ASSESSMENT OF LECTURERS' ATTITUDE TOWARDS INTEGRATION OF INFORMATION COMMUNICATION TECHNOLOGY IN TEACHING UNIVERSITY STUDENTS

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Abstract
This study assessed lecturers' attitude towards the integration of information and communication technology (ICT) in teaching university students. Two research questions were posed and one hypothesis was formulated to guide the study. Descriptive survey research design was adopted for the study. The population of the study comprised all the 345 lecturers (academic staff) from the 7 Departments in the Faculty of Education, University of Nigeria, Nsukka. Proportionate stratified random sampling and systematic sampling techniques were used to draw the sample of 172 lecturers (71 male and 101 female). A 29-item questionnaire instrument named "Teachers' Attitude Towards Integration of Information and Communication Technology (TATIICT) adapted from the study of Oladimeji, Adeyanju and Fakorede (2017) was used to generate the data. Three specialists in Measurement and Evaluation validated the instrument. Internal consistency reliability of the items of the instrument was ascertained using Cronbach alpha method and a value of 0.86 was obtained. Mean was used to answer the research questions while hypothesis was tested using t-test of independent samples at 0.05 level of significance. Result showed that university lecturers have positive attitude towards the integration of ICT in teaching university students. It was also revealed that there was a significant difference in the mean ratings of male and female university lecturers on their attitude towards the integration ICT in teaching university students in favour of male lecturers. It was recommended that government should ensure adequate provision of ICT facilities for proper integration of ICT in teaching university students by the lecturers.

Keywords: Assessment, Attitude, Information and Communication Technology (ICT), Integration

Introduction
        Education is considered as one of the greatest instruments that any nation can make for its quick economic, social, political and over all human resource development and sustainability. Education plays a crucial role in preparing and providing leadership to meet challenges and stimulate sustainable development

(Bloom, Canning &Chan, 2014). It is the teaching and learning process that involves parents and teachers whose function is to teach the young individuals and learners who will gain the learning imparted by the teacher. The importance of Information and Communication Technology (ICT) in this 21 century is indispensable in teaching and learning. ICT can improve education quality, expand learning opportunities and make education accessible at all levels of education in Nigeria (Federal Government of Nigeria, 2009).

ICT in education is the mode of education that uses information and communications technology to support, enhance, and optimise the delivery of information. Worldwide research has shown that ICT can lead to an improved student learning and better teaching methods. Liverpool (2002) opined that, ICT which enhances academic achievement is a generic term referring to technologies for collecting, storing, editing and passing on information in various forms. Information Communication Technologies are means of retrieving, processing, storing, retrieving and disseminating of information through the use of computer and other telecommunication facilities. More importantly, ICT deals with the ways these concepts work when put together. Ibenyenwa (2011) sees ICT as all the electronic devices, computer hardware and software and telecommunication gadgets that enable the processing, storage and immediate dissemination of huge amount of information through the computer networks. Federal Ministry of Education (2019) refers ICT as the art and applied sciences that deal with data and information. It encompasses all (equipment including computational machinery-computers, hardware, software, firmware etc., tools, methods, practices, processes, procedures, concepts, principles and the sciences) that come into play in the conduct of the information activities: acquisition, representation, processing, presentation, security, interchange, transfer, management, organization, storage and retrieval of data and information. According to Federal Ministry of Education (2019), the objectives of ICT in education are: to facilitate the teaching and learning processes, to promote problem-solving, critical thinking and innovative skills, to promote life-long learning and advance knowledge, to foster research and development etc.

The use of ICT has become an integral part of our educational system in Nigeria from the early years to university level, and it has contributed greatly to the learning style of both the teachers and the learners within and outside the classroom settings. Researchers too have found out that over 80% of the teachers in Nigerian higher institutions find it difficult to effectively tally their ICT instructional materials such as PC, audio-visual aids, slide clip, electronic white interactive board, and electronic conferencing materials and so on to the goals of their instructional objectives (Migliorino & Maiden, 2009). Watson (2002) supporting the use of ICT and yet regretting the teachers do not use it stated that the use of ICT in education is not only a catalyst for change, but also change in teaching style, change in learning approaches and change in access to information. Jones (2002) in line with this submission still declared that too many teachers still lack confidence in using ICT and this often made worse by lack of appropriate software, unreliable computers and

internet connections, and insufficient technical support when things go wrong. Jones (2002) still lamenting, over this condition stated that effective use of ICT for teaching and learning in schools and universities is not widespread even though the technology is now ubiquitous. Jones however opined that some teachers and lecturers have been able to integrate ICT into their teaching and more importantly engage ICT as vital tool university lecturers can use to facilitate teaching and learning. ICT is an instrument university lecturers can use to facilitate, make teaching and learning more interesting.

University is a high-level educational institution in which students study for degrees and *academic* research is done. A university is an institution of higher education and research which grants academic degrees in a variety of subjects and provides both undergraduate and postgraduate education (Okeke, 2016). University lecturers are the main implementation on the integration of ICT in the university education. Integration is the act or process of uniting different things. In this study, integration is the process of bringing together of ICT and education in order to make teaching and learning more effective. Kyriakidou, Chrisostomou and Banks (2000) were of the view that the integration of Information and Communications Technology (ICT) in classrooms has been a challenge for the educational systems of all countries which aim to be ready to cope with the needs and the demands of the 21st century. Kyriakidou, Chrisostomou and Banks (2000) further added that a pre-requirement for the successful integration of ICT in classroom life appears to be the stance of teachers, especially new teachers, towards computers and the role of modern technologies in teaching and learning. Therefore, for the integration of ICT to be achieved it depends on the attitude of lecturers towards ICT because teachers (lecturers) play a vital role in integration of ICT for effective teaching and learning at all levels of education. Teachers' attitudes, qualification and experience are factors associated with ICT use. Both a positive attitude about ICT use and ICT skills, in combination, are accepted precursors for effective use of ICT (Jones, 2002).

Teachers' attitude towards ICT is a very important factor which stake-holders ought to consider in implementing ICT in education (Kyriakidou, Chrisostomou & Banks, 2000). Migliorino and Maiden (2004) confirmed that teachers are indispensable to successful education and the attitude of a teacher, consciously or unconsciously, greatly affects integration of ICTAhluwalia (2006) defined attitude as a readiness to react towards or against some situation, person or thing in a particular manner. Attitude is a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence upon individual's response to all objects and situations with which it is related (Morris & Maistro, 2005). In this study, lecturers' attitude means the individual's prevailing tendency to respond favorably or unfavorably to integration of ICT in teaching and learning, which can be positive (values) or negative (prejudice).Attitude may serve to explain the decisions educators apply in teaching and how they prepare to teach with ICT (Lumpe & Chambers, 2001). With the introduction of the new ICT initiatives it becomes crucial particularly for newly qualified teachers to be confident in using ICT effectively in

their teaching. Despite the availability of ICT and new ICT initiatives in teaching university students, there's still poor academic achievement of students (Akparanta, 2014; Adeyemi, 2019). It becomes necessary to assess the lecturers' attitude towards the integration of ICT on university education.

Assessment is a systematic process of using many ways to collect information, in order to understand, describe and enhance improvement. Adeyemi (2019) defined assessment as all activities that teachers use to help students learn and to gauge student progress, so that the objectives of teaching will be achieved. Serafini (2010) was of the opinion that assessment is the systematic process of documenting and using empirical data on the knowledge, skill, attitudes, and beliefs to refine programs and improve students' learning. It is the action about something, the act of taking an appraisal. Nwankwola (2015) in a study on an Investigation of Lecturers' and students' attitude on use of ICTs in Nigerian university education as a panacea for national development revealed that lecturers possessed positive attitude towards the use of ICT and gender of lecturers has no significant influence on their use of ICT in universities. In other words, the study is indicative that the gender of lecturers did not predict their usage of ICT in university education. A study of Oladimeji, Adeyanju and Fakorede (2017) on Colleges of Education (COE) lecturers' attitude towards the use of information and communication technology in Nigeria stated that COE lecturers' have positive attitude toward ICT and were moderately proficient in the use of ICT. The implication is that with the positive attitude and proficient in the use of ICT, it may encourage the integration of ICT in their academic and teaching tasks. The study also found out that no significance difference was established between male and female lecturers in their attitude towards the use of ICT. Nwankwo (2014) on a study on influence of lecturers' attitude towards use of Information and Communications Technology in university education in Chukwuemeka Odumegwu Ojukwu University Igbarim in Anambra State found out that lecturers' attitude was not favorable. This shows that lecturers' attitude towards ICT is negative, many lecturers don't have computer of their own and don't use ICT in teaching because of incompetent ICT skills. The study also revealed that that there's significance difference between male and female lecturers in their attitude towards the use of ICT, with male lecturers' attitude more favourable than female lecturers attitude. Kyriakidou, Chrisostomou and Banks (2000) in a study on primary teachers' attitude to the use of information and communication technology: a comparative study between Cyrus and the United Kingdom revealed that both Cyprus and United Kingdom primary teachers have a positive attitude towards ICT in Education as well as an acceptance of the potential role of ICT within teaching and learning. They also appear to have sufficient basic ICT skill competence for operating the machine.

Despite the integration of ICT in the university education for achieving the objectives of the curriculum, facilitating education processes and making teaching and learning more interesting, there's still consistent increase in academic achievement of students (Nwankwo, 2014). Previous studies dealt more on availability and utilization of ICT, history of ICT, challenges of using ICT, possible solutions to problems of ICT in the schools etc., as ways of solving poor academic

achievement of students and achieving curriculum objectives but none considered attitude of university lecturers towards integration of ICT in teaching students, it becomes necessary to carry out this study.

Research Questions
The study was guided by the following research questions:
1. What is the attitude of university lecturers towards the integration of ICT in teaching the students?
2. What is the influence of gender on the attitude of university lecturers towards the integration of ICT in teaching the students?

Hypothesis
The null hypothesis was tested at 0.05 level of significance.
Ho; There is no significant difference in the attitude of university lecturers towards the integration of ICT in teaching the students based on their gender.

Methodology
This study adopted the descriptive survey research design. The population of this study comprised all the three hundred and forty-five (345) lecturers from the seven (7) departments in the Faculty of Education, University of Nigeria Nsukka (Dean's office, Faculty of Education, UNN). Proportionate stratified and systematic sampling techniques were adopted to select the sample size of 172 lecturers (71 male and 101 female) from the seven (7) departments in the Faculty of Education, making all the departments to have a well representative sample. Proportionate sampling technique was adopted to ensure greater representation of the sample relative to the population while systematic sampling technique was used because the sample was drawn at specified intervals from a list containing all the population.

The research instrument used for this study is a 29-item questionnaire titled "Lecturers' Attitude Towards Integration of Information and Communication Technology (ICT)" (LATIICT) adapted from the study of Oladimeji, Adeyanju and Fakorede (2017). The LATIICT instrument has two sections: section A and B. Section A covering the demographic data of the lecturers while section B contains 29 items on Lecturers' Attitude Towards Integration of Information and Communication Technology (ICT) in Teaching University Students. The responses were guided by 4-point rating scale of Strongly Agree (4 Points), Agree (3 points), Disagree (2 Points) and Strongly Disagree (1 Point). In analysis of data, items with mean of 2.5 and above were considered as the positive attitude possessed by the university lecturers while items with mean ratings below 2.5 were considered as the negative attitude possessed by the university lecturers towards integration of ICT in teaching the students.

Three Educational Measurement and Evaluation specialists carried out face validation on the instrument: two from Science Education Department, University of Nigeria Nsukka and one from Educational Evaluation and Counselling Psychology

(EECP) Department, University of Benin. Their observations were effected in the final draft of the instrument. To determine the internal consistency reliability of the instrument, the instrument was administered to 30lecturers outside the studied sample. The internal consistency reliability of the items of the instrument was established using Cronbach alpha formulae for LATIICT instrument to be 0.86. The instrument was administered by the researchers. The data collected were carefully analyzed using mean to answer the research questions and t-test to test the hypothesis at 0.05 level of significance.

Results

Research Question One: What is the attitude of university lecturers towards the integration of ICT in teaching the students?

Table 1: Mean and Standard deviation of the ratings of lecturers' attitude towards integration of ICT in teaching students

S/N	Item Statement	Mean	Std. Dev.	Decision
1	Using computer enhances my effectiveness on my teaching job.	3.49	0.68	PA
2	I enjoy working with computer	3.56	0.67	PA
3	Using computer gives me greater control over my teaching work.	3.61	0.67	PA
4	I prefer a job where I have to work with computer	3.40	0.70	PA
5	ICT literacy is a necessity for my job	3.49	0.67	PA
6	I feel at ease when I am around computers	2.60	1.11	PA
7	Knowledge of ICT will help to teach effectively	3.43	0.82	PA
8	Computers are useful in my discipline	3.32	0.59	PA
9	Computers are only useful for research	2.11	0.63	NA
10	I would like to learn more about computers	3.64	0.63	PA
11	My lack of knowledge of computer can hinder my teaching profession	3.55	0.65	PA
12	Students knowledge of computer have an adverse effect on lecturers who are not computer literate	2.18	1.01	NA
13	Working with computers makes me feel tense and uncomfortable	2.68	1.16	PA
14	It is easy to access and store information through a computer	3.59	0.70	PA
15	Computer based software will be of no use to me because of its limited memory capacity	1.94	0.98	NA
16	Using computer could provide me with information that leads to better research decision	3.73	0.54	PA
17	ICT makes my teaching more interesting	3.64	0.62	PA
18	ICT makes my lesson more diverse	3.35	0.68	PA
19	ICT gives me more confidence	3.43	0.76	PA
20	ICT helps me to discuss teaching ideas	3.50	0.67	PA
21	ICT makes my lessons more difficult	2.18	1.15	NA
22	ICT restricts the content of the lessons	2.09	1.30	NA
23	Using a computer in teaching is often frustrating	2.76	1.37	PA
24	ICT resources would be of no use to me in Nigeria because of limited availability of network	2.20	1.21	NA
25	I would have no difficulty telling others about the positive results of using a computer	3.48	0.92	PA
26	I prefer to get information through computer than visiting hardcopy textbooks.	3.12	1.00	PA
27	My teaching qualification is inadequate without computer literacy	3.28	1.04	PA
28	ICT is counter-productive due to insufficient technical resources	3.30	1.03	PA
29	Knowledge of ICT will facilitate the fulfillment of my tasks	2.87	1.18	PA
	Grand Mean	**3.09**	**0.79**	**PA**

*PA stands for **Positive Attitude** while **NA** stands for **Negative Attitude***

Table 1, shows mean ratings of 2.50 and above for items 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 18, 19, 20, 23, 25, 26, 27, 28 and 29; meaning that university lecturers have positive attitude on 23 items out of 29 items. It also showed a grand mean of 3.09 which is above 2.50. It indicates that university lecturers have positive attitude towards integration of ICT in teaching students.

Research Question Two: What is the influence of gender on the attitude of university lecturers towards the integration of ICT in teaching the students?

Table 2: Mean and Standard deviation of the ratings of lecturers' attitude towards integration of ICT in teaching students based on gender

S/n	Item Statement	Male Lecturers n = 71		Female Lecturers n = 101		Decision
		Mean	Std dev.	Mean	Std dev.	
1	Using computer enhances my effectiveness on my teaching job.	3.66	0.52	3.38	0.76	PA
2	I enjoy working with computer	3.69	0.67	3.48	0.67	PA
3	Using computer gives me greater control over my teaching work.	3.87	0.38	3.43	0.77	PA
4	I prefer a job where I have to work with computer	3.58	0.69	3.28	0.69	PA
5	ICT literacy is a necessity for my job	3.68	0.55	3.37	0.72	PA
6	I feel at ease when I am around computers	3.00	1.12	2.33	1.02	-
7	Knowledge of ICT will help to teach effectively	3.51	0.79	3.39	0.85	PA
8	Computers are useful in my discipline	3.56	0.53	3.16	0.58	PA
9	Computers are only useful for research	2.04	0.66	2.17	0.62	NA
10	I would like to learn more about computers	3.84	0.44	3.51	0.72	PA
11	My lack of knowledge of computer can hinder my teaching profession	3.73	0.48	3.43	0.73	PA
12	Students knowledge of computer have an adverse effect on lecturers who are not computer literate	2.31	0.84	2.10	1.12	NA
13	Working with computers makes me feel tense and uncomfortable	2.18	1.02	3.04	1.13	-
14	It is easy to access and store information through a computer	3.77	0.57	3.48	0.77	PA
15	Computer based software will be of no use to me because of its limited memory capacity	1.93	0.78	1.96	1.11	NA
16	Using computer could provide me with information that leads to better research decision	3.85	0.36	3.66	0.64	PA
17	ICT makes my teaching more interesting	3.86	0.39	3.50	0.72	PA
18	ICT makes my lesson more diverse	3.44	0.63	3.30	0.71	PA
19	ICT gives me more confidence	3.48	0.83	3.41	0.72	PA
20	ICT helps me to discuss teaching ideas	3.76	0.46	3.33	0.75	PA
21	ICT makes my lessons more difficult	1.92	0.80	2.40	1.33	NA
22	ICT restricts the content of the lessons	2.06	1.32	2.13	1.29	NA
23	Using a computer in teaching is often frustrating	2.21	1.34	3.16	1.27	-
24	ICT resources would be of no use to me in Nigeria because of limited availability of network	2.18	1.16	2.22	1.26	NA
25	I would have no difficulty telling others about the positive results of using a computer	3.59	0.89	3.41	0.94	PA
26	I prefer to get information through computer than visiting hardcopy textbooks.					PA
27	My teaching qualification is inadequate without computer literacy	3.42	0.84	2.91	1.06	PA
28	ICT is counter-productive due to insufficient technical resources	3.27	1.15	3.30	0.10	PA
29	Knowledge of ICT will facilitate the fulfillment of my tasks	3.41	0.71	3.16	1.27	PA
		3.08	0.97	2.73	1.30	

*PA stands for **Positive Attitude** while NA stands for **Negative Attitude***

Table 2 shows mean ratings of 2.50 and above for items 1, 2, 3, 4, 5, 7, 8, 10, 11, 14, 16, 17, 18, 19, 20, 25, 26, 27, 28 and 29; indicating that both male and female university lecturers possess positive attitude towards integration of ICT in teaching students. Item 6 was only positive attitude possessed by male university lecturers alone while item 13 and 23were only positive attitude possessed by female university lecturers alone. Items 9, 12, 15, 21, 22 and 24 had mean ratings below 2.5, which indicate the negative attitude possessed by both male and female university lecturers towards the integration of ICT in teaching students.

Hypothesis One: There is no significant difference on the attitude of university lecturers towards the integration of ICT in teaching the students based on their gender.

Table 3: t-test analysis of the mean ratings of male and female university lecturers on attitude towards integration of ICT in teaching students

Gender	Number	Mean	Standard deviation	Df	t-value	Sig.	Decision
Male Lecturers	71	3.58	0.59				
Female Lecturers	101	3.42	0.75	170	1.47	0.003	Ho Rejected

Table 3, revealed that there's a little difference in mean value of male and female lecturers with mean value of male as 3.58 and female as 3.42. The table also revealed that there was a significant difference in the mean ratings of male and female university lecturers on the attitude towards the integration of ICT in teaching the students in favour of the male lecturers, t (170) = 1.47, p <0.05. The null hypothesis of no significant difference in the mean ratings of male and female university lecturers on the attitude towards the integration of ICT in teaching the students was rejected since the associated probability value of 0.003 was less than 0.05 level of significance. Therefore, there is significant difference in the mean ratings of male and female university lecturers on the attitude towards the integration of ICT in teaching the student.

Discussion of Findings

The study revealed that university lecturers have positive attitude towards integration of ICT in teaching students. The university lecturers are mostly practicing the latest ICT teaching method. The result of this study is in agreement with the study of Oladimeji, Adeyanju and Fakorede (2017) on Colleges of Education (COE) lecturers' attitude towards the use of information and communication technology in Nigeria stated that COE lecturers' had positive attitude toward ICT. The finding of the study move in line with the study of Nwankwola (2015) on Investigation of Lecturers' and students' attitude on use of ICTs in Nigerian university education as a panacea for national development revealed that lecturers possessed positive attitude towards the use of ICT. The result

of study is also in support with the study of Kyriakidou, Chrisostomou and Banks (2000) in a study on primary teachers' attitude to the use of information and communication technology: a comparative study between Cyrus and the United Kingdom revealed that both Cyprus and United Kingdom primary teachers have a positive attitude towards ICT in Education. The finding of the study did not move in line with the study of Nwankwo (2014) on influence of lecturers' attitude towards use of Information and Communications Technology in university education in Chukwuemeka Odumegwu Ojukwu University Igbarim, Anambra State which found out that lecturers' attitude was not favorable, this shows that lecturers' attitude towards use of ICT is negative.

The study also revealed that male and female university lecturers have twenty-three positive attitudes out of twenty-nine attitudes used for the study, male have extra 2 positive attitudes. Also, there is a significant difference in the mean ratings of male and female university lecturers on attitude towards integration of ICT in teaching students in favour of male lecturers. The result of the study is in support with the study of Nwankwo (2014) on influence of lecturers' attitude towards use of Information and Communications Technology in university education at Chukwuemeka Odumegwu Ojukwu University Igbarim, Anambra State found out that there's significance difference between male and female lecturers in their attitude towards the use of ICT, with male attitude more favourable than female. The result of this study is in disagreement with the study of Oladimeji, Adeyanju and Fakorede (2017) on Colleges of Education (COE) lecturers' attitude towards the use of information and communication technology in Nigeria found out that no significance difference was established between male and female lecturers in their attitude towards the use of ICT. The study is also not in line with the study of Nwankwola (2015) on Investigation of Lecturers' and students' use of ICTs in Nigerian university education as a panacea for national development revealed that gender has no significant influence on university lecturers attitude towards their use of ICT in universities.

Conclusion

From the findings, it is concluded that university lecturers possessed positive attitude towards integration of ICT in teaching students. Also, there is significant difference in the mean ratings of male and female university lecturers on the attitude towards the integration of ICT in teaching the student. This will make the lecturers to facilitate and make teaching and learning more interesting which will eventually solve the problem of poor academic achievement of students. Therefore, educational planners and stakeholders should ensure that all university lecturers possess high positive attitude towards integration of ICT in teaching students as well as implement the necessary ICT teaching skills in making sure that the classroom instructional objectives are achieved, thereby creating interesting, efficiency and effective environment for learning which will definitely improve teaching and learning.

Recommendations

❖ Government should organize free seminar, workshop and conference on ICT to update the lecturers regularly on the new skills of ICT.

❖ Government should provide free internet browsing for all university leacturers.

❖ Regular free in-service training on ICT skills for all the new employed lecturers in the university.

❖ Use of ICT for teaching should be made compulsory for all lecturers in order to make the lecturers whose do not want to integrate ICT in the teaching to do so.

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