the reliability coefficient was 0.85. Mean and

standard deviation were used to analyse data, and the hypotheses were tested at a 0.05 significance level. The study results indicated that institutions had established electronic records, but the traditional manual filing system was still in use. The software capture practices used were those commonly known end-user software applications, and functional e-recording facilities were inadequate. Personnel handling e-records management of students were competent with the available software and facilities on the ground.

The study of Mbaegbu (2015) is related to the present study because both addressed the use of digital technologies in capturing students' data. Both studies used a validated questionnaire for data collection and a descriptive survey research design. Statistically, both studies adopted the same tools for data analysis. However, Mbaegbu's study focused on administrative staff, while the present study focused on only teachers. While Mbaegbu's study was conducted in federal tertiary institutions, the current study was conducted in public secondary schools. More so, Mbaegbu's study was carried out in the South-East States, while the present study focused on the Orlu education zone of Imo State. Additionally, Mbaegbu's study did not focus on teachers' attitudes towards using digital technologies to capture students' data, which the current study covered.

Onokpaunu (2016) analysed the extent to which business education lecturers use web-based instructional technologies for teaching. Three research questions guided the study, and six null hypotheses were tested. The descriptive survey design was adopted. The entire population of 122 business education lecturers in Delta State was studied without sampling. A five-point rating scale validated questionnaire containing 45 items was used for data collection. Spearman Brown's prophecy formula was used to establish the instrument's reliability, which yielded an overall coefficient of 0.87. The researcher administered the instrument with the help of one research assistant in each institution who serves in the office of the Head of Department. Data collected were analysed using mean and standard deviation to answer the research questions, while the z-test was used to test the hypotheses at a 0.05 significance level. Findings revealed that the respondents moderately possessed competencies for web-based instructional technologies and utilised these technologies to a low extent for classroom engagements. The extent of the respondents' use of web-based instructional technologies in teaching was not significantly influenced by gender and institution type. The study also revealed that epileptic power supply, absence of web-based instructional technologies in the department, lack of institutional support for web-based instruction, and the high cost of acquisition and maintenance of web-based technologies were the challenges faced by business educators. It was concluded that graduates of business education programmes would lack the requisite competencies to cope with the current wave of technological trends shaping today's business world. Therefore, it was recommended, among others, that business education lecturers get themselves involved in further training in web-based technologies to enable them to possess competencies for using web-based instructional technologies in teaching.

The study of Onokpaunu (2016) is related to the present study because both studies examined teachers' use of digital technologies. Both studies also adopted descriptive survey research design and employed the same statistical tools for data collection and analysis. However, Onokpaunu's study focused on business educators in tertiary institutions in the Delta States, while the present

study focused on only teachers in secondary schools in Imo State. More so, Onokpaunu's study focused on the extent of utilisation of digital technologies. In contrast, the present study focused on teachers' attitudes towards using digital technologies to capture students' data.

Oparah et al. (2017) investigated pre-service teachers' attitudes towards applying Information and Communication Technology (ICT) as a pedagogical tool in teacher education. Two research questions guided the study, and one null hypothesis was tested. The descriptive survey design was adopted. The study population was 1,666 Alvan Ikoku Federal College of Education, Owerri, Imo State pre-service teachers. A stratified random sampling technique was used to draw a sample of 365 pre-service teachers for the study consisting of 200 females and 165 males. The instrument for data collection was a validated 20-item modified Likert-point questionnaire titled "Pre-service Teachers' Attitude towards ICT Application Scale (PSTAICTAS). It had a reliability coefficient (r) of .76, determined using Pearson's product moments correlation coefficient formula. The data was analysed using mean and standard deviation to answer the research question. At the same time, the hypothesis was tested using a t-test statistical tool at a 0.05 level of significance. The result of the study revealed that pre-service teachers had positive attitudes towards ICT as a pedagogical tool irrespective of their gender. The study concluded that gender was not a barrier to pre-service teachers' attitudes towards applying ICT in teaching and learning. Based on the findings, it was recommended that teacher training institutions organise seminars and workshops to beef up the knowledge, change in attitude, and enhance the use of ICT materials among their teaching staff, teacher aids (such as laboratory technologists/attendants) and non-teaching staff.

The study of Oparah et al. (2017) is related to the present study in the sense that both studies addressed the use of digital technologies. Both studies used a validated questionnaire for data collection and a descriptive survey research design. Statistically, both studies adopted the same tools for data analysis. However, Oparah et al.'s study was carried out in a federal college of education; the current study was conducted in public secondary schools. More so, Oparah et al.'s study was carried out in Owerri, Imo State, while the present study focused on the Orlu education zone of Imo State.

Mwila (2018) assessed the attitudes of secondary school teachers towards integrating information and communication technology in the teaching process in Kilimanjaro Region, Tanzania. Three research questions guided the study, and two null hypotheses were tested. A cross-sectional survey design was employed. The population consisted of 100 teachers from 10 secondary schools. This study used three research instruments: a structured observation schedule, an interview schedule, and questionnaires. A structured observation schedule was used to gather "live" data on how the teachers integrated ICT into the teaching process. Classroom observation was conducted in five (5) classrooms, and 25 minutes was used in each classroom. Questionnaires composed of both open-ended and closed-ended questions on a five-point rating scale were administered to get numerical data on the extent of ICT integration in the teaching process. The interview schedule was used to get narrative clarification of teachers' views concerning the study questions. A reliability test was carried out to determine the internal consistency of the items in the questionnaires by using Cronbach's Alpha reliability test. Cronbach's alpha coefficient was 0.79. Data were analysed using

frequencies, percentages, means and standard deviations. Hypotheses were tested using a t-test for independent samples and ANOVA at a 0.05 confidence level. The study found that both male and female teachers had positive attitudes towards the integration of ICT in their teaching process. Furthermore, it was reported that there is a relationship between a teacher's age group and attitudes towards the integration of ICT in the teaching and learning process. Concerning challenges facing the integration of ICT into the teaching process, lack of support from school administration, no technical support, poor access to ICT infrastructure and resources and poor teaching experience on ICT usage were found. Based on these findings, the study concluded that there is a relationship between teachers' gender, age group and attitudes towards ICT use in the teaching process. The study recommended that curriculum developers promote' teachers' positive perceptions/attitudes about ICT by integrating ICT into a curriculum with an account of economic, cultural, political, social, educational and catalytic rationales.

The study of Mwila (2018) is related to the present study in that both studies examined teachers' attitudes toward using digital technologies in schools. However, both studies adopted different research designs. Mwila's study used a structured observation schedule, classroom observation and a questionnaire for data collection, but the current study only used a questionnaire. More so, Mwila's study was carried out in Kilimanjaro Region, Tanzania, while the present study focused on the Orlu education zone of Imo State, Nigeria.

Related literature was reviewed under the overview of digital technologies, objectives of secondary school education in Nigeria, and components of attitude. Several related empirical studies were compared and contrasted with the present study. From the empirical studies gathered in this study, no holistic research has been carried out on teachers' attitudes towards using digital technologies for students' data capturing in secondary schools in the Orlu education zone of Imo State about their years of teaching and school location. This gap in the body of knowledge necessitated the impetus for the present study.

Research Methodology

General Background

This study adopted a descriptive survey design. Nworgu (2015) pointed out that descriptive survey research design involves a collection of opinions, attitudes or feelings of a population or its representative sample using a questionnaire or interview to explain existing phenomena. A descriptive survey research design is considered most appropriate for the study because a questionnaire was used to collect the opinions of teachers on their attitudes towards the use of digital technologies for capturing students' data in the Orlu education zone of Imo State, Nigeria.

Sample

The sample size for the study was 240 public secondary school teachers. The study employed a multi-stage sampling technique. Out of the two education zones in the Orlu education zone of Imo State, four local government areas were drawn using simple random sampling. Three public secondary schools were purposively sampled from each of the four local government areas, bringing

the number to 12 public secondary schools. The three public secondary schools were purposively sampled due to their proximity to the researcher. A stratified sampling technique was used to draw 20 teachers each (10 males and ten females) from 12 public secondary schools. This brought the total sample size to 240 public secondary school teachers.

Instrument and Procedures

The researchers created a 10-item structured questionnaire called "Teachers' Attitude in Using Digital Technologies for Capturing Student Data (TADTCSD)" to gather information from 240 public secondary school instructors. 231 of the respondents responded and returned the questionnaire. Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) are the four rating categories on the TADTCSD scale. Each category weighs 4, 3, 2, and 1, respectively. Three experts validated the TADTCSD. A reliability index of 0.83 was obtained by applying the Cronbach alpha method to measure reliability.

Data Analysis

The data was analysed using the mean, standard deviation, and t-test concerning the study topic and hypotheses. Using SPSS 20, the P-value was used to test the hypotheses. The decision criterion stated that if the p-value was less than (<) 0.05, the null hypothesis was rejected; if it was more significant than (>) 0.05, the null hypothesis was not rejected.

Results

Table 1

Mean Ratings of Teachers' Attitude towards the Use of Digital Technologies for Capturing Students' Data in Secondary Schools

S/N	My attitude towards the use of digital technologies for capturing students' data is as follows:	$\bar{X}$	SD	Remarks
1	My digital literacy increases when using digital technologies to capture students' data	3.68	.90	Strongly Agree
2	It is a waste of time using digital technologies to capture students' data	2.02	.65	Disagree
3	I feel more comfortable using digital technologies to capture students' data	3.18	.58	Agree
4	I feel that using digital technologies to capture students' data is unnecessary	1.36	.84	Strongly Disagree
5	I enjoy using digital technologies to capture students' data	3.01	.59	Agree
6	I am stressed about using digital technologies to capture students' data	2.59	.73	Agree
7	I feel that using digital technologies increases the safety of students' data	3.77	.51	Strongly Agree
8	I feel that using digital technologies increases the accuracy of students' data	3.82	.82	Strongly Agree

9	I avoid using digital technologies to capture students' data	1.95	.67	Disagree
10	My workload increases when using digital technologies to capture students' data	2.64	.91	Agree
11	Mean of means	2.80		Agree

Source: Authors' development.

According to Table 1's data, the respondents agreed with four items (items 3, 5, 6, and 10) with mean scores ranging from 2.59 to 3.18 and strongly agreed with three (items 1, 7, and 8) out of the ten items presented. Two items with mean ratings of 1.95 and 2.02 were rated as disagreed with by respondents, although only one item (mean rating of 1.36) was rated as strongly disagreed with. With a mean score of 2.80, instructors in secondary schools in the Orlu education zone appear to favour using digital tools to collect student data. Every item's standard deviation falls between 0.51 and 0.91. This demonstrates that the participants are not wide apart in their ratings.

Table 2

Summary of t-test Analysis of Mean Ratings of Experienced and Less Experienced Teachers on their Attitude towards the Use of Digital Technologies for Capturing Students' Data

Variable	N	$\bar{X}$	SD	df	P-value	Decision
Experienced	135	61.84	7.93			
				229	0.69	Not Significant
Less experienced	96	43.21	4.02			

Source: Authors' development.

The information in Table 2 indicates no discernible difference between the mean evaluations of more and less experienced teachers about their favourable attitudes toward the employment of digital technology in secondary schools in Imo State's Orlu education zone for student data collection. The p-value of 0.69, which is higher than the significance level of 0.05, demonstrates this. As a result, the null hypothesis—that there is no meaningful difference between the two groups—is not rejected.

Table 3

Summary of t-Test Analysis of Mean Ratings of Teachers in Urban and Rural Areas on Their Attitude towards The Use of Digital Technologies for Capturing Students' Data

Variable	N	$\bar{X}$	SD	df	P-value	Decision
Urban	147	58.77	5.91			
				229	0.82	Not Significant
Rural	84	32.63	3.82			

Source: Author' own development

According to Table 3's statistics, there is no discernible difference between teachers in urban and rural locations regarding how positively they see the employment of digital technologies in

secondary schools in Imo State's Orlu education zone for student data collection. The p-value of 0.82, which is higher than the significance level of 0.05, demonstrates this. As a result, the null hypothesis—that there is no meaningful difference between the two groups—is not rejected.

Discussion

Teachers' Attitude Towards the Use of Digital Technologies for Capturing Students' Data

The study's conclusions showed that secondary school teachers in Imo State's Orlu education zone had a good attitude toward using digital technologies to collect student data. The ease with which digital technologies improve the accuracy and safety of student data may have contributed to teachers' positive attitudes regarding using these technologies for data collection in secondary schools in Imo State's Orlu education zone. The results of this study are consistent with those of Nwosu et al. (2018) and Onubuleze (2023), who found that teachers' ICT usage is influenced by their positive attitude.

Additionally, the results of this study align with those of Sabzian and Gilakjani (2013), who found that instructors' attitudes had a significant role in encouraging the adoption of ICT in education. Teachers' positive attitudes toward the use of digital technologies for collecting student data in secondary schools in Imo State's Orlu education zone may be explained by the fact that these tools make it easier for them to assess how well their students are meeting their academic goals and provide them with new opportunities to address each student's unique needs. The discovery that secondary school teachers view the use of digital technologies for student data collection favourably aligns with the findings of Kale and Goh's (2014) study, which showed that teachers were aware of the advantages and conveniences of doing so.

Furthermore, the study's conclusions showed that the mean scores did not differ significantly based on their teaching experience, location, and supportive attitude toward using digital technologies for collecting student data in secondary schools in Imo State's Orlu education zone. This indicates that teachers in the Orlu education zone of Imo State have a good attitude toward using digital tools for collecting student data in secondary schools, regardless of their location or years of teaching experience. This result is consistent with studies by Oparah et al. (2017) and Mwila (2018), which found that teachers who can use digital technologies for student data collection have a positive attitude toward using these tools. It is possible that having computers and other ICT resources in secondary schools in the Orlu education zone has made instructors more accepting of using digital tools to collect student data, regardless of where they teach or how long they have been in the classroom. This result validates the findings of Onokpaunu (2016) and Ndum and Onukwugha (2020), who found that adopting digital technologies improves teachers' productivity in the classroom and lessens their administrative workload related to maintaining records in schools.

Conclusions and Implications

In the current era of globalisation, computers are replacing paper records and files as the primary means of storing and retrieving student data, which is why digital technologies are being

used. By utilising digital tools, teachers can interact with students and address their unique needs within and outside the classroom. Based on the study's findings, the teachers in secondary schools in the Orlu education zone appear to have a positive attitude towards using digital tools to collect student data. The difference between the attitudes of more and less experienced teachers from urban and rural secondary schools in the Orlu education zone toward digital technology for student data collection is not significant. Secondary school teachers' attitudes and proficiency with digital technologies for student data collection will improve if the required ICT infrastructures are provided.

Recommendations

The study's conclusions led to the recommendations that were listed below. Among them are:

1) Secondary school administrators should plan ICT-related workshops for teachers to enhance their ICT proficiency and change their mindsets about using digital technology to collect student data.
2) Secondary school administrators must collaborate with ICT manufacturing companies to enhance the availability of helpful digital tools that educators can utilise to efficiently and stress-freely collect student data.
3) To help teachers collect student data effectively and adequately, the Imo State Government should enhance the power sector and supply pertinent, contemporary, and valuable digital technologies.

Suggestions for Future Research

The following research ideas are put forth in light of the study's findings:

1) A comparative study of Imo State's public and private secondary schools' attitudes toward adopting digital technology to collect student data
2) Evaluation of the functionality and suitability of digital technology for collecting student data in Imo State secondary schools.
3) Educators' perspectives regarding the usage of digital technology in Southeast Nigerian higher education institutions to collect student data.

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Conflict of Interest

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