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LECTURERS' ATTITUDE TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY UTILISATION IN TEACHING STUDENTS WITH SPECIAL NEEDS IN OYO STATE, NIGERIA

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Abstract

Information and Communication Technology has been widely used to facilitate career, business, economic and social activities as well as to augment classroom lessons among learners with or without unique educational challenges. Given the paucity of literature on the use of information and communication technology for providing instruction to tertiary education learners who have special educational needs in the South-West Nigerian educational setting, this study set out to investigate lecturers' attitudes toward using information and communication technology applications for providing instruction in two higher institutions of learning in the South-West Nigeria. The descriptive research design was adopted which involved the purposive selection of the University of Ibadan and the Federal College of Education (Special) Oyo, Oyo State. Participants comprised 80 lecturers who were randomly selected from both institutions. The data collected were analysed using descriptive and inferential statistics at $p<.05$. To compare group differences, the Cohen's d was also computed. Findings showed that lecturers have positive attitude toward utilising information and communication technology applications for providing instruction to students who have special educational needs. It was found that the demographic factors: gender, institutional affiliation and educational roles are not potent predictors of lecturers' attitude toward the usage of information and communication technology for providing instruction to learners who experience special educational needs. The study concluded that suitable information and communication technology applications useful for teaching students with special needs should be provided to lecturers in Nigerian universities and colleges of education.

Keywords: Attitude towards ICT utilisation, information and communication technology, institutional affiliation, general and special educators, special education.

INTRODUCTION

The experiences of students who have special educational needs receiving instruction in tertiary institutions of learning have attracted the attention of a number of studies (Lazarus, 2018). Year after year, the total figure of persons who have special educational needs enrolled in higher institutions of learning rises (Seale, Georgeson, Mamas, & Swain, 2015). This increase in student enrollments may have been impacted by the reports and legislation aimed at fostering inclusive education practices at the higher institutions of learning globally. In agreement with the United Nations Convention on the Rights of Persons with Disabilities (UN, 2006) declaration of equal access to education for everyone, the Federal Ministry of Education (FME, 2017) launched the policy document titled "National Policy on Inclusive Education in Nigeria" where it articulated the guiding principles for inclusion.

The FME has thus mandated three stakeholders namely, the National Universities Commission, National Teacher Institute and National Council for Colleges of Education, to include inclusive education principles and techniques throughout their teacher education curricula and ensure effective implementation. To implement inclusive education in tertiary education institutions, the Nigerian government pledged to engage in regular capacity building of all stakeholders (teachers and policy makers) as well as procure educational materials including ICT, assistive technologies, learning aides and mobility aides for all schools and learning centres. This resolve depicts that the Nigerian government

supports the enrollment of students who experience special educational needs into its tertiary education institutions and have also gazetted the guidelines for provision of instruction to these students.

Information and Communication Technology (ICT) is an important instructional apparatus utilized by lecturers in teaching all students for improved academic and social performances. Lazarus (2018) reported that digital technologies makes it easier for higher education students who have special educational needs to attain independence and participate effectively in individualized and small group learning activities leading to improved functionality in everyday life. Thus, ICTs are inevitable instructional tools especially among different classifications of students who experience special educational needs. This is because students in this group are faced with diverse barriers that hinder them from learning easily in comparison to their peers without special educational needs. Perera-Rodríguez and Moriña (2019) maintained that access to appropriate technology enables learners with special educational needs to believe they are adept and prepared to attend university. In contrast, if they do not receive support in ICT usage, learners with special educational needs will lose confidence in themselves and their learning capacities.

Using 105 pre-university instructors from Romania, Blandul and Bradea (2016) found that the instructors had good awareness of the significance of ICT and a favourable attitude towards employing ICT tools in special education. Instructors' however, expressed that additional training in how to use modern technology for instruction among learners who have special educational needs will improve their input. Alkahtani (2013) conducted a study involving teachers who taught students enrolled in different levels of education. Although the finding indicated that participants' understanding and skills of using assistive technology was low, there was an average score of 4.09 out of 5.0 with 0.75 as standard deviation on question items regarding whether participants would require more training in their usage of devices described as assistive technologies. Hence, there was a strong agreement to the statement on further training in assistive technology usage which informed the recommendation made.

According to a survey by Olafare, Adeyanju and Fakorede (2018), colleges of education lecturers in Southwestern part of Nigeria had a positive attitude towards ICT and were moderately adept in its use. It can be inferred that lecturers' that possess attitude that is positive and have expertise in usage of ICT will perhaps include ICT into their academic tasks. Various research have also documented positive dispositions regarding using ICT for instruction among different categories of learners in various settings such as lecturers from three tertiary education institutions in Kwara State, Nigeria (Onasanya, Shehu, Oduwaiye, & Shehu, 2010); special education teachers who examined using assistive technology to remediate reading difficulties (Demirok, Gunduz, Yergazina, Maydangalieva, & Ryazanova, 2019); college of education lecturers in south-west, Nigeria (Olasedidun & Ganiyu, 2020); female pre-service special education graduate students who taught in a special education department in Saudi Arabia (Alanazy & Alrusaiyes, 2021); college of education lecturers in Ondo State, Nigeria (Ekunola, Onojah, Talatu, & Bankole, 2022).

A few studies have showed unsupportive or negative attitude towards employing ICT for instruction among learners who demonstrate exceptional educational needs by lecturers in tertiary education institutions. For instance, Strnadova, Hajkova and Kvetonova (2015) found that lecturers who were unsupportive of students' learning demonstrated this negative attitude by refusing to provide learners who have exceptional educational needs with supporting PowerPoint slides and handouts. In some cases, those students who have special challenges were not allowed to audio-record the lectures. In 2015, van Jaarsveldt and Ndeya-Ndereya found that some there is negative lecturers' disposition toward the usage of technology for learners who have special educational needs. By so doing, the idea of creating an inclusive learning environment on the campus remained unattainable, discouraging students with special educational needs from learning effectively.

In 2015 Alkhasawneh and Alanazy carried out a study in a Saudi Arabian university. The finding did not reveal remarkable statistical differences between lecturers based on their gender (men and women) and how they utilize ICT applications. Kpolovie and Awusaku (2016), and Mudasiru (2016) cited in

Ekunola, Onojah, Talatu, & Bankole, 2022) found that gender is not a significant predictor of attitude of lecturers towards ICT adoption in teaching and research. It was also discovered by Danko, Decman, Kerzic and Zorko (2020) that there is a link between gender and ICT use, with female lecturers being more likely to utilize specific ICT tools and their educational applications, while male teachers scored better in some ICT related attitudes. These reports show that the effect of gender on the attitude of lecturers towards how they use technology is still inconclusive. Based on this, more investigations are still necessary to fully understand these variables.

Tertiary education institutions could be university, polytechnic or college-based. Each of them award different degrees and certificates to diverse group of learners based on the training received. The study by Onasanya, Shehu, Oduwaiye, and Shehu (2010) demonstrated that instructors teaching in the university learned greater skills in the area of ICT than their other colleagues in polytechnics and educational colleges. It was also found the university lecturers and those in the polytechnic demonstrated greater skill in how they apply ICT in their classrooms than their colleagues at colleges of education (Egomo, Enyi, & Tah, 2012). In addition, Kpolovie and Awusaku (2016) found that there were largely more ICT facilities in federal institution (University of Port Harcourt) than at the Rivers State University of Science and Technology (a state university). Onwuagboke and Singh (2016) found a favourable disposition towards ICT adoption for instruction among sampled lecturers though it was also reported that the adoption of ICT for instruction was low. No statistical significant differences were obtained in the study based on participants' gender and institutional affiliation. The utilisation of ICT in the curriculum was also found to be favourably connected with faculty attitude.

As societies implement inclusion, all educators (general and special) are expected to wear many hats to help them design and deliver instruction and conduct regular assessments in their classrooms. Johnson (2016) explained that the roles of general educators have changed dramatically as the teachers welcome the opportunity to teach in inclusive education settings. According to Johnson, partnership in planning lessons, instructional delivery and assessment could include designing and implementing accommodations, including assistive technology as well as incorporating modern technology in a way that profits every learner. Collaboration involves professional connections and relationships as individuals labour to achieve a mutual objective (Friend & Cook, 2017). Successful inclusive education thus, entails that all professionals who work in the school including the general educator, must incessantly endeavour to cultivate cooperative abilities (Johnson, 2016). Previous studies on the impact of lecturers' educational roles (general or special) on their attitudes towards ICT use appears to be scanty especially in the study's target area, prompting this investigation.

Therefore, the present study investigated lecturers' attitude towards ICT usage for learners who have special educational needs with a consideration to two tertiary education institutions in Oyo State, both owned by the Federal Government of Nigeria. The institutions are the University of Ibadan (the Nigerian Premier University) and the Federal College of Education (Special) Oyo (the single institution of learning with the biggest enrollment of persons who experience special educational needs in Nigeria). Both institutions are noteworthy in the field of education and especially, special education in Nigeria because they operate the inclusive education system, and also admit and award degrees in special education. Three demographic characteristics of the participants were considered as follows: gender (male versus female), institutional affiliation (University of Ibadan versus Federal College of Education (Special) Oyo, and educational role (general education lecturer versus special education lecturer).

Research questions

The researcher put forward these questions for the research:

(i) What is the attitude of lecturers towards the use of ICT in teaching students with special educational needs?

(ii) Are there differences in the attitudes of lecturers in the use of ICT in teaching students with special educational needs based on their gender (male versus female); institutional affiliation (University of Ibadan versus Federal College of Education (Special) Oyo and educational role (special education lecturer versus general education lecturer)?

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METHOD

Design

The descriptive research design was adopted. The researcher collected information regarding lecturers' attitude towards the use of ICT in teaching students with special educational needs. Also, there was a special consideration to the collection of information on differences in lecturers' attitudes towards the use of ICT in teaching students with special educational needs with respect to lecturers' gender, institutional affiliation and educational role. None of the variables was manipulated because all the variables studied already exist in the participants.

Sample and sampling procedure

The population of this study comprised lecturers in two tertiary educational institutions in Oyo State, Nigeria. Selection was done through using the technique: simple random sampling method. Eighty (80) lecturers comprising general education and special education lecturers from the University of Ibadan and Federal College of Education (Special) Oyo, Oyo State, Nigeria were selected. Participating lecturers from the University of Ibadan were 50 (62.5%) of whom 32(64.0%) were male and 18(36.0%) were female. The participants from Federal College of Education (Special) Oyo were 30(37.5%) and included 17(56.7%) male and 13 (43.3%) female. Among the participants in the University of Ibadan, 18(36.0%) were general education lecturers, while 32 (64.0%) were special education lecturers. In Federal College of Education (Special) Oyo, 26(86.7%) were general educators and 4(13.3%) were special educators. Table 1 presents this data.

Table 1. Demographic Information of Lecturers.

Characteristics	University of Ibadan, Ibadan	Federal College of Education (Special) Oyo
Gender		
Male	32(64.0%)	17(56.7%)
Female	18(36.0%)	13(43.3%)
Educational Role		
Special Education Lecturer	18(36.0%)	26(86.7%)
General Education Lecturer	32(64.0%)	4(13.3%)

Note: N of University of Ibadan = 50 (62.5%). N of Federal College of Education (Special) = 30 (37.5)

Research procedure

The researcher shared the google form webpage for the survey with lecturers in the University of Ibadan and those in the Federal College of Education (Special) Oyo, Oyo State, Nigeria through email and WhatsApp platforms. The researcher sent two remainders to all those who received the link to the survey. Participation was made voluntary as only lecturers who consented in writing participated in the study. Participants were assured that their responses would be kept confidential.

Instrument

The instrument used for this study was adapted from the questionnaire used by Sanchez, Marcos, Gonzalez and GuanLin (2012) to survey the attitudes of on-the-job teachers toward the usage of the ICT for instruction. Based on the purpose of the present study, few modifications in terms of language (mechanics) were made in the questionnaire. For instance, the word "students" was replaced with the terminology "students with special educational needs". Originally question 3 states "Students learn more easily when using ICT". In the adapted survey, question 3 reads "Students with special educational needs learn more easily when using ICT. Aside these mechanical issues, no other changes were made to the basic content of the questionnaire. The adapted questionnaire includes a demographic section used to elicit information on lecturers' gender (male and female), institution affiliation and educational role (general educator or special educator). There were 25 questions in the section on attitudes towards the usage of ICT for instruction among students who have special educational needs. The modified Likert 4-point scale was employed. Only three (5, 6, 7) of the scale's 25 items were negatively articulated and reverse scoring was used to add the scores for individual items. Sanchez, Marcos, Gonzalez, and GuanLin (2012) obtained a Cronbach's alpha reliability index of .89 after reversing the negative values.

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Similarly, the trial testing conducted by the present researcher using 30 lecturers who were not part of the study participants yielded a Cronbach's alpha of .87.

Data Analysis

The descriptive statistics computed were frequency counts, mean and standard deviation, while inferential statistics of t-test was computed. The data was numerically coded and imported into the Statistical Package for the Social Sciences (SPSS) version 25 software. An independent t-test was computed to see if there were any statistically important variations in lecturers' attitudes between those in the University of Ibadan and those in Federal College of Education (Special) Oyo as well as among general education lecturers and special education lecturers. The impact size measure Cohen's d was also used to compare group differences.

RESULTS

Research question 1: What is the attitude of lecturers towards the use of ICT in teaching students with special educational needs?

Table 2 shows the attitude of lecturers' from the University of Ibadan and Federal College of Education (FCE) Special, Oyo toward the utilisation of ICT for providing instruction among persons who have special educational needs. The result revealed a grand mean score of 3.13 and a criterion mean of 2.50. Low mean scores were recorded in only the negatively worded (5, 6, 7) items. This result indicates that most of the lecturers in both tertiary institutions (University of Ibadan and Federal College of Education (Special), Oyo) have positive attitudes towards the usage of ICT for instruction among learners who have special educational needs. This implies that lecturers consider that ICT are useful tools that can be employed in the class when working with learners who have special educational needs. This result is presented in Table 2.

Table 2. Lecturers' attitudes toward the use of ICT in teaching persons with special educational needs.

S/N	ITEMS	SD	D	A	SA	$\bar{X}$	S.D
1	The use of informational technology in teaching persons with special educational needs is unstoppable.	12 15.0%	2 2.5%	24 30.0%	42 52.5%	3.20	1.060
2	The integration of computing resources in the classroom with persons with special educational needs encourages the improvement of the teaching learning process.	8 10.0%	1 1.3%	29 36.3%	42 52.5%	3.31	0.922
3	When ICT devices are employed, students with special educational needs learn better.	5 6.3%	5 6.3%	44 55.0%	26 32.5%	3.14	0.791
4	The utilisation of ICT facilities improves the reading ability of learners with special educational needs.	2 2.5%	3 3.8%	47 58.8%	28 35.0%	3.26	0.651
5	As a lecturer of learners with special educational needs, I still find it challenging to employ modern technologies.	17 21.3%	43 53.8%	17 21.3%	3 3.8%	2.08	0.759
6	I'm intimidated by the prospect of using ICT in the classroom.	21 26.3%	35 43.8%	19 23.8%	5 6.3%	2.10	0.866
7	Students with special needs are frequently better equipped than I am when it comes to using computer tools.	24 30.0%	51 63.7%	4 5.0%	1 1.3%	1.78	0.595
8	In my classroom, projectors, Interactive Digital Whiteboards, and computers are truly essential.	5 6.3%	2 2.5%	33 41.3%	40 50.0%	3.35	0.813
9	I am ready to be trained on the use of any digital device in order to use it in my classroom.	5 6.3%	-	32 40.0%	43 53.8%	3.41	0.791
10	I would frequently utilise the internet in my classroom.	1 1.3%	10 12.5%	48 60.0%	21 26.3%	3.11	0.656

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Table 2 (Continued). Lecturers' attitudes toward the use of ICT in teaching persons with special educational needs.

S/N	ITEMS	SD	D	A	SA	$\bar{X}$	S.D
11	I am prepared to collaborate in ICT instructional programmes in schools.	3 3.8%	-	39 48.8%	38 47.5%	3.40	0.686
12	If other schools' educational programmes focus on the usage of the internet, I would be willing to collaborate in them.	1 1.3%	-	48 60.0%	31 38.8%	3.36	0.557
13	I find that using the internet assists me in designing my syllabus.	2 2.5%	1 1.3%	42 52.5%	35 43.8%	3.38	0.644
14	I frequently use the internet to find out instructional materials I would use for my classes.	2 2.5%	1 1.3%	42 52.5%	35 43.8%	3.38	0.644
15	The usage of computing resources improves the teaching methodology for students with special educational needs.	3 3.8%	2 2.5%	39 48.8%	36 45.0%	3.35	0.713
16	New technologies enable me to access more resources so as to assess performance of students with special educational needs.	2 2.5%	-	43 53.8%	35 43.8%	3.39	0.626
17	ICT offers me access to novel sources of information for my teaching subject.	3 3.8%	-	38 47.5%	39 48.8%	3.41	0.688
18	In my classroom, ICT makes it easy to pay attention to diversity.	2 2.5%	1 1.3%	50 62.5%	27 33.8%	3.28	0.616
19	ICT helps me in the treatment of students with special educational needs.	6 7.5%	4 5.0%	47 58.8%	23 28.7%	3.09	0.799
20	Digital resources facilitate improvement in academic performance of students with special educational needs.	3 3.8%	3 3.8%	44 55.0%	30 37.5%	3.26	0.707
21	Students with special educational needs are more motivated when using ICT tools in the classroom.	2 2.5%	2 2.5%	52 65.0%	24 30.0%	3.23	0.616
22	Unmotivated students with special educational needs with traditional methodology improve their learning by using computers in the classroom.	5 6.3%	4 5.0%	52 65.0%	19 23.8%	3.06	0.735
23	As a lecturer, I find that using ICT boosts my motivation when I teach students with special educational needs.	2 2.5%	1 1.3%	44 55.0%	33 41.3%	3.35	0.638
24	The use of ICT boosts my satisfaction as a lecturer of learners with special educational needs.	5 6.3%	-	46 57.5%	29 36.3%	3.24	0.750
25	Despite the constraints, I believe I have a positive attitude towards the use of computing resources in the teaching-learning process.	3 3.8%	-	34 42.5%	43 53.8%	3.46	0.693
Criterion mean = 2.50				**Weighted Mean = 3.13**			

The items with the highest ratings include items 25 ($\bar{X}$ = 3.46) Despite the constraints, I believe I have a positive attitude towards the use of computing resources in the teaching-learning process); 9 ($\bar{X}$ = 3.41) (I am ready to be trained on the use of any computing resource in order to use it in my classroom); 17 ($\bar{X}$ = 3.41) (ICT offers me access to novel sources of information for my teaching subject); 11 ($\bar{X}$ = 3.40) (I am prepared to collaborate in ICT instructional programmes in schools); 13($\bar{X}$ = 3.38) (I find that using the internet assists me in designing my syllabus.); 14($\bar{X}$ = 3.38) (I frequently use the internet to find out teaching resources for my classes.) and 12($\bar{X}$ = 3.36) (If other schools' educational programmes focus on the usage of the internet, I would be willing to collaborate in them). Overall, the item with the highest rating is item 25, a question that categorically indicated that participants have a favourable disposition towards ICT usage in providing instruction. This result confirms that participants have a favourable disposition towards ICT usage for providing instruction to learners with special

educational needs in tertiary educational institutions. Participants' positive responses equally demonstrate their willingness to participate in training on how to use ICT to teach, to collaborate in school educational programmes, to use the internet for developing their lessons and to collaborate in other school programmes that focus on internet operation.

Research question 2: Are there differences in the attitudes of lecturers in the use of ICT in teaching students with special educational needs based on their gender (male versus female); institutional affiliation (University of Ibadan versus Federal College of Education (Special) Oyo and educational role (special education lecturer versus general education lecturer)?

Table 3. Independent samples t-test showing summary of lecturers' attitudes toward ICT utilisation for providing instruction among students with special educational needs based on their gender, institutional affiliation and educational role.

Variable	Demographic characteristics	N	Mean	Std.Dev.	T	P (Two-tailed)	Cohen's d
Teachers' attitude	Male	49	77.6122	9.9829	-.842	.403	.19
	Female	31	79.5484	10.0891			
Teachers' attitude	University of Ibadan	50	79.3400	9.7574	1.130	.262	.26
	FCE (Special), Oyo	30	76.7333	10.3655			
Teachers' attitude	Special education lecturer	44	79.2500	7.6739	.876	.384	.19
	General education lecturer	36	77.2778	12.3047			

With Cohen's d (Effect size), .20 points to a small effect, d=.50 specifies a medium effect, and .80 shows a large effect

Table 3 indicated that male lecturers (n=49) do not demonstrate significant difference in their attitude towards the utilisation of ICT for instruction among those learners who experience special educational needs compared to their female counterparts (Crit-t=1.96, Cal.t=-.842, p(.403)>.05 level of significance). The effect size of .19 was observed. Attitude of lecturers from the University of Ibadan do not vary from that of lecturers from the Federal College of Education (Special), Oyo with respect to using ICT to teach learners who have special educational needs (Crit-t=1.96, Cal.t=1.130, p(.262)>.05 level of significance). The effect size of .26 was observed. Special education lecturers do not vary from general education lecturers in their attitudes regarding teaching learners who experience special educational needs with ICT tools (Crit-t=1.96, Cal.t =.876, p(.384)>.05 level of significance). The effect size of .19 was observed. Although the Cohen's d (effect sizes) of .19, .26 and .19 observed for gender, institutional affiliation and educational role differences respectively were not strong, the effect size of 0.26 based on participants' institutional affiliation is the highest among them. However, it does not reveal a remarkable variation between the attitudes of participants in the University of Ibadan and their counterparts in the Federal College of Education (Special) Oyo.

DISCUSSION and IMPLICATIONS

Research question 1: Positive attitude toward the utilisation of ICT in teaching students who experience special educational needs among lecturers from two tertiary education institutions in Oyo State, Nigeria obtained in the present study has confirmed the results got from some previous studies on educators' attitudes toward ICT usage in tertiary education classrooms. The present findings are consistent with those of Blandul and Bradea (2016), Olafare, Adeyanju and Fakorede (2018) and Demirok et al. (2019). All these studies reported favourable attitude towards utilising ICT in special education settings. The present finding regarding item 9 in the attitude questionnaire shows that lecturers strongly agree to the statement that "I am ready to be trained on the use of any computing resource in order to use it in my classroom". This finding aligns with that of Alkahtani (2013) who reported a strong agreement to the question on teachers' need for more training on the use of assistive technology devices. The finding is also in congruence with the submission of Blandul and Bradea (2016) and Alanazy and Alrusaiyes (2021) that general and special education teachers respectively, require further trainings and more practice of ICTs for classroom instruction.

Participants also reported strong agreement to item 17 that is "ICT offers me access to novel sources of information for my teaching subject"; item 11 "I am prepared to collaborate in ICT instructional programmes in schools"; item 13 "I find that using the internet assists me in designing my syllabus."; item 14 "I frequently use the internet to find out teaching resources for my classes." and item 12 **"**If other schools' educational programmes focus on the usage of the internet, I would be willing to collaborate in them". All these findings are in agreement with the submissions of Lazarus (2018) that since ICT enable students who experience special educational needs to effectively study, connect, acquire and use functional abilities, its applications should be made available and accessible to the students for use in their classrooms. These findings are also in consonance with Perera-Rodríguez & Moriña (2019) submission regarding access to appropriate ICT for educationally challenged learners.

Positive attitude toward ICT usage for persons with exceptional educational needs is remarkable. It suggests the need to make ICT tools available and accessible to the students. The present findings also corroborate the views that in an inclusive classroom, educators who collaborate with one another and with other professionals and use digital technology well will serve their students better than those who do not (Johnson, 2016). However, the present study contradicts the findings of Strnadova, Hajkova and Kvetonova (2015) and van Jaarsveldt and Ndeya-Ndereya (2015) who revealed negative attitude towards the utilisation of ICT for those learners with special educational requirements among lecturers teaching in educational institutions at the post-secondary school level. All in all, the present researcher put forward the idea that lecturers' positive attitude toward ICT use for learners with special educational requirements in tertiary education institutions supports earlier positions by Lazarus (2018) that ICTs are essential tools for the improvement of academic achievement and functioning in society among learners with special educational requirements.

Research question 2: No differences in participants' attitudes towards utilising ICT for providing instruction to students who experience special educational needs in tertiary education institutions based on participants' gender, educational affiliations and educational roles were observed in this study.
It was established that gender does not have statistical remarkable effect on ICT attitude of lecturers as no differences were observed between males and females in their attitudes towards employing ICT for teaching purposes among learners with special educational requirements. In other words, male as well as female lecturers, have positive attitude towards employing ICT for instruction among learners who have exceptional educational needs in the tertiary institutions of learning sampled. This finding is in line with those of Alkhasawneh and Alanazy (2015), Kpolovie and Awusaku (2016), Onwuagboke and Singh (2016) and Olafare, Adeyanju and Fakorede (2018) who reported no statistical gender varaition in the attitudes of lecturers (men and women) with reference to the usage of ICT for instructional purposes. The present finding however, does not corroborate the finding of Danko, Decman, Kerzic and Zorko (2020) that reported that gender differences exist in relation to attitude towards ICT usage among university lecturers in favour of males. In the present study, females do not lag behind their male counterparts in terms of their attitude towards the utilisation of ICT in teaching learners who have exceptional educational needs.

Tertiary education institutional affiliations (university or college of education), was found to show no important variations in lecturers' attitudes towards the adoption of ICT in teaching learners who have special educational needs. Also, the present findings is consistent with the study of Onwuagboke and Singh (2016) that revealed no significant influence of type of tertiary institution (college of education, polytechnic and university) on lecturers' attitude towards using ICT tools in teaching. However, this present finding is not in tandem with that of Onasanya, Shehu, Oduwaiye, and Shehu (2010) which reported that lecturers in the university learned more skills with relation to ICT than their colleagues in polytechnics and colleges of education; and Kpolovie and Awusaku (2016) that found that the federal institution (University of Port Harcourt) has much greater ICT facilities than the state university (Rivers State University of Science and Technology). Both the acquisition of ICT skills and accessibility to ICT facilities by lecturers also has some linkage with the attitude of lecturers. So, reports from Onasanya, Shehu, Oduwaiye, and Shehu (2010) and Kpolovie and Awusaku (2016) are reasonable and should not

be waved away. However, it is noteworthy to submit that regardless of the type of tertiary education institution lecturers teach in, they now have some grasp of the value of ICT in the 21st century classroom. As a result, lecturers from the University of Ibadan and those from the Federal College of Education (Special) Oyo, equally demonstrate positive attitudes towards ICT application for instructional purposes among learners who experience special educational needs.

Educational role of lecturers (special education versus general education role) was discovered to show no substantial variation in the attitude towards ICT usage for the purpose of instruction among learners who experience exceptional educational needs. This finding demonstrates that both categories of lecturers that is, special or general have come to realize that the success of inclusive education practices for learners who have exceptional educational needs in tertiary institutions of learning hinges on the collaborative efforts made by all educators in the school setting. The lecturers understand fully that both special and general educators must assume new roles and responsibilities for the successful execution of inclusive education principles as suggested by (Johnson, 2016). Lecturers in this study recognize that to serve students with special educational needs effectively as inclusion teachers, partnership between the inclusion teacher and many professionals is required. Besides the present finding is in tandem with those of Demirok et al. (2019) that revealed positive attitude among special education teachers who used assistive technology to remediate reading difficulties.

The implication of the findings is that understanding the attitudes of lecturers can help both the universities and colleges of education develop policies and initiatives for the promotion of the inclusion and accommodation of diverse students. The positive attitude towards utilizing ICT for instructional purposes among learners who have special educational needs in tertiary institutions of learning found in this study is a healthy development. It shows that general and special educators in tertiary education institutions are prepared to adopt ICT in teaching learners with exceptional educational needs. This may be due to their experience during the COVID-19 lockdown. During the COVID-19 pandemic, the significance of ICT for providing instruction was emphasized, as many countries relied on ICT to carry on the education of their citizens, while protecting them from contracting the virus. This positive attitude also shows that provision of the required infrastructure and facilities will be readily accepted by the lecturers because they understand the importance of ICT on learning. The lecturers understand that with the use of ICT, learning barriers are removed making it possible to teach and learn notwithstanding the location and the special educational needs of an individual.

The absence of difference in attitude by gender, institutional affiliation and educational role is significant to the educational system in Nigeria. The implication is that despite the educational, physical and social barriers to learning experienced by learners who have special educational requirements in tertiary education institutions, all lecturers are favourably disposed to use ICT for teaching these learners and that there are no inhibiting factors on the part of the lecturers.

Conclusion

This study has shown that lecturers in the University of Ibadan and those in Federal College of Education (Special) Oyo, Oyo State Nigeria have positive attitude towards the usage of ICT for providing instruction to students who have exceptional educational needs in tertiary education institutions. Also, the study further confirms that gender, institutional affiliation and educational role do not contribute significantly to the differences in attitude of lecturers towards the usage of ICT for instruction among learners with special educational needs in tertiary institutions of learning. Hence, students who experience exceptional educational needs in tertiary education settings do not need to exercise concerns regarding whether their lecturers have embraced the use of appropriate ICT devices in teaching them or not. The lecturers themselves have demonstrated that if these ICT tools are available, they would use them to ensure quality service delivery to students with special educational needs.

To gain a more in-depth understanding of the views of various stakeholders such as students with or without special needs, parents, siblings, sign language interpreters, laboratory assistants/technologists,

involved in providing educational services to learners with special needs, a qualitative research design or mixed methods research design might be used.

Recommendations

Based on the findings, the following recommendations were made:

1. The management of tertiary institutions of learning should provide appropriate ICT tools for teaching learners with exceptional educational needs.

2. Lecturers should be exposed to further training in the use of the ICT applications. This will boost their confidence and competence and enable regular and intentional usage of the ICT tools by lecturers.

3. There is also the need to expose those who have special educational needs to regular orientation regarding the benefits of ICT tools to them. This is in order to get their commitment to use the ICT devices and eradicate any form of apathy to ICT usage on the part of the students.

4. Workshops that focus on collaborative activities in inclusive education settings should be organised for the lecturers.

5. Internet services should be provided to both students and staff of the institutions on a regular basis. This emphasizes the critical necessity for a reliable power source on campus in order to drive the internet.

Ethics and Conflict of Interests

To conduct this work, the researcher paid close attention to ethical procedures and declares that no conflict of interest exists.

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