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Command Secondary School Teachers' Attitude Towards Information and Communication Technology Facilities for Instruction

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ABSTRACTS

This study examined command secondary school teachers' towards information the use of communication technology for instruction in Oyo State. The study adopted descriptive research of the survey type. The population for this study comprises all teachers in Command Secondary Schools in Oyo State, Census of all 317 teachers in the three schools was taken as a sample for the study. In addition, a stratified random sampling technique was used to classify teachers based on gender, teachers' teaching qualification, and teaching experience. Descriptive and Inferential statistics were used to answer the research question and test the stated hypotheses respectively with the aid of statistical product and service solution (SPSS) version 20.0 at 0.05 level of significance. The results of the findings indicated that command secondary school teachers had a positive attitude towards the utilization of Information and Communication Technology (ICT) tools for instruction and no significant difference exists in the attitude of command secondary school teachers towards the utilization of ICT tools for instruction based on gender, years of teaching experience, and academic qualification. The study concluded that instructional activities can be stimulated and enhanced if appropriate ICT tools are deployed for instruction and positive attitudes are manifested by the teachers. It was therefore recommended that secondary school teachers should be encouraged to deployed ICT tools for instruction irrespective of their gender.

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1. INTRODUCTION

The rapid growth and development of information and communication technology (ICT) has brought unforgettable changes in the 21st century and positively affected the demands of the Nigerian standard of education. Information technologies have become an integral part of 21st-century societies and the environments of older individuals (Wahl & Gerstorf, 2018). ICT includes devices and applications that provide access to information and enhance electronic communications, like sending text messages or engaging in video chats. Mobile phones, smartphones, computers, and laptops are typical ICT devices. The Internet (for instance, the web) is another ICT and plays a vital role because it is not a stand-alone device but a network of numerous systems and devices. Web-connected ICT devices (for instance, smartphones, tablets) are denoted by their access to the Internet (web connection), whereas non-web-connected ICT (for instance, old mobile phones) do not access the Internet ICT use, in general, may enable older individuals to live independently for a longer time and may have positive effects on health and social isolation (Czaja et al., 2018).

Web-connected ICT provides new communication capabilities. Its use facilitates higher levels of interaction and broader access to digital information and services than non-web-connected ICT. Research has shown that web-connected ICT has substantially changed lifestyle by enabling new sorts of social participation and interaction, and enhanced access to information (Antonucci et al., 2017; Castellacci & Tveito, 2018; Kim et al., 2017). Against this background, the excellence between the two forms of ICT (i.e., web-connected and non-web-connected) is vital when analyzing the role of ICT in older adults' everyday lives. The diffusion of ICT in society is an ongoing process (Hill et al., 2015). Still, many older adults lag within the ownership of web-connected ICT and Internet use compared with the overall population (Mitzner et al., 2019). There are further differences between the young-old and therefore the oldest-old. Using European data, König, Seifert, and Doh (2018) showed that but 10% of those aged 80 and older accessed the web, whereas 48% of Europeans aged 65–69 did.

The emergence of ICT in this era of technological advancement cannot be underestimated due to its immense contributions to instructional delivery. The rapid growth and development of ICT have brought unforgettable changes in the 21st century and positively affected the demands of the Nigerian standard of education. Cheung (2006) examined ICT as a process of gathering, accessing, and disseminating data for enhanced learning.

Some researchers described ICT as an umbrella term that includes any communication device or application used to disseminate process, retrieve and manipulate information. Teachers have to be acquainted with information and communication technology facilities, which will increase students' engagement in learning (Amosa et al., 2016). Teachers use ICT to support innovative pedagogy. New technologies that provide a good fit with existing practices, such as interactive whiteboards are first to be embedded, but others like video conferencing, digital video, and virtual learning environments are now being incorporated, providing evidence of ongoing learning by the workforce.

Teachers require training to continue to support innovative pedagogy. Some researchers refer to ICT as the means of acquiring, processing, storage, and the dissemination of information by combining computers and telecommunication skills with techniques. Mndzebele (2013) suggested that technology should be integrated into teachers' preparation programs so that teachers can experience the practical use, and be taught how to use them in the pedagogical methods that facilitate students' learning and achievements. ICT has drastically changed the techniques for teaching and learning, beliefs, values, culture, religion, and entire way of life. The most relatively affected areas include education systems,

commerce and industry, manufacturing process, and social system. It is obvious that in attempting to keep abreast with some of the new advances, acceptance and applications of these newly discovered technologies to teaching and learning has become imperative (Israel et al., 2014).

Attitude is the state of mind of an individual towards something. It may be defined as a tendency to feel and behave in a particular way towards objects, people, or events. Ajzen and Fishbein (2000) stated that attitudes are determined by the study of the facts concerning the result of an action and by the optimistic or undesirable appraisal of these results. As attitude is concealed until some situation arouses it. Attitude is an accumulation of information about an object, person, situation, or experience; it refers to feelings towards a situation or our impression about a thing (Amosa *et al.*, 2016). Yusuf (2005) observed that attitude controls the actual behaviour of an individual consciously or unconsciously and it influences future behaviour. Attitudes of teachers towards ICT utilization play significant roles in the teaching and learning process.

Several studies have been carried out on the factors that affect ICT utilization such as; gender, age, accessibility, and academic discipline (Oyeniyi, 2013). Some researchers observed that there is gender difference; women and girls enjoy less access to information technology than men and boys. Oyeniyi (2013) examined the physical, mental, and social differences of men and women to establish that differences could manifest in the patterns of male and female use of ICT. Gender difference towards ICT affects an individual's interest and attitude towards it. Olivia (2009) noted that the frequency of use of the Internet per week was higher among the males than the females while 38% of the males use the internet once a week, only 34.1% of all the females did the same, also 22.2% of the males and 17.6% of all females indicated that they use the internet thrice a week. The gender issue needs to be examined, investigated, and analyzed, to improve the Nigerian secondary education system.

Teachers' academic qualification and experience in the use of ICT is relevant to this study because they determine teachers' level of utilization of ICT within and outside the classroom environment. Ferguson (2011) examined qualification as a quality or accomplishment that makes one suitable for a particular job or activity or becoming qualified as a practitioner of a particular profession or activity. Akubuilo (2005) defined qualification as a condition or circumstance that must be met or complied with. In line with the following definitions of qualification, it is observed that a teacher's academic qualification is a prerequisite to his job productivity. Ferguson (2011) noted that teachers' academic qualification accounts for more variation in teachers' academic productivity. The researcher's comparison of teachers with higher qualifications with ones with lower qualifications in teacher's education programs showed that the teachers with higher qualifications have a greater impact on students' performances than the ones with lower qualifications. Hence, teachers' academic qualification is significant for their effectiveness and job productivity.

The quality of education of a nation could be determined by the quality of its teachers. Teachers' characteristics such as certification status and degrees in the area of specialization are very significant on teachers' attitudes toward the use of ICT. Teaching experience refers to the number of years an individual teacher has spent in the teaching profession. Some researchers' findings revealed that as teachers have more experiences, they become less dedicated, less hardworking, and more preoccupied with other life engagement. To them, teaching experiences have no place in teachers' excellent performance. Teachers play a paramount role in the adoption and implementation of information and communication technology (ICT) in teaching and learning. Teachers' teaching experience is also significant in the utilization of ICT in instructional delivery and is one of the moderating variables in this

study. Some researchers viewed the experience as a general concept that comprises knowledge, skill, or an event gained through involvement or exposure to a particular thing. Some researchers observed that experience refers to the nature of the events of someone or something undergone. Experience is part of existence, and it is not what happens to a man, it is what a man does with what happens to him. Akubuilo (2005) opined that the teachers' years of teaching experience have a significant contribution to students' performance but, some researchers also showed that teaching experience does not affect teachers' desire to improve their teaching through the utilization of ICT. Hence if secondary school teachers will be versatile in the use of ICT for instructional delivery, then variables such as experience, gender, and even their attitude should be looked into.

ICT facilities are electronic devices used for instructional delivery; because they enhance effective learning and facilitate desirable changes in learners' academic performance. Teachers' refusal or inaccessibility to use ICT may mar the process of knowledge acquisition in learners. Teaching using ICT motivates and engages students through computer techniques like simulations. Different international and national initiatives have been implemented to integrate ICT in secondary schools. However, the achievements are less satisfactory due to the lack of infrastructure that supports its usage in Nigeria, and poor knowledge and attitude towards its usage among teachers (Malero *et al.*, 2015). Hence, this study investigated the command secondary school teachers' attitude towards the use of information and communication technology for instruction in Oyo State.

The objective of this study was to;

- (i) determine teachers' attitude towards the utilization of ICT facilities for instruction;
- (ii) examined the influence of gender on teachers' attitudes towards the utilization of ICT facilities for instruction
- (iii) examined the influence of teachers' qualification on their attitude toward the utilization of ICT facilities for instruction and
- (iv) determined the influence of teachers' experience on their attitude towards the utilization of ICT facilities for instruction.

The following research question was raised to guide the study:

- (i) What is the attitude of teachers towards the utilization of ICT facilities for instruction?
- (ii) What is the attitude of male and female teachers towards the utilization of ICT facilities for instruction?
- (iii) What is the influence of teachers' teaching qualifications on their attitude towards the utilization of ICT facilities for instruction?
- (iv) What are the teachers' teaching experience on their attitude towards the utilization of ICT facilities for instruction?

The following hypotheses were tested at a 0.05 level of significance;

- (i) HO1: There is no significant difference between male and female teachers on their attitude towards the utilization of ICT for instruction.
- (ii) HO2: There is no significant difference between the qualified and less qualified teachers on their attitude towards the utilization of ICT for instruction.
- (iii) HO3: There is no significant difference between the experienced and less experienced teachers on their attitude towards the utilization of ICT for instruction.

2. METHODS

The study adopted descriptive research of the survey type. It had been considered appropriate because the descriptive research method involves the systematic collection and analysis of knowledge collected from an outsized population that helps to explain the

characteristics of population or event as they seem to support the phenomenon into account for this study without external manipulations by the researcher. The population for this study comprises all teachers in Command Secondary Schools in Oyo State, namely; Command Secondary School Apata Ibadan, Command Secondary School Odogbo, and Command Secondary School Mokola, all in Oyo State. Census of all 317 teachers in the three schools was taken as a sample for the study. In addition, a stratified random sampling technique was used to classify teachers based on gender, teachers' teaching qualification, and teaching experience.

The instrument is a researcher-designed questionnaire entitled; Command Secondary School Teachers' Attitude Towards Information and Communication Technology for Instruction in Oyo State. The instruments were divided into two sections: A and B. Section A deals with the respondents' bio-data such as gender, teaching qualification, and teaching experience. Thus, accessibility and availability were based on school and personal ownership. Finally, Section B deals with the items to elicit the attitude of teachers to the utilization of ICT facilities for instruction. This section was rated based on a 4-point Likert scale: Strongly Agree (SA), Agree (A), Strongly Disagree (SD), and Disagree (D).

The instrument was validated for face and content validity. This was achieved by giving the instrument to the researcher's supervisor to peruse the instrument and three Educational Technology lecturers in the Department of Educational Technology to validate the instrument. Three hundred and seventeen (317) copies of the questionnaires were distributed to the respondents and 267 were returned at an 84% return rate. The returned questionnaires were used for data analyses. The pilot test was done at Army Day Secondary School, Sobi Barrack Ilorin, Kwara State on twenty teachers to see how the respondent would react to the research instrument to ascertain reliability.

The result of the reliability was computed at a 0.05 significance level using Cronbach's Alpha. The result was 0.84 on teachers' attitude to the use of ICT facilities for instruction. The results showed high internal consistencies of the items in the research instrument. Because of this, the instruments were considered to be reliable. Descriptive and inferential statistical tools were used to analyse the data. Frequency count, percentage, and mean were used to analyse respondents' biodata mean and standard deviation was used to answer the research questions. Research hypotheses were tested using a t-test at a 0.05 level of significance

3. RESULTS AND DISCUSSION

This section presents the analysis and results obtained from the data based on research questions and hypotheses. **Table 1** shows the distribution of command secondary school teachers' gender in Oyo State, Nigeria; Male 174(65.2%), while Female 93(34.8%).

Table 1. Percentage Distribution of Respondents' Gender.

Frequency	Percentage %
174	65.2
93	34.8
267	100.0
	174 93

Table 2 shows the distribution of command secondary school teachers' qualification in Oyo State, Nigeria; 217(81.3%) are qualify teachers while 50(18.7%) were Less Qualify teachers.

Table 2. Distribution of Respondents' Highest Qualification.

S/N	Qualification	Frequency	Percent	Status
1	NCE	11	4.1	•
2	B.Sc. (Ed)	89	33.3	
3	B. ED	76	28.5	
4	B.A(ED)	16	6.0	Qualified
5	M. Sc (Ed)	11	4.1	
6	M. Sc/HND/B.Sc./B. A+PGDE	14	5.2	
7	B.Sc./B.A/B.Tech	13	4.9	
8	OND	11	4.1	Less
9	HND	9	3.4	Qualified
10	M.Sc.	17	6.4	
	Total	267	100.0	

Table 3 shows the distribution of command secondary school teachers' experiences in Oyo State, Nigeria; 141(52.8%) were highly experienced while 126(47.2%) were less experienced.

Table 3. Distribution of Respondents' Years of Teaching Experience.

S/N	Years	Frequency	Percent (%)	Status
1	1 - 5 years	126	47.2	Less Experienced
2	6 - 10 years	86	32.2	F a wie we and
3	11 years and above	55	20.6	Experienced
	Total	267	100.0	

3.1. Research Question One: Determine Teachers' Attitude Towards the Utilization of ICT Facilities for Instruction

Table 4 shows the attitudes of teachers towards the utilization of ICT tools. It was observed that most of the command schools' teachers' attitudes are positive towards the utilization of ICT tools. This is because the grand mean score of 2.6 is greater than the benchmark of 2.5. However, I regularly use ICT for instruction with a mean score of 2.3, I prefer face to face lessons with students than using ICT with a mean score of 2.4, I stay away from utilizing ICT for instruction 2.4, Using ICT for instruction is boring, thus I do not like using it 2.3, I will not be able to teach without ICT facilities in the process of instruction 2.3, I prefer using ICT only for personal purposes and not for instruction and My school authority does not encourage using ICT for instruction 2.3 and 2.27 respectively were disagreed upon. Findings from the study on teachers' attitudes towards the utilization of ICT facilities for instruction in command secondary schools in Oyo State reveal that most of the command schools' teachers' attitudes towards the utilization of ICT tools for instruction were positive. Most of the teachers agreed with the items in the questionnaire. The findings of the study agreed with the previous study of Muslem et al. (2018) whose study showed that participant teachers had positive perceptions of the implementation of ICT in classroom teaching and learning. The findings also validated the earlier findings of Hong (2016) whose study revealed that teachers involved in the study had a positive attitude towards ICT as an instructional tool. Also, the study concurs with the previous study of Semerci and Aydın (2018) on examining high school teachers' attitudes towards ICT use in education, applying descriptive research design and questionnaire for 353 teachers working in different schools. The study revealed that teachers

displayed a high level of positive attitude towards ICT use in education and a low level of anxiety towards ICT use in education.

Table 4. Teachers' Attitude towards the Use of ICT Facilities for Instruction.

S/N	Items	Mean	Decision
1	I am willing to use ICT for instruction	3.42	Agreed
2	I regularly use ICT for instruction	2.39	Disagreed
3	ICT facilities make my work interesting	2.92	Agreed
4	I prefer face-to-face lessons with students to using ICT	2.42	Disagreed
5	I am skillfully ready to use ICT facilities for instruction	3.04	Agreed
6	I find it easier to use ICT to search for meaningful learning experiences for my students	3.04	Agreed
7	My utilization of ICT facilities has enhanced my professional qualification competency	2.71	Agreed
8	My utilization of ICT will enhance my job productivity in instruction	2.77	Agreed
9	I stay away from utilizing ICT for instruction	2.40	Disagreed
10	I find it interesting to use ICT for instruction because it enriches my knowledge	2.98	Agreed
11	Using ICT for instruction is boring, thus I do not like using it	2.30	Disagreed
12	I cannot do without utilizing ICT for instruction	2.54	Agreed
13	I will not be able to teach without ICT facilities in the process of instruction	2.35	Disagreed
14	I prefer using ICT only for personal purposes and not for instruction	2.34	Disagreed
15	My school authority does not encourage using ICT for instruction	2.27	Disagreed
	Grand Max	2,6	

3.2. Hypothesis One: There is No Significant Difference Between Male and Female Teachers on Their Attitude Towards the Utilization of ICT for Instruction

In determining whether there was any significant difference between male and female undergraduates on their attitude towards the use of e-resources for learning, data were analysed using a t-test as shown in **Table 5**.

Table 5. Teachers' Utilization of ICT Facilities based on Gender.

Gender	N	X	SD	Df	T	Sig	Remarks
Male	174	40.0	7.0				
Female	93	39.5	5.7	265	0.57	0.564	Accepted
Total	267						

From **Table 5**, it can be deduced that there was no significant difference between male and female teachers on their attitude towards the utilization of ICT tools for instruction. This is reflected in the findings of the hypotheses tested df ((265) = 0.578, p > 0.578. Thus, the hypothesis which states that "there is no significant difference between male and female teachers on their attitude towards the utilization of ICT tools for instruction was accepted. Hence, gender has no influence on the teachers' attitudes to the utilization of ICT tools for instruction.

Findings on the influence of gender on the teacher's attitude towards the utilization of ICT for instruction. The findings show that there was no significant difference between male and female teachers on their attitude towards the utilization of ICT tools for instruction. Furthermore, the mean value from table 5 revealed that male and female command day secondary school teachers' utilization of ICT tools for instruction. The findings of this study contradict the earlier findings of some researchers whose study observed that male teachers utilized electronic resources than female teachers. The study further noted that gender equality does not imply that males and females are the same but both male and female teachers must be given equal treatments. The study contradicts the previous study of Elsaadani (2012) whose study concluded that males showed more positive attitudes toward ICT than females do. In the same context, the earlier findings of Graff (2003) declared that females were less likely to use ICT and were less confident in using ICT than their male counterparts.

Findings on the influence of teachers' qualifications on their attitude toward the utilization of ICT facilities for instruction revealed that no significant difference existed between qualified and less qualified teachers on their attitude toward the utilization of ICT tools for instruction. The findings of this study contradict the previous study of Akubuilo (2005) whose study revealed that the years of teachers' teaching experience have a crucial contribution to the utilization of ICTs in an instructional setting. The study further affirmed that teachers' qualification has some scholarly contributions, and they also play a vital role in the academic achievements of every teacher. The findings of this study contradict the previous study of some researchers whose study revealed that there is a significant relationship between educational qualification and job performance of the employee. This finding lends support to Rugai and Agih (2008) who found a significant relationship between the educational qualification and job performance of teachers in Bayelsa State. According to them, a more knowledgeable and widely trained teacher performs better than less knowledgeable and less trained teachers. The findings of this study are also inconsistent with the earlier study of some researchers whose study aimed at identifying potential differences between the competence of qualified English language teachers and other teachers with formal education as regards teaching the English Language at the secondary school level. The result of the study shows that teachers with higher academic qualifications have more knowledge of the subject matter, competence, and skills of teaching and have more impact on the teaching-learning process.

3.3. Hypothesis Two: There is No Significant Difference Between the Qualified and Less Qualified Teachers on Their Attitude Towards the Utilization of ICT for Instruction.

In determining whether there was any significant difference between qualified and less qualified teachers on their attitude towards the utilization of ICT for instruction data were analysed using t-test. From Table 6, it can be deduced that there was no significant difference between qualified and less qualified teachers on their attitude towards the utilization of ICT tools for instruction was accepted.

Table 6. Qualified and Less Qualified Teachers' Attitudes towards the Use of ICT for Instruction.

Qualification	No	Х	SD	Df	t	Sig	Remarks
Qualified	217	39.53	6.69	265	1.91	0.056	Assented
Less qualified	50	41.52	6.22	203	1.91	0.050	Accepted
Total	267						

This is reflected in the findings of the hypotheses tested df t(267) = 1.91, p > 0.056. Thus, the hypothesis which states that "there is no significant difference between qualified and less qualified teachers on their attitude towards the utilization of ICT tools for instruction was accepted.

Findings on the influence of teachers' qualifications on their attitude toward the utilization of ICT facilities for instruction revealed that no significant difference existed between qualified and less qualified teachers on their attitude toward the utilization of ICT tools for instruction. The findings of this study contradict the previous study of Akubuilo (2005) whose study revealed that the years of teachers' teaching experience have a crucial contribution to the utilization of ICTs in an instructional setting. The study further affirmed that teachers' qualification has some scholarly contributions, and they also play a vital role in the academic achievements of every teacher. The findings of this study contradict the previous study of some researchers whose study revealed that there is a significant relationship between educational qualification and job performance of the employee. This finding lends support to Rugai and Agih (2008) who found a significant relationship between the educational qualification and job performance of teachers in Bayelsa State. According to them, a more knowledgeable and widely trained teacher performs better than less knowledgeable and less trained teachers. The findings of this study are also inconsistent with the earlier study of some researchers whose study aimed at identifying potential differences between the competence of qualified English language teachers and other teachers with formal education as regards teaching the English Language at the secondary school level. The result of the study shows that teachers with higher academic qualifications have more knowledge of the subject matter, competence, and skills of teaching and have more impact on the teaching-learning process.

3.4. Hypothesis 3: There Is No Significant Difference Between the Experienced and Less Experienced Teachers on Their Attitude Towards the Utilization of ICT for Instruction

In determining whether there was any significant difference between the experienced and less experienced teachers on their attitude towards the utilization of ICT for instruction data were analyzed using t-test. **Table 7** indicates that t (267) = 2.31, p = 0.714. That is, the result of the t-value of 2.31 resulting in 0.71 significance values was greater than 0.05 alpha level.

Table 7. Teachers' Experiences based on their Attitude towards Utilization of ICT for Instruction.

Variable	N	Х	SD	Df	t	Sig	Remarks
Experience	215	3.34	0.28				_
Less Experience	52	3.10	0.30	265	2.31	0.714	Accepted
Total	267						

This means that the null hypothesis, which stated that there was no significant difference between the experienced and less experienced teachers on their attitude towards utilization of ICT for instruction was accepted. Thus, there was no significant difference between experienced and less experienced teachers towards the utilization of ICT for instruction. Findings on the influence of teachers' years of teaching experience on the attitude towards the utilization of ICT for instruction. The findings contradict the earlier findings of some researchers whose study examined experience as the nature of events of someone or something undergone. The research stressed further that experience is not what happens to a man, it is what a man does with what happened to him. Also, the study is inconsistent with

the previous findings of Akubuilo (2005) whose study revealed that the years of teachers' teaching experience have a crucial contribution to the utilization of ICTs in an instructional setting. The findings of this study agreed with the previous study of Zidon and Miller (2002) who found a weak relationship between years of teaching with computer usage. Conversely, to this present study in a study Martin and Lundstrom (2002) found that almost 60% of the teachers in their study who had under 10 years of teaching experience believed computers in the classroom were essential and hence they use it extensively, while only 25% of teachers with over 20 years of teaching experience shared this belief. Bhattacherjee and Prekumar (2004) demonstrated that people experience plays a vital in their initial acceptance towards a system in question. Research has shown that experience with the use of technology has an influence on intention to use and actual use of information technology (Thompson 2006). However, some researchers reported that teachers'" experience in teaching did not influence their use of computer technology in teaching (Niederhauser & Stoddart, 2001).

Gorder (2008) reported that teacher experience is significantly correlated with the actual use of technology. In her study, she revealed that effective use of computers was related to technological comfort levels and the liberty to shape instruction to teacher-perceived student needs. Meta-analysis and review of 81 research studies by Rosen and Maguire (1990) concluded that teachers teaching experience does not eliminate computer phobias and many experienced teachers display some wariness, discomfort, and/or mild anxiety concerning computers.

4. CONCLUSION

This study examined command secondary school teachers' attitudes towards the use of information and communication technology for instruction in Oyo State. The findings revealed that command secondary school teachers show a positive attitude towards the utilization of ICT tools for instruction. The findings also established that there was no significant difference between male and female teachers in their attitude towards the utilization of ICT tools for instruction. This serves as an eye-opener that there is no gender bias in the utilization of ICT tools for instruction. Finally, years of teaching experience and academic qualification did not influence the utilization of ICT tools for instruction. The study, therefore, recommended that command day secondary school teachers should be encouraged to deployed ICT tools for instruction irrespective of their gender since there is no significant difference between male and females teachers in their attitude towards the utilization of ICT tools for instruction and the ministry of Education should ensure adequate power supply and internet facility to secondary school teachers for easy access and utilization of ICT for instruction irrespective of academic qualification and years of teaching experience.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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