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# ASSESSMENT OF TEACHERS' COMPETENCE IN UTILIZATION OF DIGITAL INSTRUCTIONAL TOOLS IN UPPER BASIC SCHOOLS IN CROSS RIVER STATE, NIGERIA

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## ABSTRACT

The study examined the teachers' competences in the utilization of digital learning tools in upper basic schools in Cross River State. To achieve this, four research questions were raised. Literature was reviewed according to the variables of the study. The study adopted a descriptive survey research design with a stratified random sampling technique. The sample of the study was made up of 768 teachers across the 18 local government of the state. An instrument titled 'Teachers Competence in Digital Learning Tools Scale (TCDLTS)' was used for data collection. The instrument was validated and the reliability of the instrument was established using Cronbach alpha reliability estimate and the coefficients of the scales ranged from 0.78-0.81. The data collected were analysed using simple percentages, bar graphs and other inferential statistical techniques. The result showed that teacher's competence in the utilization of digitalized learning tools such as zoom facilities, google classrooms, and video clips is very low. The result also showed that there is no significant difference between male and female teachers, but years of teaching and qualification significantly influences teachers' competence in utilizing digital learning tools in upper basic schools in Cross River State. Based on the findings, it was recommended that teachers should be trained on the modern use of technology in teaching and learning to increase students' level of independent learning among others.

KEYWORDS: Competence, Utilization and Digital tools

## INTRODUCTION

The teacher is an important element in the implementation of the educational objectives at any level of education.

This is because they deliver the unit of instructional objectives that might be set for either the basic secondary or tertiary institution. Therefore, the continuous development of the teacher in areas of competences cannot be over

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emphasized. According to Daniel, Palacios, Barreras and Pascual (2019), teachers especially the social studies teachers are constantly challenged by innovations in the teaching models, technology, and educational tools used to develop courses. They are faced with trending issues that need their ingenuity to effectively communicate the goals of the subjects to the students. Constant innovation means that professional continuina development is fundamental for social studies teachers who want to remain current in their careers. In terms of competences; Sarramona (2015), noted that there are projects that have attempted to describe the known teaching competences. In Ejoh, Okeke and Nwafor (2020) guoting the National Policy of Education that no educational institution can rise above the quality of its teachers. This points to the need for competent teachers in the system. These competencies include innovation capacity and the incorporation of emerging trends in education, including the use of information technology in curriculum design and implementation of research methodology (Idika, Orji, Bichene & Oke, 2021).

In the last two decades, different technologies have become more available and accessible for teachers, and new digital tools and instructional materials have been developed to support teaching and learning. Consequently, governmental initiatives and training programs around the world have been presented to facilitate the introduction of technology in education and to encourage the process of digitalisation in schools (e.g., the Lifelong Learning Strategy in Estonia 2020, the Good School Reform in Italy 2015).

Thokozani, Sylvia, and Moses (2019) stated that the digital world is increasingly penetrating the education space, with digital technology gradually being used as a vehicle to deliver educational knowledge and skills in new and innovative ways. The need for teacher's development in using digital resources as means to bridge the knowledge gap in teaching the topic, tools and equipment is to be emphasized in these modern times. Similarly, technology and innovation have brought tremendous change in the way the students learn; with a global network, newer avenues are created. Technology exposure and adoption amongst students in schools is no longer confined to the classrooms. For the students to take effective advantage of technology, the teachers have to play a key role not just as imparters of knowledge but also as facilitators who will guide the students in using technology for their benefits.

According to Eady and Lockyer (2013), teachers use digital resources for a variety of purposes and in many ways, include introduction of students to lessons teaching method, instructional aids, provision of students' access to different information, personal learning among others.

However, while the availability of hardware and software for education may be widespread, the utilization of these digital tools in the practice of teaching, as well as digital competence in general, is still uneven among teachers (Idika, Idaka and Ukpong, 2012). The International Computer and Information Literacy Study (2018) documented that less than 50% of teachers used technologies frequently in their teaching (Fraillon 2019,). The results of the 2018 OECD Teaching and Learning International Survey revealed that teachers reported a high need for training for technology-related skills and that only 43% of teachers felt prepared to use technology in teaching (OECD, 2019).

This situation has raised a lot of concerned on what will have been the factors influencing teachers' use of technology in education. Most studies have revealed some multiple factors inter playing at different levels such as educational systems, schools, teachers. These also includes, self-beliefs level, the availability of and access to digital tools (e.a.. school infrastructure. computers for instruction, and internet access) and the quality of the digital infrastructure are necessary prerequisites, but they are not sufficient conditions alone to lead teachers toward using technology in their classrooms (Okeke, Iwara, Archibong, 2020). Others are attitudes, motivations, and perceived self-efficacy as teachers' knowledge, skills, and attitudes in influencing teachers' digital technology use (Bingimlas, 2009). In a contemporary reality, learning also takes place using mobile devices, connected to wireless communication networks, sensors, and geolocation mechanisms, allowing to form virtual networks between people, objects, and situations. In fact, making use of technology for teaching or learning, using it to extend learning to informal or non-formal environments, implies having skills and being digitally fluent.

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Given this reality, digital competence has gained a strong prominence in the educational context in recent times (Tejada & Pozos, 2018). The use of technology has become an everyday occurrence; on the other hand, because the professional development of many citizens depends largely and increasingly on an efficient and appropriate use of ICT. In this regard, Cabero et al., (2020) point out that digital competence is one of the key competencies that citizens in general, and teachers specifically must master in the society of the future. In fact, in Spain, the recent National Plan of Digital Competences (MINECO, 2021) identifies the acquisition of Teachers Digital Competencies (TDC) at all educational levels, including the university as one of its main strategic axes, which is aimed at promoting sustainable and inclusive economic growth. The teacher is key in such process of integrating technologies and plays a crucial role in the adoption and implementation of ICT in the classroom; since the transformation and improvement of education depend on the teachers, among other aspects, educational actions. Therefore, it implies that teachers must have effective digital competencies that allow them to integrate and use technologies in a pedagogical way.

Particularly, The EU defines digital competence as "the safe, critical and responsible use of and interaction with digital technologies for learning, at work and for participation in the society. It information data includes and literacy. communication and collaboration, media literacy, digital content creation (including programming). security (including digital well-being and cyber security related skills), intellectual property issues, problem solving and critical thinking."(Council of the European Union, 2018, p. 9)

Durán (2019) further points out that the TDC is a set of knowledge, skills and attitudes necessary for a teacher to make effective use of ICT from its different aspects (technological,

Informational, multimedia, communicative, collaborative, and ethical), assuming pedagogical-didactic criteria for an effective integration of ICT in their educational practice and, in general, in any formal or non-formal situation. In this regard, Castañeda. (2018) state that the TDC must be holistic, situated, systemic, trainable and in constant development and in addition, susceptible to integrate the skills,

attitudes and knowledge that teachers require to support the learning of their students as active participants in a digital world. This exponential growth of problems, models and gaps in the competencies of teachers calls for an assessment of the emerging pedagogical practices and thus, the need for this study. Dias-Trindade and Moreira (2020) carried out a study on an assessment of university teachers on their digital competences. The quantitative methodological approach emphasizes the teachers' perception of their digital competences in three dimensions: teachers' professional and pedagogic competences and learners' competences which involved 118 Portuguese university teachers. The main findings show that the digital competence level of teachers is moderate, and that sub dimensions "Guidance", "Analysing Evidence" and "Responsible Use", are the weakest. On the other hand, the sub dimension in which teachers perceive to have more competence is "Organisational Communication". The results show the need for teachers to increase their digital competence level through specific training, especially as regards the pedagogical use of technology, in particular more practical, experimental training. Misbah, Humaira, Shamaila, Amnaand Mah

(2022) carried out a study to assess the Professional Digital Competence (PDC) of university teachers of different faculties of International Islamic University Islamabad. This study utilized a quantitative paradigm. The population of the study included 635 teachers (both male and female) of all faculties of International Islamic University Islamabad. A sample of 242 teachers was selected according to Morgan's table. A stratified random sampling technique was used to select the sample. The Researcher collected data Online from all the Departments of International Islamic University Islamabad (IIUI) and the responses were recorded through Google form. The questionnaire was used to collect data and it consisted of 5point Likert scale which were analysed using mean scores and ANOVA. It was concluded that mostly teachers were not skillful to apply advanced or custom search options to go for the data on internet. It is determined that teachers were not well equipped with all the necessary skills to explore the virtual learning environment effectively. Professional Digital Competence helps in developing the guality of teaching and

learning. It helps to prepare and develop the professional competencies and encourage the university teachers to attend training programs.

Antonietti, Alberto and Francesca (2022) carried out a study on teachers' digital competence influence of technology acceptance in vocational education. The study is of twofold: to evaluate the fit of the technology acceptance model (TAM) in the context of vocational education, and to examine the relationship between self-assessed teachers' digital competence belief and their acceptance of and intention to utilize technology in their classroom. Data were collected via a selfadministered questionnaire and the responses of vocational teachers were analysed. 2011 Applying structural equation modeling, the results show that the TAM adequately explains teachers' intention to use digital tools in vocational education; further, there are positive and significant relationships between teachers' beliefs about their digital competence and their beliefs about technology ease of use and the perceived usefulness of technology in teaching; this latter, positively correlates with technology use intention. Understanding the factors interplaying with teachers' acceptance of technology and use intention is important for designing the curriculum for teacher training to enhance the successful integration of technology and to foster the connectivity between the different learning locations of vocational education. In the same vein, following the poor results of their study findings which exposed availability and the use of ICT as alternative for implementing research methodology curriculum in University of Calabar. Idika, et al (2021) recommended urgent collaboration for improved ICT facilities. availability and that individual teachers could acquire and utilize some of the critical ICT facilities for themselves for it will make their teaching innovative and more effective.

Dias-Trindade and Moreira (2020) carried out a study on assessment of high school teachers' digital competences. The quantitative methodology used emphasized on teachers' perception of their digital competences in three focal dimensions: teachers' professional and pedagogic competences and learners' competences. The findings show that teachers' digital competence level is moderate; the dimensions with the lowest values are "teachers' pedagogic competences" and "learners' competences". Subdimension Assessment,

Empowering Learners and Facilitating Learners' Digital Competence are the weakest.

Aleksander, Damijana, Nina, Lan, Ljubljani and Slovenia (2017) carried out a study on demographic determinants of usefulness of elearning tools among students of public administration. Students in the survey evaluated 13 aspects of e-courses in which they were enrolled. From enrolment documents, additional demographic data were collected (gender, highschool grade, study programme, etc.). A multiple linear regression was used with perceived usefulness as the response variable and the 12 other e-course aspects as predictors. Further, the same regression analysis was performed on different subgroups of students based on demographical data. The findings of the empirical results showed that the general impression regarding the e-courses, their consistency with the face-to-face teaching and the teachers' responsiveness had a significant influence on the students' perception of the usefulness of ecourses. Further analysis based on demographic data revealed several subgroups of students where the perception of usefulness was influenced by different aspects. The teachers' competence providing feedback in and supplementing the tutorial play an important role in higher years of study, while the general impression loses its influence.

Charles (2012), examined factors influencing teachers' adoption and integration of information and communication technology into teaching. This article reviewed personal, institutional and technological factors that encourage teachers' use of computer technology in teaching and learning processes. Also, teacher-level, schoollevel and system-level factors that prevent teachers from ICT use were also reviewed. These barriers include lack of teacher ICT skills; lack of teacher confidence; lack of pedagogical teacher training; lack of suitable educational software; limited access to ICT; rigid structure of traditional education systems: restrictive curricula, etc. The article concluded that knowing the extent to which these barriers affect individuals and institutions may help in taking a decision on how to tackle them. A parallel survey study by Idika et al (2012) designed to assess the availability and use of IT systems for effective teaching of sciences in Cross River state, using a sample of 600 disproportionately drawn teachers from Teachers Re-Training Workshop in the

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centers in the state. A well validated 24-item instrument and one sample mean t-test to show that both availability and use of Information Technology in secondary schools in Cross river state was significantly low. The study concludes that ingenuity, agility and technological competences being 21<sup>st</sup> century skills are needed urgently along with urgent need to equip schools with IT systems if students are to be effective and productive in the current global community.

The study is anchored on the technology acceptance model (TAM) in education.

Technology Acceptance Model The was introduced by Fred D. Davis in 1989 to predict the acceptance of a technology system. The purpose of the model was to understand the determinants of individuals' acceptance of technology and adoption of it in different settings. In the model proposed by Davis (1989), the core TAM variables explaining the acceptance of technology are: (i) Perceived Usefulness (PU), which is the degree to which a person believes that the use of technology would enhance their job performance; (ii) Perceived Ease of Use (PEU), this belief that the use of technology is effortless and easy; (iii) Attitude Towards Technology (ATT), this is also the overall evaluation of technology characterised by positive or negative feelings toward using it.

In the original TAM, PEU directly affects PU: the more a technology is perceived as easy to use, the more it is likely to be used. ATT is determined jointly by both PU and PEU, and it directly influences the behavioural intention (BI), that is the intention of using technology in one's professional activity; in turn, the BI would lead to effective technology adoption (and then practical, applied use). ATT has a mediating role between beliefs on technology (i.e., PU and PEU) and the BI.

The first version of TAM introduced by Davis was revised in later years. The modification of TAM by Venkatesh and Davis (1996) excluded the attitude construct, based on empirical evidence, because it did not fully mediate the effect of PEU and PU on intention. Due to the limitations of the TAM in terms of explanatory power, a second model (TAM 2) was developed (Venkatesh & Davis, 2000), based on the assumption that job goals and consequences of using technology serve as a basis for PU. The relevance of this model to this study is made explicate in the usefulness that teachers attach to the adoption of technology in facilitating instructional purposes. Where they perceive the use of a particular technology useful, they go all the way to integrate it in their instructional models in the classroom. Statement of problem

There is growing need for application of technology in teaching and learning due to its numerous advantages. However, it is observed that most teachers avoid the use of modern technological pattern in instructional delivery as they are still connected to traditional method of instruction. The challenge could lie in knowing how to use technology "to transform learning into a normal act of everyday life, and that learning can be carried out any where. The assumed lack of digital competence among teachers has necessitated a lot of questions on what would have been the non-utilization of digital learning tools. Factors such as self-efficacy, gender, qualification. availability of infrastructure, motivation for utilization, among others have been identified as the reason for non-use of digital instructional tools. The effect is that the best practices that are globally appreciated are bereft in our educational system. For example, during the covid19, all schools were shut down and there were no instructional activities occurring because we are still tied to the traditional pedagogical method of instructions. The research is poised to assess teachers' competence in the use of digital instructional tools like zoom, google classroom, video clips in instructional practices in upper basic schools in Cross River State

Research questions

The following research questions were raised for the study

i. What are the competences of teachers in utilizing instructional tools in upper basic secondary schools?

ii. Do teachers differ in terms of gender on their competences in utilizing instructional tools in upper basic secondary schools?

iii. Do teachers differ in terms of years of experience on their competences in utilizing instructional tools in upper basic secondary schools?

iv. Do teachers differ in terms of qualification on their competences in utilizing instructional tools in upper basic secondary schools?

## **Research hypothesis**

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The hypothesis is stated as follows:

i. Teachers' competences in utilizing instructional tools in upper basic secondary schools is not significantly high

ii. There is no significant difference between male and female teachers on their competences in utilizing instructional tools in upper basic secondary schools.

iii. There is no significant influence of years of experience on teachers' competences in utilizing instructional tools in upper basic secondary schools.

iv. There is no significant influence of educational qualification on teachers' competences in utilizing instructional tools in upper basic secondary schools.

## METHOD

The study adopted a descriptive survey research design. The design was found appropriate since the study involved a large number of respondents and only a representative sample will be used with which the findings can be generalized. The population of the study comprised 2,223 teachers in the 284 public secondary schools in Cross River State (Planning, Research and Statistics Department, Cross River State Secondary Education Board, 2022). The study adopts a stratified random sampling technique to select the sample. The sample of the study was made up of 768 teachers across the 18 local government area of the state. An instrument titled 'Teachers Competence in Digital Instructional Tools Scale (TCDITS)' was used for data collection. The instrument was made up of two parts; Part A and Part B. Part A was to elicit demographic information while part B was designed to elicit information on the competences to utilize digital instructional tools. The validated by instrument was experts in Measurement and Evaluation, University of Calabar, and the reliability of the instrument was established using Cronbach alpha technique and the coefficients of the sub scales ranged from 0.78-0.81 which was an indication that the instrument was reliable for use. The data collection was done by the researchers with the help of 5 teachers engaged in each of the local government area. The data collected were analysed using simple percentages, bar graphs, one sample t-test, independent t-test and ANOVA as the statistical tools used for the analysis. The result is presented below. Presentation of results

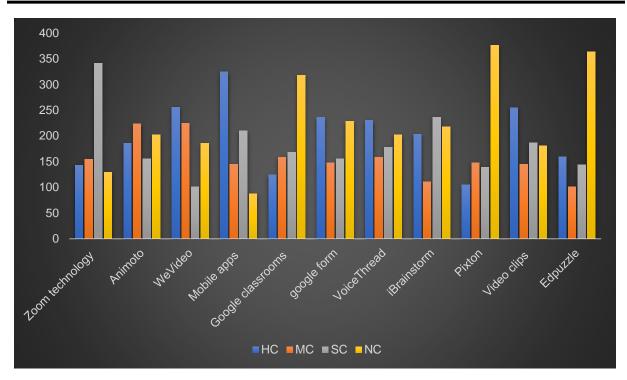
S/N	Items: how competent are you in the use of the following	HC	MC	SC	NC	Remarks
1	Zoom technology	143	155	341	129	Not competent
2	<u>Animoto</u>	186	224	156	202	Not competent
3	WeVideo	256	225	101	186	Competent
4	Mobile apps	325	145	210	88	Competent
5	Google classrooms	124	158	168	318	Competent
6	<u>google</u> form	236	148	156	228	Not competent
7	VoiceThread	230	158	178	202	Not competent
8	<u>iBrainstorm</u>	203	111	236	218	Not competent
9	Pixton	105	148	139	376	Not competent
10	Video clips	255	145	187	181	Competent
11	<u>Edpuzzle</u>	159	101	144	364	Competent
		2222	1721	2016	2492	Not competent
		(26.30%)	(20.37%)	(23.86%)	(29.50%)	

 Table 1: Simple percentages analysis of competences of teachers in utilizing instructional tools

HC= Highly competent, MC=Moderately Competent, SC=Somehow competent, NC=Not competent

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**Fig 1:** Bar graph showing respondents responses to extent of teachers' competences in utilization of digital instructional tools

The result in Table 1 and Figure 1 showed that on aggregate, 2222 respondents representing 26.30% noted that they are highly competent in the use of the instructional tools in upper basic schools. 1721 representing 20.37% noted that they are moderately competent in the use of the instructional tools in secondary school, 2026 representing 23.86% noted that they are somehow competent in the use of the instructional tools in upper basic school while 2492 respondents representing 29.50% noted that they are not competent in the use of the instructional tools in upper basic schools. Summarily, 46.67 % noted that they are competent in utilizing digital instructional tools while 53.33% noted that they are not competent This implies that teachers in upper basic schools are not competent in the use of digital instructional tools.

#### Hypothesis one

Teachers' competences in utilizing instructional tools in upper basic schools is not significantly high. The variable in this hypothesis is teachers' competences in utilizing digital instructional tool, measured continuously.

Table 2: One sample t-test on the extent of teacher's competences in utilizing digital tools

Variable	N	Mean	Std. Dev	Df	t-cal	Sig
Teachers Competend	e in 768	16.5703	7.77538	767		
utilizing digital tools	/00	10.3703	1.11000	/0/	1.89	.467.

The result as presented in Table 2 showed that (t=1.89, p>.05) Since p(.467) is greater than p (.05), the null hypothesis which states that teachers' competences in utilizing instructional tools in upper basic schools is not significantly

high is retained and the alternate hypothesis rejected. This implies that teachers' competences in utilizing digital instructional tool is significantly low. **Table 3:** Independent t-test analysis of the differences between male and female teachers on their competences in utilizing instructional tools

Dependent variable	Gender	Ν	Mean	Std. Deviation	df	t-cal	Sig
Teachers Competence	Male	358	18.2793	9.52339	766	1.81	.786
	Female	410	15.0780	5.42418			

To test this hypothesis, independent t-test analysis was used, and the result is presented in Table 3. The result showed that (t=1.81, p>.05). Since p(.786) is greater than p(.05), the null hypothesis which states that there is no significant difference between male and female

teachers on their competences in utilizing instructional tools in upper basic schools is retained. This implies that there is no significant difference between male and female teachers on their competences in utilizing instructional tools in upper basic schools.

 Table 4: One-way analysis of variance (ANOVA) on the influence of years of experience on teachers' competences in utilizing instructional tools

Variable	N	Mean	Sto	I. Devia	tion				
0-5yr	488	19.6230	5.4	5.42001					
6-10yrs	204	15.4510	6.64976						
11-above	76	16.2368	8.25324						
Total	768	16.5703	7.77538						
Source of variation		Sum of Squa	res	Df	Mean Sq	uare	F	Sig.	
Between Groups		797.334		2	398.667		6.692*	.000	
Within Groups		45572.870		765	59.572				
Total		46370.203		767					

\*=significant at .05

To test this hypothesis, One Way Analysis of Variance (ANOVA) was used, and the result showed that (F= $6.692^*$ , p<.05). Since p (.000) is less than p(.05), the null hypothesis which stated that there is no significant influence of years of experience on teachers competences in utilizing

instructional tools in upper basic schools is rejected and the alternate hypothesis retained. This implies that there is a significant influence of years of experience on teachers' competences in utilizing instructional tools in upper basic schools.

**Table 5:** One-way analysis of variance (ANOVA) on the influence of educational qualification on teachers' competences in utilizing instructional tools

Verieble	Mean Std. Deviation							
Variable	able N Mean Std.		. Devia	ation				
NCE	280	11.3536	3.7	3300				
B. ED/B.SC	282	17.2553	17.2553 7.66					
M.ED/Ph.D	181	18.8564	8.7	4037				
Total	743	16.3540	7.8	1369				
Source of variation		Sum of Squares		df	Mean Square	F	Sig.	
Between Group	5010.027		2	2505.014	46.007	.000		
Within Groups	40291.879		740	54.448				
Total		45301.906		742				

\*= significant at .05 level

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The result on Table 5 showed that (F=46.007, p<.05). Since p (.000) is less than p (.05), the null hypothesis which stated that there is no significant influence of educational qualification on teachers' competences in utilizing instructional tools in upper basic schools is rejected, and the alternate hypothesis retained. This implies that there is a significant influence of educational qualification on teachers' competences in utilizing instructional tools in upper basic schools.

## DISCUSSION OF FINDINGS

This study focused on teachers' competences in the utilization of digital learning tools in upper basic schools in Cross River State. The result of the first hypothesis showed that teachers' competence in the utilization of digital instructional tools in upper basic schools is low. This could probably be since the trend in the curriculum of teachers in Cross River State is still very analogue, it could also be seen from the result that teachers are only competent in handling mobile phone applications which could be just for WhatsApp and emails. Thus, this is very poor as upper basic schools in our area are not aligning with global best practices of digitalizing educational system. No wonder it is common to even see teachers struggling to use android phones.

The second finding also showed that male teachers do not differ in the utilization of digital instructional tools in upper basic schools. This is because, they are exposed to the same work environment, motivation and probably training. Therefore, they are not used to these modern facilities that are used in instruction. They rely heavily on the use of the traditional board and assignment pattern for their instruction. The findings are in line with that of Aleksander, Damijana, Nina, Lan, Ljubljani and Slovenia (2017) that carried out a study on demographic determinants of usefulness of e-learning tools among students of public administration. Students in the survey evaluated 13 aspects of ecourses in which they were enrolled.

The empirical results showed that the general impression regarding the e-courses, their consistency with the face-to-face teaching and the teachers' responsiveness had a significant influence on the students' perception of the usefulness of e-courses. Further analysis based on demographic data revealed several subgroups of students where the perception of usefulness was influenced by different aspects. The teachers' competence in providing feedback and supplementing the tutorial play an important role in higher years of study, while the general impression loses its influence

Similarly, the finding from hypothesis three of the study also showed that years of experience influence teachers' competences in the utilization of digital instructional tools. The reasons cannot be farfetched. This is because the old teachers in the teaching profession are better in the utilization of these tools because of the robust experience they already have in the conventional approach to teacher education curriculum over time. The younger teachers notwithstanding the lots of innovative techniques in their time might not compete favourably with the former. However, the problems might also be probably due to lack of facilities, lack of training and poor skills in the utilization of those digital instructional tools by the vounger teachers. The findings were in line with that of Charles (2012) who examined factors influencing teachers' adoption and integration of information and communication technology into teaching, in the review of the literature, the barriers include lack of teacher ICT skills: lack of teacher confidence: lack of pedagogical teacher training, lack of suitable educational software, limited access to ICT, rigid structure of traditional education systems, restrictive curricula, poor qualification etc. The article concluded that knowing the extent to which these barriers affect individuals and institutions may help in taking a decision on how to tackle them

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Furthermore, the finding from hypothesis four revealed that educational qualification of teachers has a significant influence on teachers' competences in utilizing instructional tools in upper basic schools. The finding is in agreement with the work of Dias-Trindade and Moreira (2020) who found out a significant relationship on teachers professional and pedagogical competence.

## CONCLUSION

Based on the findings of the study, it was concluded that teachers' competences in the utilization of digital instructional tools is very low and that there are no gender differences in their competences in the utilization of these digital tools among teachers. However, years of teaching experiences and educational qualification influences teachers' competences in the utilization of digital instructional tools.

## RECOMMENDATIONS

Based on these conclusions, it was recommended that teachers should be trained and retrained in the use of these tools to aid students' learning; that the teacher education curriculum should be restructured to include areas of digitalization of the classroom and the techniques that are currently used in modern classroom settings. Similarly, facilities that will aid teacher use of these tools should be provided to aid teaching and learning.

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