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EDITORIAL DESK

I wish to express my profound gratitude to Almighty God for the grace to successfully complete the volume 2 of the West African Journal of Educational Administration and Planning (WAJEAP).

The twelve articles were the products of well researched papers that were presented at the international conference held in May 2024 at the Presbyterian University of East Africa in Kikuyu, Nairobi, Kenya. The conference was well attended by over 25 universities across the globe. These published articles have been peer reviewed and plagiarism checks conducted on them before publication.

I, therefore, want to deeply appreciate the management team of the Presbyterian University of East Africa for making this publication a reality. All the writers and authors are congratulated for passing the stringent measures set by the guild of editors.

Congratulations to everyone.

Prof. M. O. B. Mohammed FNAEAP

Head, Editorial Team

CONTENTS

Motivations for Students' Involvement in Sporting Activities in Public Secondary Schools in Imenti North Sub-County, Meru County, Kenya Evans Kaberia Limukii & Ezekiel Nyagah Shem -----	1-12
Embracing 5 th Generation Technology for the Sustainable Transformation of Educational Management in Rural Areas of Southern Nigeria Israel Adewale Adeleke, & Johnson Tunde Ajiboye -----	13-19
The Dual Burden: Academic Stress and Social Isolation as Predictors of Depression and Suicidal Thoughts among Nigerian Tertiary Students Enitan Omolara Falade & Ayodeji Olawunmi Badejo -----	20-29
Impact of Information and Communication Technology Innovations in Social Studies Education and its Attendant's Implications on Primary School Pupils in Lagos State Aboluwarin, Elizabeth Oyenike; Oyedapo, Philip Ibukun; Busari, Medinat Folashade & Raji, Azeezat Adejoke -----	30-39
Health Education as a Tool for Preventing the Spread of Chicken Pox among the Residents of Agelete Iba Local Council Development Area Ogunbamowo, Waliu Babatunde; Ashon, Daniel Oluwatobi; Ligali, Latifat Abiodun & Adeniran, Ademola Felix -----	40-48
An Assessment of The Level of Adoption of ICT in Education Management in Public Primary Schools in Maara Sub- County, Tharaka- Nithi County, Kenya Elosy Nyambura Riungu & Eleen Yatich -----	49-53
Technostress Management Strategies and Lecturers' Productivity in Public Universities in Lagos State, Nigeria Shittu, Taofeek Olawale; Ola, Bolanle Adeyemi & Oladipo, Oluwadamilola Blessing -----	54-61
The Impact of Information Communication and Technology on Effective Educational Planning in the 21st Century Adedayo Adeniran Odunlami; Lawrence Adedayo Oni & Ajibola Adenike Adeniji -----	62-69
School Climate and Conditions of Service as Determinant of Teachers' Job Performance in Public Senior Secondary Schools in Lagos State, Nigeria Lilian Ijeoma Amaechi; Modupe Margaret Isaac-Philips; Ganiyat Olubunmi Bello; Felicia Oluwakemi Hassan; Lawrencia Chinyeaka Etoh; M.O.B Mohammed & Ayodeji Olasunkanmi Abari -----	70-76

Influence of Religion on Homosexuality in Same-Sex Boarding Secondary Schools, Policy and Planning Perspective: A Case of Kikuyu Sub-County, Kenya Zippora Kaaria L.; Evans Kaberia Limukii & Hannah Nduta Macharia -----	77-84
Innovative Research Approaches to Economics Education for Sustainable Development in Higher Education in Nigeria: A Situation Analysis Abidat Oluwashola Mohammed & Henry Adewale Odunayo -----	85-98
Skills Enhancement and Digital Literacy among Public Secondary School Teachers in Rivers State, Nigeria Ekhoriyayi Arigidi & Adewale Babajide Sanni -----	99-108

SKILLS ENHANCEMENT AND DIGITAL LITERACY AMONG PUBLIC SECONDARY SCHOOL TEACHERS IN RIVERS STATE, NIGERIA

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ABSTRACT

In the realm of education, the integration of Information and Communication Technology (ICT) presents two distinct dimensions: administration and management, and teaching and learning. As ICT becomes increasingly ingrained in the educational landscape, its utilization by both academic and non-academic stakeholders, including students, becomes indispensable. Thus, educators must not only embrace ICT but also develop proficiency in its use to effectively navigate the contemporary educational environment and fulfil their professional responsibilities. Using a survey research design, the study involved 2240 teachers in Rivers State, Nigeria. Using a multi-stage sampling procedure, the researchers selected 560 teachers across the Rivers States. A purposive sampling technique was used to select one senatorial district with upland and lowland characteristics, then three Local Government Areas were randomly selected, proportionate to-size random sampling was then used to select 10% of schools in the selected LGAs, while 25% of teachers in the selected LGAs were selected via proportionate to size random sampling, making a total of 560 teachers for the study. The study also found that teachers reported moderate levels of Digital literacy (mean = 19.15, SD = 6.96) and skills enhancement (mean = 14.18, SD = 5.99). The results also showed a moderate positive correlation ($r = 0.473$, $p < 0.05$) between skills enhancement and Digital literacy, suggesting that as teachers engage in skills enhancement, their Digital literacy tends to improve. The findings suggest that skills enhancement programs should prioritize digital skills development to enhance teaching practices and student learning outcomes. The study's findings have implications for teacher training and development programs, highlighting the importance of integrating Digital literacy development into skills enhancement initiatives.

Keywords: Teacher Skills enhancement, Digital literacy, Technology Integration.

INTRODUCTION

In today's digital age, the importance of digital literacy among educators cannot be overstated. Secondary school teachers, in particular, play a critical role in shaping the next generation of learners and must be equipped with the necessary skills to effectively integrate technology into their teaching practices. The digital literacy of teachers remains a pressing concern in Nigeria's educational sector. Despite the importance of ICT in modern education, many schools in the country lack the necessary facilities, making it challenging for teachers to develop their skills (Adewale, 2020). Furthermore, some teachers struggle with basic computer skills and are unfamiliar with digital tools and platforms, hindering their ability to effectively integrate technology into their teaching practices (Olakoya, 2020).

The digital divide is often a result of geographical constraints as found in Rivers State Nigeria. Rural areas, for instance, are frequently left behind due to the high cost of developing internet infrastructure. Similarly, mountainous, lowlands or hard-to-reach areas may have limited

connectivity options, making it difficult for residents to digital tools. Even island communities may rely on slow and expensive satellite internet, further widening the gap.

Moreover, schools often lack adequate ICT infrastructure, software, and internet connectivity, further limiting teachers' opportunities to develop their skills. In many regions in the Rivers State, Nigeria, digital infrastructure is scarce or non-existent. Even when infrastructure is present, internet service providers may not offer services, leaving communities disconnected. Mobile network coverage can also be limited, making it difficult for people to access the internet on the go.

The lack of motivation among teachers to develop their Digital literacy and the high turnover rate among educators in Nigeria also pose significant challenges. The limited training and support provided to teachers exacerbate the issue, leaving them feeling uneasy about utilizing technology in the classroom. Some educators cling to traditional teaching methods, resisting the adoption of ICT-based approaches (Afolabi, 2021).

Some individuals simply do not see the value of the Internet in their daily lives. They may be content with traditional forms of communication and information gathering, or they may lack the digital literacy skills to navigate the online world. Without exposure to technology, it's easy to remain disconnected from the digital landscape. The resulting loss of passion for Digital literacy and knowledge makes it difficult to sustain efforts aimed at integrating technology into education (Adewale, 2020).

Addressing these challenges is crucial to enhance the quality of education in Nigeria. Providing teachers with comprehensive training and support through skills enhancement is required. By doing so, teachers will become more confident and proficient in using ICT, ultimately enhancing the learning experience for their students.

Teacher Skills Enhancement-TSE programs can undoubtedly enhance teachers' Digital literacy, boosting their confidence and encouraging them to explore new technologies. Through skills enhancement, teachers can learn innovative pedagogical approaches that leverage ICT to improve student learning outcomes. Moreover, TSE programs provide a platform for teachers to learn in context, applying Digital literacy directly to their teaching practices. Collaboration and sharing of best practices among teachers are also fostered, promoting a culture of ICT-enabled teaching.

On the other hand, several challenges hinder the effectiveness of TSE in improving Digital literacy. Teachers' busy schedules often limit their ability to participate in skills enhancement programs, and even when they do, they may not receive sufficient technical support and resources to apply their new skills in the classroom (Ahmed et al., 2019). Some teachers may also resist changing their teaching practices, making it difficult to adopt ICT-enabled approaches. Furthermore, outdated or inadequate ICT infrastructure in schools can limit teachers' ability to develop and apply digital literacy. Finally, TSE programs may not be sustainable, leading to a lack of ongoing support and reinforcement of Digital literacy (Qasem & Viswanathappa 2016).

Despite the importance of this relationship, there is a significant gap in the existing literature on the impact of skills enhancement on digital literacy among secondary school teachers in Rivers State, Nigeria. This study aims to bridge this gap by investigating the effect of skills

enhancement on digital literacy among secondary school teachers in Rivers State Nigeria, with a specific focus on examining how skills enhancement programs influence teachers' digital literacy levels. By exploring this relationship, this research aims to provide insights for policymakers and educational stakeholders on the effectiveness of skills enhancement initiatives in improving digital literacy among teachers, and ultimately, enhancing the quality of education in the Rivers State, and Nigeria as a whole.

Objective of the study

The study investigated the impact of skills enhancement on Digital literacy of public secondary school teachers in the Rivers State of Nigeria. Specifically, the study

- i. assessed the level of Digital literacy among teachers in public secondary schools in Rivers State, Nigeria.
- ii. Investigated the level of teacher skills enhancement in public secondary schools in Rivers State, Nigeria.
- iii. Examined the relationship between teacher professional qualities and Digital literacy among teachers at public secondary schools in Rivers State, Nigeria.

Research questions

The following research questions were formulated to guide the study:

- i. What is the level of Digital literacy (access, frequency of use, use of basic ICT applications, and virtual teaching) among teachers in public secondary schools in Rivers State, Nigeria?
- ii. What is the level of teachers' skills enhancement in public secondary schools in Rivers State, Nigeria?
- iii. There is no significant relationship between teacher professionalism and Digital literacy by teachers in public secondary schools in Rivers State, Nigeria.

LITERATURE REVIEW

Ahmed et al., (2019) conducted a study to investigate teachers' perceptions of using information communication technology (ICT) and to determine the impact of ICT on teachers' skills enhancement at the university level. The study employed a descriptive survey design and utilized a simple random sampling technique to select participants. The population of the study included all public and private educational institutions in central Punjab that provide higher education. The sample consisted of 90 faculty members, 120 students, and 12 heads of different departments, who were selected randomly. The researchers administered a self-developed questionnaire to the faculty members and students and conducted structured interviews with the heads of departments to collect the desired information. Data analysis was performed using percentage, mean score, and standard deviation. The findings of the study indicated that ICT has a positive impact on enhancing teachers' skills enhancement. The study also revealed that university teachers encountered various challenges in incorporating technological innovations and utilizing ICT in their classrooms. As a recommendation, the study suggested organizing ICT-related refresher courses to improve the skills enhancement of educators.

Emeasoba et al., (2022) conducted a study to evaluate the utilization of digital skills by business education lecturers in public universities in Rivers State, Nigeria. The research employed a descriptive survey design and was guided by three research questions and three hypotheses. The study included a population of 170 Business Educators from public universities in Rivers State, Nigeria, with no sampling method utilized due to the manageable population size. The instrument used was validated by experts in business education and

measurement and evaluation from Michael Okpara University of Agriculture, Umudike, with a reliability coefficient of 0.72. A four-point response scale with 23 items was employed to assess the extent of digital skills utilization, using mean and standard deviation to address the research questions and a t-test to test the hypotheses. The findings indicated a high extent of mobile phone and internet use, but a low extent of smart board utilization in teaching Business Education. Furthermore, the study revealed no significant difference in the mean ratings between male and female business educators regarding the use of mobile phones, internet, and smart boards in teaching Business Education. It was concluded that digital skills are beneficial for teaching and learning in Business Education, but there is a need for increased adoption of digital tools in some universities. Recommendations included the adoption of new instructional methods and technology in tertiary institutions to enhance teaching practices in Business Education.

Qasem and Viswanathappa, (2016) conducted a study to explore the perceptions of in-service science teachers regarding the integration of ICT in instructional design. The researchers utilized a blended learning approach to train the teachers and employed a quasi-experimental pre-test/post-test design. The study was carried out with a sample of 60 science teachers from secondary schools in Yemen. A questionnaire consisting of 25 items was used to assess the teachers' perceptions towards integrating ICT in instructional design. The data was analyzed using t-test and ANCOVA statistical techniques. The results indicated a significant difference in teacher perceptions towards integrating ICT, particularly among those who received training through the blended learning approach. Based on these findings, it is recommended that Yemeni education authorities incorporate ICT into in-service teacher programs, considering the readiness of teachers to utilize ICT.

Ibhafidon and Ofeimu (2024) conducted a study to evaluate the computer literacy levels of primary school teachers in the Rivers State Region of Nigeria. The research utilized a descriptive survey design to meet its objectives, with a sample of 350 primary school teachers selected through purposive/random sampling methods. The data collection instrument used was a structured questionnaire named "Teachers' Computer Literacy Questionnaire," which was validated by three experts in Curriculum and Instruction, Educational Planning and Management, and Measurement and Evaluation. The reliability of the instrument was assessed using Cronbach's alpha, resulting in a coefficient value of 0.72. Data analysis involved the use of mean, percentage, and chi-square methods. The findings indicated that a considerable number of primary school teachers lacked computer literacy, and those who were proficient had acquired it through self-exploration. Furthermore, the results revealed no significant difference between public and private primary school teachers in terms of computer literacy acquisition in the Rivers State Region of Nigeria. As a result, the study recommended the provision of computer devices in schools and the training of teachers by both the government and individuals to enhance effective operation.

Dawabsheh et al. (2020) conducted a study to explore the impact of school facilities on the quality of engineering education in Indonesian educational institutes. The study focused on the mediating role of teaching proficiency and skills enhancement in this relationship. The research employed a descriptive and quantitative approach, using a questionnaire method for data collection. The participants of the study were 384 university teachers in Indonesia, and the data were collected through simple random sampling. The analysis of the data was performed using SMART PLS. The findings of the study revealed a significant and positive

relationship among engineering education quality, school facilities, teaching proficiency, and skills enhancement.

In their study, Njoku and Osuji (2024) examined the digital literacy of facilitators in open and distance learning at National open Universities. The researchers formulated two research questions and two hypotheses to guide their study. They utilized a descriptive design and had a population of 2657. To achieve their desired sample size, they employed a multi-stage sampling technique and selected 600 facilitators. The data collection instrument used was a structured questionnaire titled "Digital Literacy of Facilitators for Effective Administration Questionnaire," which was validated by experts in the Department of Educational Management. The instrument's reliability was established using the test-retest method, with a reliability index of 0.81 calculated using the Pearson Product Moment Correlation Coefficient. The data analysis involved the use of mean and standard deviation to address the research questions, while the hypotheses were tested using z-statistics at a significance level of 0.05. The findings indicated that the respondents exhibited a high level of digital literacy, particularly in terms of basic computer skills, digital information resources skills, and internet skills. Additionally, the study revealed that the facilitators' use of digital information resources at the National Open University of Nigeria (NOUN) in Rivers State Nigeria was influenced by their digital literacy level, which ultimately contributed to effective administration. Based on these findings, the researchers recommended that the government should prioritize the engagement of trained personnel and regularly provide training and re-training opportunities for facilitators to enhance their administrative performance.

Hennessey et al., (2022) conducted a study on the use of technology for teacher skills enhancement in low- and middle-income countries. The research aimed to provide a comprehensive review of the literature on technology-mediated TSE for educators working with school-aged students in LMICs, focusing on identifying effective uses of technology and the challenges faced in these settings. The study involved an in-depth analysis of 170 research papers, examining factors at macro, meso, and micro levels that influence the design and implementation of TSE in the 40 LMICs included in the review. The findings revealed a significant increase in the number of publications in this area between 2008 and 2020, indicating a growing interest in the field.

While the results generally highlighted the benefits of technology use for teachers, there was limited evidence on the sustainability, cost-effectiveness, and actual impact on classroom practices and student outcomes. The study identified several promising approaches to technology-mediated TSE, such as virtual coaching, social messaging, blended learning, video-stimulated reflection, and subject-specific software applications. The research also pointed out the varying effectiveness of TSE programs and the lack of focus on marginalized groups within the educational system. To enhance the impact of technology-enhanced TSE, the study emphasized the crucial role of facilitators or expert peers in supporting teacher learning and highlighted the importance of maintaining the interpersonal aspect of skills enhancement. Recommendations were provided for researchers, policymakers, teachers, and teacher educators to improve the quality and effectiveness of technology-mediated TSE initiatives in low- and middle-income countries, underscoring the need for more attention to be paid to the human element in teacher training programs.

The study conducted by Guggemos and Seufert (2021) focuses on the skills enhancement of in-service teachers to technology, drawing from the TPACK framework and the 'will, skill,

tool' model. Key predictors include Technological Knowledge (TK), Technological Pedagogical Knowledge (TPK), Technological Pedagogical Content Knowledge (TPACK), Technological Collaboration Knowledge (TCoK), and Attitudes, which are assessed through newly developed self-assessment tools. Through structural equation modelling with a sample of 212 in-service teachers from commercial schools in German-speaking Switzerland, the study validates the measurement instruments and the conceptual framework. The results indicate that 36% of the variance in technology use as a means and 45% of the variance in technology use as content in instruction can be accounted for. Additional analyses such as mediation and multigroup analyses, finite-mixture segmentation, comparisons of competing models, and factor score regression further support the robustness of the conceptual framework proposed in the study. These findings contribute to the understanding of how in-service teachers engage with technology in their teaching practices.

METHODOLOGY

The descriptive survey research design was adopted for the study comprising 2240 secondary school teachers in Rivers State, Nigeria. The multi-stage sampling procedure was used to select 560 teachers. Firstly, the purposive sampling technique was used to select one senatorial district with upland and lowland characteristics, then three Local Government Areas were randomly selected, proportionate to size random sampling was then used to select 10% of schools in the selected LGAs, while 25% of teachers in the selected LGAs were selected via proportionate to size random sampling, making a total of 560 teachers for the study.

A self-developed Teacher Skills Enhancement and Digital Literacy Questionnaire-TSEDLQ for Teachers was used to collect data for this study. The questionnaire was sectioned into three; section A was for the biodata of respondents containing information such as sex, marital status, academic qualification, year of work experience in the teaching profession, and status in the school. Section B consists of 20 items on In-service training and Skills enhancement. The responses were structured on a four-Likert scale response of Very High-4 (VH), High-3 (H), Low-2 (L), and Very Low-1 (VL). The instrument was validated through face and content validity by experts in the field of Educational Management. Afterwards, a pilot test was conducted in Akwa Ibom which is in the same South-South region as Rivers State. A total of 100 teachers were sampled for the test and the data collected were subjected to reliability analysis using Cronbach Alpha statistic which yielded a coefficient of 0.89.

The instrument was then administered to the selected teachers, and the data obtained were analysed using descriptive and inferential statistics. The biodata and research questions 1 and 2 were analysed using descriptive statistics such as frequency counts, percentages, mean and standard deviation, while research question 3 was analysed using Pearson Product Moment Correlation (PPMC).

FINDINGS

Research Question 1: What is the level of digital literacy (access, frequency of use, use of basic ICT applications, and virtual teaching) among teachers in the secondary schools in the Rivers State geopolitical zone of Nigeria?

Table 1: Level of Digital Literacy among Secondary School Teachers in the Rivers State, Nigeria

To what extent are you proficient in the:	VH	H	L	VL	Mean	Std. Dev.	Remark
use of ICT for teaching	829 48.6%	391 22.9%	133 7.8%	354 20.7%	2.99	1.18	High
use of ICT for word processing, spreadsheet, graphics design, and other multimedia	574 33.7%	506 29.6%	249 14.6%	378 22.1%	2.75	1.14	High
use of ICT to design different instructional material	262 15.3%	653 38.3%	392 23.0%	400 23.4%	2.46	1.01	Moderate
use of ICT to register students, collate results and compute account data	481 28.2%	671 39.3%	197 11.5%	358 21.0%	2.75	1.08	High
use of ICT to draw students' attention when teaching	469 27.5%	650 38.1%	221 12.9%	367 21.5%	2.72	1.09	High
use of ICT to enhances my teaching effectiveness	497 29.1%	677 39.7%	165 9.7%	368 21.6%	2.76	1.09	High
use of ICT to manage the large class.	477 28.0%	694 40.7%	168 9.8%	368 21.6%	2.74	1.08	High
Weighted Mean						2.73	

Table 1 shows the results of a survey on teachers' proficiency in using ICT (Information and Communication Technology) for various educational purposes. 829 respondents (48.6%) reported being very proficient in using ICT for teaching, and a significant number of respondents reported being proficient in using ICT for various tasks, such as word processing, design, registering students, and enhancing teaching effectiveness. Fewer respondents reported moderate proficiency in using ICT to design instructional materials. While the lowest percentage of respondents reported being not proficient in using ICT for various tasks. The mean scores range from 2.46 (Moderate) to 2.99 (High), indicating an overall high level of proficiency among teachers in using ICT. The standard deviation (Std. Dev.) ranges from 1.01 to 1.18, indicating some variation in responses. The weighted mean of 2.73 suggests that, on average, teachers reported being proficient in using ICT for various educational purposes.

Research Question 2: What is the level of teachers' skills enhancement (in-service training, skills enhancement, classroom management, and decision-making) towards ICT in secondary schools in Rivers State, Nigeria?

Table 2: Level of Skills Enhancement among Secondary School Teachers in the Rivers State, Nigeria

Items	VH	H	L	VL	Mean	Std. Dev.	Remark
I have acquired the required qualification for teaching	370 21.7%	614 36.0%	364 21.3%	359 21.0%	2.59	1.08	High
Attended at least one conference on ICT organized by my school	279 16.3%	603 35.3%	208 12.2%	617 36.1%	2.33	1.16	Moderate
Attended workshops that enhanced my instructional skills	383 22.4%	611 35.8%	204 12.0%	509 29.8%	2.51	1.14	High
Participate in ICT training programme organized outside my school	307 18.0%	594 34.8%	225 13.2%	581 34.0%	2.37	1.13	Moderate
Skills enhancement did not enhance my collaboration with others	185 10.8%	257 15.1%	599 35.1%	666 39.0%	1.98	0.99	Low
I was trained to use basic ICT tools	218 12.8%	658 38.5%	221 12.9%	610 35.7%	2.28	1.08	Moderate
Learnt how to use internet resources to teach	216 12.7%	741 43.4%	202 11.8%	548 32.1%	2.37	1.06	Moderate
I was taught how to use the spreadsheet	421 24.7%	553 32.4%	271 15.9%	462 27.1%	2.56	1.23	High
Weighted Mean							2.37

Table 2 shows the results of a survey on the level of teachers' skills enhancement. The overall weighted mean of 2.37 suggests a moderate level of agreement or satisfaction across all items surveyed. This indicates that, on average, respondents feel they have a moderate level of qualification and training in ICT and teaching skills, with some areas rated higher and others lower. A weighted mean of 2.37 out of 5 indicates a slightly below-moderate level of agreement or proficiency. It suggests that the respondents have some level of proficiency in skills enhancement, but there is still a need for improvement. In this case, the weighted mean of 2.37 indicates that the teachers may have some basic skills, but may not be fully confident or proficient in using ICT for teaching and learning. It may also indicate that some gaps in their skills enhancement need to be addressed.

Research Question 3: There is no significant relationship between skills enhancement and digital literacy by among secondary school teachers in Rivers State, Nigeria.

Table 3 Relationship between Skills enhancement and Digital literacy

Variable	N	Mean	Std. Deviation	r	Sig.	P	Remark
Skills enhancement	1707	14.1845	5.99955	0.473	0.00	<0.05	Significant
Digital literacy	1707	19.1450	6.95972				

Table 3 shows the results of a statistical analysis that explored the relationship between skills enhancement and Digital literacy. Skills enhancement and digital literacy have a moderate positive correlation ($r = 0.473$), indicating that as skills enhancement increases, Digital literacy also tends to increase. The correlation is statistically significant ($p < 0.05$), indicating that the relationship is unlikely to be due to chance. The mean scores for skills enhancement and Digital literacy are 14.18 and 19.15, respectively, indicating that respondents tend to have higher levels of Digital literacy than skills enhancement. Overall, the results suggest that skills enhancement is positively related to Digital literacy and that investing in skills enhancement may lead to improvements in Digital literacy.

DISCUSSION

Based on the results, it appears that the digital literacy level among teachers is moderate, with a weighted mean of 2.73 out of 5, which is in tandem with earlier researchers like Sanni (2015), Villegas-Reimers (2003) and Ingersoll, (2003). The moderate level of Digital literacy among teachers suggests that skills enhancement programs may need to focus on enhancing Digital literacy.

Teachers reported moderate levels of skills enhancement, with a weighted mean of 2.37 out of 5. This indicates that teachers have some level of skills enhancement, but may not be fully confident or proficient in using ICT for teaching. Also, previous studies (Hill, 2009; Wang, 2010) highlight the impact of skills enhancement on teacher practice and student achievement. The moderate level of skills enhancement and Digital literacy among teachers suggests that there may be a need for more targeted and effective skills enhancement programs.

The correlation analysis reveals a moderate positive correlation between skills enhancement and Digital literacy ($r = 0.473$). This suggests that as skills enhancement increases, Digital literacy also tends to increase. Earlier citations (Reeves, 2015; Yost, 2006) emphasize the importance of ongoing skills enhancement in improving teacher practice and student outcomes. The positive correlation between skills enhancement and Digital literacy suggests that investing in skills enhancement programs may lead to improvements in Digital literacy, which can in turn enhance teaching practices and student learning.

Overall, the results suggest that teachers have moderate levels of Digital literacy and skills enhancement and that there may be a need for more targeted and effective skills enhancement programs to enhance Digital literacy and teaching practices.

CONCLUSION

The survey results indicate that teachers have moderate levels of Digital literacy and skills enhancement, with a positive correlation between the two. While teachers have some skills, there is still room for improvement, particularly in using ICT for teaching and learning. The findings suggest that skills enhancement programs may need to focus on enhancing Digital literacy and teaching practices to improve student outcomes.

RECOMMENDATIONS

The following recommendations were therefore made:

1. Provide targeted skills enhancement programs that focus on enhancing Digital literacy and teaching practices.
2. Encourage ongoing skills enhancement opportunities to support teachers in improving their Digital literacy and teaching practices.

3. Develop and implement effective ICT integration strategies to enhance teaching and learning.
4. Provide resources and support for teachers to access and utilize ICT tools and resources.
5. Encourage collaboration and sharing of best practices among teachers to promote effective ICT integration.
6. Conduct regular assessments and evaluations to monitor progress and inform skills enhancement programs.
7. Consider partnering with external organizations or experts to provide additional support and resources for teachers.
8. Develop policies and guidelines that support and encourage ICT integration in teaching and learning.

By implementing these recommendations, schools and educational institutions can support teachers in developing their Digital literacy and teaching practices, ultimately improving student outcomes and preparing them for success in the digital age.

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