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Evaluating Preschool Librarians' Utilisation of Information and Communication Technology for Virtual Library Services

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Abstract

Information and communication technology (ICT) has become vital in twenty-first-century classrooms. In a similar vein, the pandemic of coronavirus 2019 (Covid-19) has prompted most countries to emphasize the use of ICT resources to build an online teaching platform. This development has prompted questions about Nigeria's educational system, as it is unknown how well-prepared instructors are to use ICT in the classroom. In this regard, there is a scarcity of research on how preschool librarians in Nigeria use ICT in their instruction. Thus, this research explored preschool librarians' utilisation of information and communication technology for virtual library services. A descriptive survey research design was adopted using 157 preschool librarians sampled from primary schools in Enugu State, Nigeria. The researchers developed and validated an information and communication technology usage questionnaire for this study. Using the Cronbach alpha approach, the internal consistency reliability index of the instrument's items was estimated to be 0.76. The data was gathered during the researchers' visits to the study's schools. The data were quantitatively analyzed using a mean and bar chart. It was discovered that preschool librarians use ICT for virtual library services in a very limited way. This means that unless immediate effort is made to encourage preschool librarians to use ICT to provide virtual library services, effective virtual library deployment would be impossible. As a result, it was suggested that preschool librarians be encouraged to use ICT to provide virtual library services through in-service training.

Keywords: Information and communication technology, Preschool librarians, Virtual library service

Introduction

The old method of teaching and learning in schools is no longer appropriate for classrooms in the twenty-first century. Furthermore, the introduction of Covid-19 has compelled most developed countries to use remote or online teaching and learning methods. In accordance with the above, (Adarkwah, 2021) observed that many countries and educational sectors have been forced to use online learning as a result of the COVID-19. On a global scale, information and communication technology (ICT) is commonly regarded as a reliable tool for promoting educational reform and growth (Adarkwah, 2021). Learners must be prepared to use digital media in the twenty-first century for learning, teaching, gathering, generating, and sharing information for educational purposes, according to the International Society for Technology in Education's 2019 criteria (Cobanoglu & Cobanoglu, 2021). Practitioners should also widen their students' online, distance, or blended (both online and face-to-face) learning experiences as prospective teachers of 21st-century learners (Cobanoglu & Cobanoglu, 2021).

Rapid improvements in information and communication technologies have revolutionized university teaching and learning (ICT) (Rudhumbu, 2020). The use of ICT has revolutionized the way/mode of delivering education and pedagogy in the last two years, resulting in a range of learning opportunities for students (Amin et al., 2021). Information and communication technology is essential for both teacher training and delivering high-quality education (Eufrasio, 2021). Students use technology to expand their knowledge and increase their personalized learning and creativity (Amin et al., 2021). In educational institutions, the use of information and communication technologies (ICT) in the teaching-learning process is becoming increasingly common (Colmenero et al., 2021). However, the acceptance of the concept by instructors and parents is critical to the success of efforts aimed at achieving this goal (Colmenero et al., 2021).

Teachers working in primary schools were more likely to utilize mobile devices in class than those working in high schools or general/vocational lyceums (Nikolopoulou et al., 2021).

In light of the current situation, one could wonder the extent to which Nigerian preschool librarians are using information and communication technology (ICT) for classroom instruction. One of the educational challenges that teacher education is currently confronting is the increase of digital competence among teachers as a result of the entrance of information and communication technology into the educational environment (Garz, 2020). A significant component is instructors' ability/competency to incorporate information and communication technology (ICT) into the teaching-learning process (Díaz- et al., 2016). As a result, it is vital to assess preschool instructors' ICT ability in order to utilize online education during and after the Covid-19 pandemic. Teacher and student orientation to ICT for online learning, motivation, and school leadership practices all influence ICT integration in education (Adarkwah, 2021). Technical support infrastructure (competent support staff, ICT tools and systems, internet, and steady power supply) and policy support infrastructure (ICT policy, ICT policy implementation plan, and clear ICT vision) all acted as antecedents to ICT adoption in Zimbabwean universities (Rudhumbu, 2020). According to the findings, motivational variables and virtual competency are the most important determinants of e-learning efficiency (Amin et al., 2021). Early childhood educators lack the digital abilities essential to be labeled "digital natives," and they are unable to use ICT in their academic or professional lives (Martín et al., 2019). The parameters of age and gender have an impact on the level of pedagogical digital competence of teaching personnel, but the educational stage in which they teach has no impact (Guillén et al., 2020).

Lack of technical equipment and support, as well as teachers' and students' ICT abilities/competences, are all key considerations in effective online teaching and learning (Turgut

& Aslan, 2021). Gender, age, and academic degree are all influences on digital skill acquisition, but they do not determine the extent of ICT utilisation (Cabezas-gonz & Casillas-mart, 2021). During the previous lockdown owing to teachers' lack of basic ICT proficiency, students' academic achievement was mostly driven by their personal motivation in learning and the pleasure or fulfillment that digital learning activities may bring (Christopoulos & Sprangers, 2021). ICT ownership and daily use, ICT frequency, professional ICT education or training, and ICT skills are all things to think about when it comes to adopting online teaching and learning (Dong & Xu, 2021). Digital literacy, as a set of skills, lays the groundwork for teachers' full participation in the knowledge society, as well as their students' involvement in demonstrating their abilities (Zabolotska et al., 2021). Pre-service teachers have a moderate level of digital literacy and are having difficulty with the content creation aspect (Galindo-domínguez & Bezanilla, 2021).

Pre-service teachers have a moderate level of digital literacy and are having difficulty with the content creation component (Yi et al., 2021). Rather than implementing ICT into the curriculum, Chinese primary school teachers opted to limit the role and scope of its use in Early Childhood Education (International et al., 2019). Rather than implementing ICT into the curriculum, Chinese primary school teachers opted to restrict the role and scope of its use in Early Childhood Education (Asio et al., 2020). The data suggest that the majority of Indonesian students were willing to study online, but that a number of factors, including ICT proficiency, limited their capacity to do so (Suci et al., 2021). Teachers were found to be inept in all five digital dimensions, notably in the creation of digital content (Garz, 2020). Based on self-reported use, proficiency, and the requirement for professional training in digitalization in teaching, it was discovered that teacher educators do not use digital resources primarily for pedagogical aims (Amhag et al., 2019).

The above review of literature has demonstrated that the extent to which teachers utilise ICT is relevant to the adoption of online teaching and learning. However, no research has been undertaken in Nigeria to determine the extent to which preschool librarians utilize ICT for virtual library services. This gap in literature prompted this research. The following research question was answered for this study.

Research Question: What is the extent of preschool librarians' utilization of ICT for virtual library services?

Methods

The descriptive survey research design was used in this study, which was based on the scientific research paradigm and quantitative research technique. This design has been used by Okeke, Ugwuanyi and Mufutau (2020), Okeke, Okeke and Ugwuanyi (2020), Okeke et al. (2020), Eze et al. (2020), Okenyi et al. (2021), Ugwuanyi et al. (2020), Ezema et al. (2021), Ezeaku et al. (2021), Okenyi et al. (2022), Agbo, Ugwuanyi et al. (2022), Agbo et al (2022), Ugwuanyi and Okeke (2022), Okeke et al. (2022) in similar studies. The study included 157 preschool librarians from the Nsukka Education Zone in Enugu State, Nigeria. This sample was generated from a population of 1,768 preschool instructors in the Nsukka Education Zone using a simple random sampling process. In the first stage, a simple random selection procedure was used to choose 24 primary schools from the study area's entire population of primary schools. Using a simple random selection technique, the preschool librarians from the sampled schools were then picked at random. This sampling procedure was used to ensure that every preschool instructor in the study had an equal chance of being chosen. The information was acquired using a questionnaire created by the researchers to assess preschool librarians' extent of utilization of ICT for virtual library services. There were two sections to the questionnaire: section A and section B. In Section A, the researchers

were able to collect demographic data from the participants, as well as information on the preschool librarians' extent of utilization of ICT for virtual library services in Section B, which included 10 questionnaire items. The items in the survey were graded on a four-point Likert scale: strongly agree, agree, disagree, and disagree strongly.

The instrument/measure was validated by two specialists in early childhood care and education, as well as one expert in educational research, all from the University of Nigeria, Nsukka's Faculty of Education. The experts were in charge of double-checking the items on the instrument against the study's objectives. Prior to trial testing, the validators' feedback was used to develop the instrument. Following that, copies of the instrument were sent to 20 preschool librarians who were not involved in the study for trial testing. The data was subjected to a Cronbach alpha reliability estimate to determine the internal consistency dependability of the instrument's items. The investigation obtained a dependability index of 0.87 as a result of the findings. The study's conduct was approved by the University of Nigeria's research ethics committee. Participants were given informed consent forms to sign prior to data collection. The heads of each of the participating schools supplied timely authorization letters to gain access to the research facilities. Data were gathered during visits to each of the study's participating schools. As a result, a method for administering the device on-the-spot was selected. Participants were given copies of the instrument at their respective schools and given 20 minutes to respond before being picked up. Using frequency and percentage, the data were analysed quantitatively.

Results

Research Question: What is the extent of preschool librarians' utilization of ICT for virtual library services?

Table 1: Mean analysis of the extent of preschool librarians' utilization of ICT for virtual library services

S/No	Item Statement	Mean	SD	Remark
1	Booting computer for providing virtual library services	2.30	.68	LE
2	Shutting down the computer after providing virtual library services	1.82	.92	LE
3	Using computer to provide virtual library services	1.73	.71	LE
4	Getting virtual library services on the internet	1.77	.73	LE
5	Using internet to browse library materials	1.85	.79	LE
6	Using projector to deliver library materials	1.71	.77	LE
7	Giving students library materials via computer	1.77	.73	LE
8	Carrying virtual library services using the google forms	2.14	.77	LE
9	Making library materials available online for students to access	1.90	.73	LE
10	Using ICT tool to communicate library material to the students	1.82	.73	LE
	Overall Mean	27.68	8.82	LE

Table 1 shows the mean ratings of the preschool librarians' extent of utilisation of ICT for virtual library services. It shows that their mean ratings to items 1 to 10 are within the mean range of 1.50 to 2.49. This implies that the preschool librarians to a low extent can use PowerPoint slides to provide library materials, get library materials on the internet, use internet to browse library materials, boot computer for virtual library services, use computer to prepare library materials. Figure 1 shows the bar chart illustration of the extent of preschool librarians' utilisation of ICT for virtual library services.

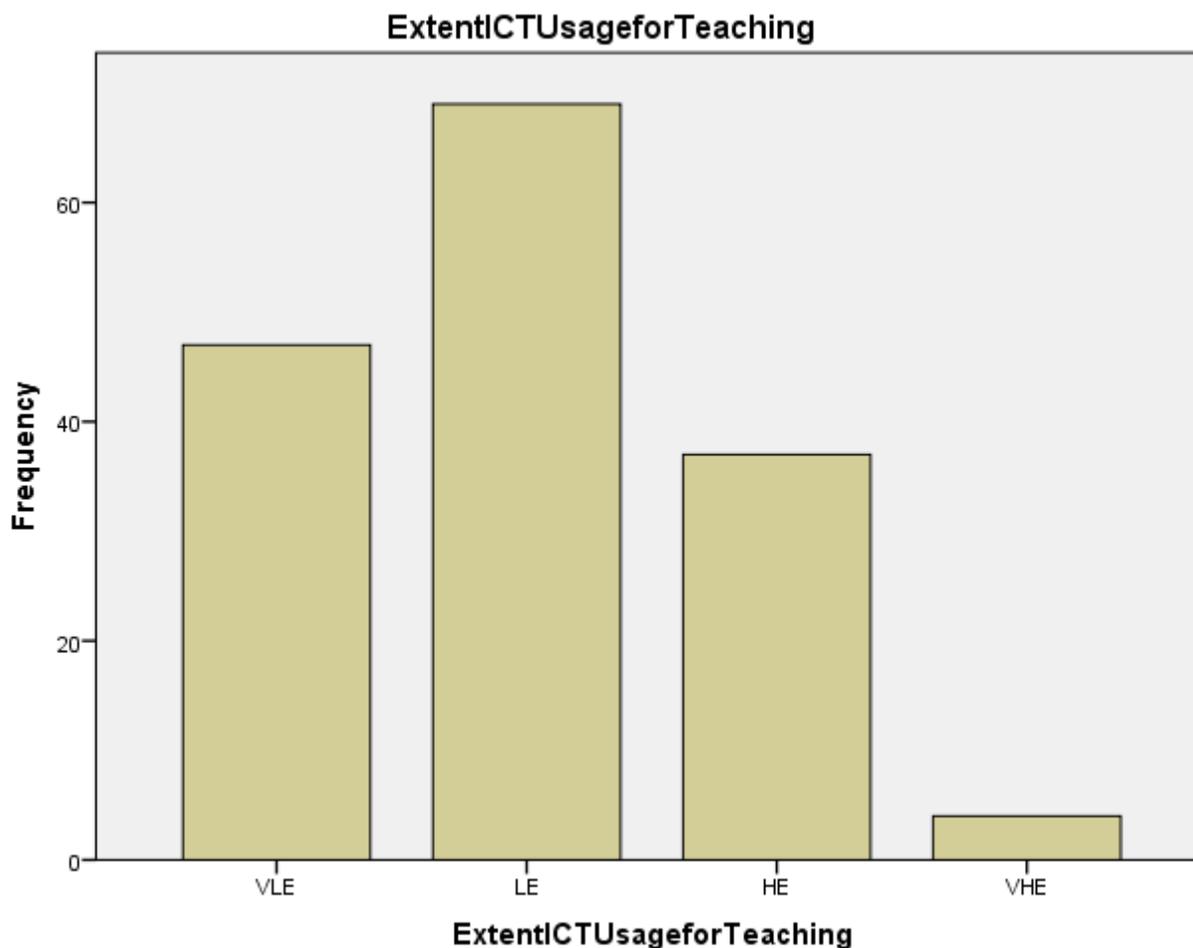


Figure 1: Bar chart illustration of the extent of preschool librarians' utilisation of ICT for virtual library services

Discussion

The goal of this study was to determine the extent to which preschool librarians use ICT for virtual library services. Preschool practitioners/teachers used ICT for virtual library services at a low rate, according to the findings of the study. This indicates that preschool librarians' use of virtual library services will be ineffective due to their low degree of ICT usage. The low ICT usage of preschool librarians could be due to a variety of issues. It is possible that the teachers have not received any in-service training on how to use ICT in the classroom. It could also be due to a lack of suitable ICT facilities in preschools. Recent empirical studies have bolstered these conclusions.

During the previous lockdown owing to teachers' lack of basic ICT proficiency, students' academic achievement was mostly driven by their personal motivation in learning and the pleasure or fulfillment that digital learning activities may bring (Christopoulos & Sprangers, 2021). Pre-service teachers have a moderate level of digital literacy and are having difficulty with the content creation aspect (Galindo-domínguez & Bezanilla, 2021). Only children who were deemed capable of online learning showed a link between online learning and achievement (Yi et al., 2021). Rather than implementing ICT into the curriculum, Chinese primary school teachers opted to limit the role and scope of its use in Early Childhood Education (International et al., 2019). Online teaching and learning is hampered by a lack of preparation, skills, money, and distance learning equipment (Asio et al., 2020). The majority of Indonesian students were willing to study online, but a number of factors, such as ICT skills, limited their capacity to do so (Suci et al., 2021). Teachers were found to be inept in all five digital dimensions, notably in the creation of digital content (Garz, 2020). Based on self-reported use, proficiency, and the requirement for professional training in digitalization in teaching, it was discovered that teacher educators do not use digital resources primarily for pedagogical aims (Amhag et al., 2019).

Conclusion and Recommendations

The researchers concluded from the study's findings that preschool librarians' ICT usage is minimal, and that this does not guarantee the effective provision of virtual library services. The use of virtual library services in the post-Covid-19 period will be severely restricted due to preschool librarians' limited ICT usage. As a result, the researchers recommended that:

- 1) Local Government Education Authority make adequate arrangements for in-service training of preschool librarians on the use of ICT for virtual library services.

2) Local Government Education Authority ensure adequate provision of ICT facilities necessary for virtual library services.

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