

ICT ADAPTABILITY AND JOB OUTPUT OF COLLEGES OF EDUCATION LECTURERS IN SOUTHWESTERN NIGERIA

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Abstract

The quality of lecturers' job output at the colleges of education has become an issue of concern to policy makers, educational managers, and the society at large. Several studies have been carried out on lecturers' job output but most of these studies focused on research culture, work stress, Information and Communication Technology (ICT) competence, teamwork, institutional, personal and reward system factors with little focus on the influence of ICT adaptability on the job output of lecturers in colleges of education. The study examined the relationship between ICT adaptability and job output of lecturers in colleges of education in Southwestern Nigeria. Two research questions were raised and three hypotheses were formulated to guide the study. The survey design of the correlational type was adopted for the study. The sample for the study comprised 196 lecturers and 1188 students selected from colleges of education in the study area through a multistage sampling technique involving purposive sampling technique and disproportionate stratified random sampling technique. The data obtained were analysed using frequency count, simple percentage, mean, multiple regression and Pearson's Product Moment Correlation. The results show that there are negative, low significant relationships between ICT accessibility ($r = -.19$; $p < 0.05$) and ICT utilization ($r = -0.21$; $p < 0.05$). Also, there is no significant relationships between ICT availability ($r = -0.03$; $p > 0.05$) and job output among lecturers in the study area. The study recommended that attention should be given to ICT adaptability in motivating them to higher job output level.

Keywords: *ICT availability, accessibility, adaptability, job output*

Introduction

Job output is a very significant factor for measuring institutional productivity. Job output is the level of performance recorded as a result of input incurred in production of

goods and services in an organisation. The quality and quantity of input could go a long way in determining the quality of output in an organisation. School as an organisation

has a lot of inputs which may range from materials input, human input and capital (finance) input. The outputs of school are students, and an assessment of these outputs is typically done in terms of both quality and quantity. The outputs of schools in terms of quantity relates to the number of graduates from educational institutions while the quality of outputs of schools pertains to class, the suitability and relevance of the knowledge and skills acquired as well as the employability of these outputs.

The job outputs of lecturers used to be of good quality in the past to the extent that they were previously trained to serve at secondary schools. The graduates of Nigerian colleges of education previously engaged in National Youth Service Corps with some of them posted to secondary schools for national service. This portrays the quality of the output of colleges of education in Nigeria at some time in the past. Also, many lecturers and great teachers of today are products of the then colleges of education. This proves that the output of these institutions to be of good quality. It is quite unfortunate that, in contemporary times, the output of colleges of education seem to have deteriorated to a deplorable state.

Educational stakeholders have been lamenting over the deteriorating state of output of colleges of education in Nigeria. Poor communication among primary school teachers seems rampant. It could be very hard to believe that some teachers in primary schools cannot communicate in English Language for long when teaching in the classroom as they resort to the use of native languages in teaching virtually all the lessons in the school. Poor subject mastery seems to be common among outputs of colleges of education. Corroborating the above assertion are the recent events that

took place among school teachers in some states of the federation. For instance, from all the 33,000 primary school teachers in Kaduna State who took the assessment test meant for primary 4 pupils, 21,780 of them failed to score 75%. Similarly in 2012, the Ekiti State government attempted to run competency tests for teachers, due to series of poor performances of students in external examinations, but had to cancel the assessment test due to the resistance from the Nigerian Union of Teachers (NUT). Equally in 2007, Kwara State tested 19,000 teachers in public primary schools in the state and the results were shocking as it was observed that only 75 of them were able to attain the required 80% competence threshold (Jibrin, 2017). Based on these observations, there seems to be doubts in the confidence of parents in sending their children to public schools across the states. Therefore, the quality of lecturers in colleges of education will possibly determine the quality of the graduates.

The job output among lecturers in colleges of education could be in form of quality teaching, research and impactful community services. Akpan (2016) laid credence to this by positing that lecturers of tertiary institutions in Nigeria including colleges of education are saddled with various tasks which include teaching, research and publications, marking of scripts of test and examinations, supervising students' projects and teaching practice, and providing services to the community. From the aforementioned above, teaching, research and community service could be used to measure the quality of lecturers' output in colleges of education which are the core services rendered by lecturers in the colleges of education.

Teaching is one of the core tasks of lecturers in colleges of education and the way this crucial aspect is being handled in colleges of

education is discouraging as poor teaching methods, poor communication, poor classroom control among lecturers in colleges of education have been reported in previous studies (Emunemu, 2009; Anho, 2011; Ifeoma and Ewuzie, 2012; Olawale, 2013), though lecture method appears to be more popular among lecturers in colleges of education without considering the limitations of this method which can be addressed, using other teaching methods. The micro-teaching exercise that is being designed for students seems not to be receiving much attention from lecturers in colleges of education, and this could make some of the teachers deployed to primary schools find it difficult to disseminate knowledge to the pupils because they cannot give what they do not have.

Information and Communication Technologies (ICTs) is likely to influence the job output of lecturers in colleges of education. In this era of technological advancement, ICTs have infiltrated every area of life, and education is not excluded. The job output of lecturers may, therefore, be enhanced or sustained if ICT is effectively utilised in colleges of education. Egomo, Enyi and Tah (2012) observed that ICT has impacted on the quality and quantity of teaching and learning through its dynamic, interactive and engaging content. The ICT is a common term for Information Technology (IT). It stresses the role of combined communications and the integration of telecommunications, computers as well as necessary software, middleware, storage, and audio-visual systems. These enable lecturers to access, store, transmit, and manipulate information in the area of teaching and research (Ejilibe, 2013). The integration of information technology in teaching is essential in improving the quality of graduates from

colleges of education. There are two main important reasons for integrating ICT into teaching and learning. Firstly, students would become familiar with the use of ICT, since all jobs in the labour market today are dependent on ICT. Secondly, the use of ICT resources in teaching will improve the quality of graduates, thereby making them more effective and efficient in the classroom setting (Okolocha and Nwadiani, 2015).

ICT is known to have impacted on the quality of teaching, learning and research worldwide. Moreover, it offers huge prospects for boosting research development and dissemination of research findings as well as effective teaching in the classroom setting. However, the quantity and quality of ICT resources available go a long way in contributing to effective teaching and learning in federal and state-owned colleges of education (Ejilibe, 2013). Aristovnik (2012) opined that the adaptability of ICT in colleges of education holds great potentials for improving job output and can result in the effectiveness of teaching among lecturers. For lecturers in the colleges to carry out their jobs effectively, especially in this age of knowledge-based technology and globalisation, the use of ICT becomes imperative. Interestingly, colleges of education all over the world are rapidly incorporating ICT into all facets of teaching, research and community service (Akpan, 2016). Lecturers who succeed at making use of ICT in their job daily, in both the office and lecture rooms, do not only contribute to learning outcomes in their students, but also contribute to quality research. Ogunsola (2005) as well as Aleke, Ojiako and Wainwright (2011) have identified ICT availability, accessibility and utilisation as measures of ICT adaptability.

ICT availability in colleges of education differs according to resources and use. ICT

availability is the possession of necessary technologies to aid the attainment of goals. It involves the acquisition of relevant technologies, including internet developments, mobile technologies, cloud computing as well as open education resources with the aim of solving existing problems and shaping the future of education. ICT availability provides a variety of tools to support and facilitate teachers' professional competence. ICT can aid development of soft skills like networking, collaboration and problem-solving while leveraging on social and cultural tools for sharing information and experiences through peer-to-peer networking and communities of interest (Akinwumi and Etomi, 2015). Therefore, the importance of ICT availability in enhancing the job output of lecturers in colleges of education cannot be overemphasised.

ICT accessibility in schools and homes has increased in developed nations such as USA, Australia, Great Britain, Finland, New Zealand, and Sweden (Yusuf, 1998). An accessible ICT product or service is one that can be used by all its intended users, taking into account their differing capabilities. A person's ability to use ICT may be impaired due to various physical, sensory, emotional or cognitive disabilities. For many modern technologies and in many contexts of use, ICTs can be designed and developed to meet the needs of all users. Even though a cross section of the society today has accepted ICT as an important part of the national culture, colleges of education seem to be slow in adopting it as an integral tool within the classroom (Cuban and Elliot, 2004). ICT accessibility seems to contribute to the quality of research (data processing and virtual libraries) and teaching (virtual learning and improved access) in no small measure.

ICT utilisation is necessary for qualitative instructional service delivery in colleges of education. It is the presentation and distribution of instructional content through web environment (e-teaching) or systems, offering an integrated range of tools (stand-alone computer instruction, CD-ROM, amongst others) to support learning and communication (Akuegwu, Ntukidem, Ntukidem, and Jaja, 2011). ICT utilisation can transform teaching and help lecturers to be more efficient and effective, thereby increasing their interests in research and teaching. It can assist in the area of structuring the course and its materials, thereby promoting rethinking and revision of curriculum and instructional strategies. Beyond teaching, it provides increased opportunities to collaborate and network with colleagues, thereby increasing communication and exchange of linkages among them. Therefore, there is a very high possibility that ICT utilisation can increase lecturers' job output.

Statement of the Problem

Over the years, stakeholders in the tertiary institutions in Nigeria have been lamenting about the spate of low job outputs among lecturers in colleges of education. The low quality of teaching and research among colleges of education lecturers is becoming worrisome to stakeholders (government, parents, employers of labour, education policy makers, and most especially, the teachers). This is because the quality of teaching/research work and publications carried out by lecturers in the colleges of education lack the required standard compared to what is obtainable in developed countries around the world. This explains why poor quality teachers are produced in various colleges of education. Most research work and publications done by lecturers of

Nigeria colleges of education are not problem solving and lack acceptability outside the country. All these perceived challenges portend danger to the goals of colleges of education because students may not be able to compete with their counterparts in the labour market and also measure up to the present standard. Many factors appear to have contributed to low job output of lecturers in colleges of education. These include inadequate ICT adaptability such as ICT availability, ICT accessibility and ICT usage. It is against this background that this study investigated the relationship between ICT adaptability and job output of lecturers in colleges of education in Southwestern Nigeria.

Purpose of the Study

The purpose of this study was to investigate the relationship between ICT adaptability and job output among lecturers in colleges of education in Southwestern Nigeria.

Research Questions

1. What is the level of job output among lecturers in colleges of education in Southwestern Nigeria?
2. What is the level of ICT adaptability among lecturers in colleges of education in Southwestern Nigeria?

Hypotheses

H₀₁: There is no significant relationship between all the ICT adaptability variables (ICT availability, ICT accessibility and ICT utilisation) and job output among lecturers in colleges of education in Southwestern Nigeria.

H₀₂: There is no significant relative influence of all the ICT adaptability variables (ICT availability, ICT accessibility and ICT utilisation) on job output among lecturers in colleges of education in Southwestern Nigeria.

H₀₃: There is no significant composite influence of ICT adaptability variables on job output among lecturers in colleges of education in Southwestern Nigeria.

Methodology

This research adopted the survey design of the correlational type. The population of this study comprised 2800 lecturers and 23760 students from 12 public colleges of education in Southwestern Nigeria. The purposive sampling technique was used to select states that have more than one college of education because of the likelihood of a mixed-ownership of the colleges of education in such states, that is, both federal and state-owned colleges of education. Thus, Oyo, Ogun and Lagos States were selected. The same technique was employed to select state and Federal colleges of education in each of the selected states because the two will have similar characteristics. A disproportionate stratified random sampling was used to select 7% of the lecturers and 5% of 300 level students in each school respectively in the selected colleges of education. Thus, the sample size for this study was 1384, which consisted of 196 lecturers and 1188 students. For the collection of data from the respondents, two questionnaires were used. Descriptive statistics like frequency count, simple percentage and mean were used to answer the research questions while multiple regressions and Pearson's Product Moment Correlation were used to test the hypotheses.

Results

Answering of Research Questions

In answering research question 1, the researchers used a scale where the weighted mean score of $1.0 \approx 1.99$ signifies a low rating; a mean score of $2.0 \approx 2.99$ signifies an average; and a mean score of $3.0 \approx 4.0$ signifies a high rating while for the purpose

of answering research question 2, the researcher used a scale where the weighted mean score of $1.0 \approx 1.69$ signifies a low rating; a mean score of $1.7 \approx 2.39$ signifies

an average rating; and a mean score of $2.4 \approx 3.0$ signifies a high rating.

1. What is the level of job output among lecturers in colleges of education in Southwestern Nigeria?

Table 1: The level of job output among lecturers in colleges of education in Southwestern Nigeria

S/N	Statements	VH	H	L	VL	Mean	STD.D
1	Come to class regularly	559 57.5%	381 39.2%	18 1.85	15 1.54%	3.53	0.49
2	Punctuality to class	515 51.2%	389 38.7%	39 3.9%	63 6.3%	3.35	0.60
3	Rate of communication with the students	417 42.3%	472 47.9%	82 8.3%	15 1.5%	3.31	0.69
4	Coverage of syllabus	178 17.9%	487 49.0%	212 21.3%	117 11.8%	2.73	0.73
5	Give regular assignments	163 17.6%	452 48.7%	152 16.4%	161 17.3%	2.66	0.72
6	Recommend relevant reading materials	214 21.6%	446 45.0%	205 20.7%	127 12.8%	2.75	0.76
7	Take time to explain difficult concepts	188 19.0%	424 42.8%	147 14.8%	232 23.4%	2.57	0.79
8	Encourage students to successfully complete tasks	356 35.5%	529 52.7%	98 9.8%	21 2.1%	3.22	0.74
9	Treat every course outline with passion	219 22.2%	459 46.5%	195 19.8%	114 11.6%	2.79	0.76
10	Call all students often to respond in the class	288 28.9%	435 43.6%	227 22.7%	48 4.8%	2.96	0.84
11	Appear friendly	271 27.0%	445 44.4%	158 15.8%	129 12.9%	2.86	0.77
12	Smile frequently	195 19.5%	454 45.4%	205 20.5%	147 14.7%	2.70	0.82
13	Employ jokes in lesson delivery	293 29.5%	403 40.6%	224 22.6%	72 7.3%	2.92	0.87
14	Employ instructional resources in lesson delivery	218 22.1%	467 47.3%	178 18.0%	125 12.7%	2.79	0.83
15	Active listening when students are speaking	451 45.2%	431 43.2%	80 8.0%	35 3.5%	3.30	0.76
Weighted mean = 2.96							

Key: VH – Very High; H – High; L – Low; VL – Very Low; Std.D – Standard Deviation

Table 1 shows that out of the 15 items used to measure the job output of lecturers, only 5 items contributed to the lecturers' job output. The 5 items are as follows: 'come to class regularly' ($3.74 > 2.96$), 'punctuality to class'

($3.54 > 2.96$), 'encourage students to successfully complete tasks' ($3.36 > 2.96$), 'rate of communication with the students' ($3.31 > 2.96$), lastly, 'active listening when students are speaking' ($3.30 > 2.96$) while the remaining 10 items

did not contribute to the job output of lecturers. Therefore, considering the weighted mean of 2.96 out of the 4.00 maximum obtainable score, the level of

job output among lecturers in colleges of education in Southwestern Nigeria, as perceived by the students, is adjudged to be average.

2. What is the level of ICT adaptability among lecturers in colleges of education in Southwestern Nigeria?

Table 2a: Level of Availability of ICT tools among lecturers in colleges of education

S/N	Statements	AF	ANF	NA	Mean	STD. D
1	Printers	111 77.6%	23 16.1%	9 6.3%	2.71	0.58
2	Computer	103 72.0%	37 25.9%	3 2.1%	2.70	0.50
3	CBT for exam monitoring	67 46.9%	58 40.6%	18 12.6%	2.34	0.69
4	Computerized public address system	59 41.3%	46 32.2%	38 26.6%	2.15	0.81
5	Projector slide for presentation	71 49.7%	50 35.0%	22 15.4%	2.34	0.73
6	Digital camera	60 42.0%	45 31.5%	38 26.6%	2.15	0.82
7	Scanner	66 46.2%	47 32.9%	30 21.0%	2.25	0.78
8	Electronic notice board	47 32.9%	37 25.9%	59 41.3%	1.92	0.86
9	Computer accessories	77 53.8%	37 25.9%	29 20.3%	2.34	0.80
10	Photocopying machine	86 60.15	33 23.1%	24 16.8%	2.43	0.77
11	Interactive white board	75 52.4%	46 32.25	22 15.4%	2.37	0.74
12	Internet facilities	72 50.35	59 41.35	12 8.4%	2.42	0.64
Weighted mean = 2.34						

Key: AF – Available and Functional; ANF – Available and Not Functional; NA – Not Available; Std.D – Standard Deviation

Table 2a shows that out of the 12 tools used to measure the availability of ICT tools, 8 ICT tools were available, and they are rated as follow: printers (2.71>2.34) is ranked highest among

available ICT tools, followed by computers (2.70>2.34), photocopying machines (2.43>2.34), internet facilities (2.42>2.34), interactive white boards (2.37>2.34), CBT for exam monitoring

(2.34=2.34), projector slides for presentation (2.34=2.34), and lastly, computer accessories (2.34=2.34) while the remaining 4 ICT tools were not available. Thus, the weighted mean of

2.34 out of the 3.00 maximum obtainable score, shows that the level of availability of ICT tools in colleges of education in Southwestern Nigeria is average.

Table 2b: Level of Accessibility of ICT tools among lecturers in colleges of education

S/N	Statements	RA	SA	NA	Mean	STD. D
1	Printers	82 57.3%	41 28.7%	20 14.0%	2.43	0.73
2	Computer	90 62.9%	37 25.9%	16 11.2%	2.52	0.69
3	CBT for exam monitoring	51 35.7%	60 42.0%	32 22.4%	2.13	0.75
4	Computerized public address system	36 25.2%	62 43.4%	45 31.5%	1.94	0.75
5	Projector slide for presentation	50 35.0%	60 42.0%	33 23.1%	2.12	0.76
6	Digital camera	50 35.0%	47 32.9%	46 32.2%	2.03	0.82
7	Scanner	57 39.9%	40 28.0%	46 32.2%	2.08	0.85
8	Electronic notice board	46 32.2%	38 26.6%	59 41.3%	1.91	0.86
9	Computer accessories	68 47.6%	50 35.0%	25 17.5%	2.30	0.75
10	Photocopying machine	63 44.1%	57 39.9%	23 16.1%	2.28	0.73
11	Interactive white board	59 41.3%	45 31.5%	39 27.3%	2.14	0.82
12	Internet facilities	61 42.7%	50 35.0%	3 2.4%	2.20	0.78
Weighted mean = 2.17						

Key: RA – Readily Accessible; SA – Seldom Accessible; NA – Not Accessible; Std.D – Standard Deviation

Table 2b reveals that out of the 12 tools used to measure the accessibility of ICT tools, 5 ICT tools were accessible. The 6 ICT tools are rated as follows: computers (2.52>2.17) is ranked highest among accessible ICT tools, followed by

printers (2.43>2.17), computer accessories (2.30>2.17), photocopying machines (2.28>2.17), lastly, internet facilities (2.20>2.17) while the remaining 7 ICT tools were not accessible. Therefore, the weighted mean

of 2.17 out of the 3.00 maximum obtainable score implies that the level of accessibility of ICT tools in colleges of

education in Southwestern Nigeria is average.

Table 2c: Level of Utilisation of ICT tools among lecturers in colleges of education

S/N	Statements	OU	RU	NU	Mean	STD. D
1	Printers	96 67.1%	36 25.2%	11 7.7%	2.59	0.63
2	Computer	82 57.3%	52 36.45	9 6.3%	2.51	0.61
3	CBT for exam monitoring	54 37.8%	64 44.8%	25 17.5%	2.20	0.72
4	Computerized public address system	55 38.5%	52 36.4%	36 25.2%	2.13	0.79
5	Projector slide for presentation	49 34.35	59 41.35	35 24.5%	2.10	0.76
6	Digital camera	44 30.8%	51 35.7%	48 33.6%	1.97	0.80
7	Scanner	59 41.3%	49 34.35	35 24.5%	2.17	0.80
8	Electronic notice board	44 30.8%	55 38.5%	44 30.8%	2.00	0.79
9	Computer accessories	66 46.2%	55 38.5%	22 15.4%	2.31	0.72
10	Photocopying machine	72 50.3%	53 37.1%	18 12.6%	2.38	0.70
11	Interactive white board	56 39.2%	58 40.6%	29 20.3%	2.19	0.75
12	Internet facilities	60 42.0%	57 39.9%	26 18.2%	2.24	0.74
Weighted mean = 2.23						

Key: OU - Often Utilised; RU - Rarely Utilised; NU - Not Utilised

Table 2c reveals that out of the 12 ICT tools used to measure the utilisation of ICT tools, 5 ICT tools were utilised. The 5 ICT tools are rated as follow: printers (2.59>2.23) is ranked highest among utilised ICT tools, followed by computers (2.50>2.23), photocopying machines (2.38>2.23), computer accessories (2.31>2.23), lastly, internet facilities (2.24>2.23) while the

remaining 7 ICT tools were not utilised. The weighted mean of 2.23 out of the 3.00 maximum obtainable score shows that the level of utilisation of ICT tools in colleges of education in Southwestern Nigeria. Putting the mean scores of ICT availability ($\bar{x}=2.34$), ICT accessibility ($\bar{x}=2.17$) and ICT utilisation ($\bar{x}=2.23$) together, the overall weighted mean score for ICT adaptability is

2.25. Accordingly, the level of ICT adaptability among lecturers in colleges of education in Southwestern Nigeria is average.

Test of Hypotheses

H₀₁: There is no significant relationship between all the ICT adaptability variables (ICT availability, ICT accessibility and ICT utilisation) and job output among lecturers in colleges of education in Southwestern Nigeria.

Table 3: Correlation Matrix showing relationship between independent variable and lecturers' job output

Variables	Job Output	ICT Availability	ICT Accessibility	ICT Utilisation
Job Output	1			
ICT availability	-0.028 0.738	1		
ICT accessibility	-0.185* 0.027	0.445* 0.000	1	
ICT utilisation	-0.211* 0.012	0.245* 0.003	0.476* 0.000	1
Mean	53.99	27.80	25.39	27.08
Standard Deviation	11.19	5.58	6.73	10.65

* denotes significant at $p < 0.05$ level of significant

Table 3 indicates that there was a negative and weak significant relationship between ICT accessibility and job output among lecturers in colleges of education in Southwestern Nigeria ($r = -0.19$; $p < 0.05$). A negative and weak significant relationship was also observed between ICT utilization and job output among the respondents ($r = -0.21$; $p < 0.05$) while there was no significant relationship between ICT availability and job output among the respondents ($r = -0.03$; $p > 0.05$). Considering the results which

showed that two out of the three ICT adaptability variables had significant relationships with the outcome variable, H_{01} is hereby accepted.

H₀₂: There is no significant relative influence of all the ICT adaptability variables (ICT availability, ICT accessibility and ICT utilisation) on job output among lecturers in colleges of education in Southwestern Nigeria.

Table 4: Multiple Regressions showing the relative contribution of the indicators of ICT adaptability and job output among lecturers

Model	Under standardized Coefficients	Standardized Coefficient			
	Beta	Std. Error	Beta (β)	t	Sig.
(Constant)	60.399	4.987		12.111	0.000
Availability	0.149	0.185	0.074	0.805	0.422
Accessibility	-0.234	0.169	-0.141	-1.388	0.167
Utilisation	-0.170	0.099	-0.162	-1.724	0.087

Table 4 indicates that the relative influence of ICT availability ($\beta = 0.07$; $t = 0.81$; $p > 0.05$), ICT accessibility ($\beta = -0.14$; $t = -1.39$; $p > 0.05$) and ICT utilisation ($\beta = -0.16$; $t = -1.72$; $p > 0.05$) on job output among lecturers in colleges of education in Southwestern Nigeria were not significant. This means that none of the ICT adaptability variables (availability accessibility and utilization) influences job output among lecturers in colleges of education. Thus, H_{02} is accepted.

H₀₃: There is no significant composite influence of ICT adaptability variables on job output among lecturers in colleges of education in Southwestern Nigeria.

Table 5: Multiple Regressions Analysis showing the joint influence of ICT adaptability and job output among lecturers

Sources of Variance	Sum of Squares	Df	Mean Square	F	Significant
Regression	1030.982	3	343.661	2.852	0.040*
Residual	16750.990	139	120.511		
Total	17781.972	142			
R = 0.241 R Square = 0.058 Adjusted R Square = 0.038 Std. Error of the Estimate = 10.97774					

Table 5 reveals that the joint influence of ICT adaptability variables (ICT availability, ICT accessibility and ICT utilisation) on job output among lecturers in colleges of education in Southwestern Nigeria ($F_{(3, 139)} = 2.85$; $\text{Adj } R^2 = 0.04$; $p < 0.05$) was significant. The results show a multiple regressions coefficient ($R = 0.24$), which implies that ICT adaptability variables altogether have a weak but positive significant relationship with job output of lecturers. The table also

shows that about 4.0% variation in job output of lecturers is as the result of the joint influence ICT adaptability variable (ICT availability, ICT accessibility and ICT utilisation) while the remaining 96.0% may be due to other factors and residuals not under investigation in this model ($\text{Adjusted } R^2 = 0.04$). This indicates that when the joint influence of the ICT adaptability variables (availability, accessibility and utilisation) are taken together, they jointly influence the job

output of the respondents. Hence H_{03} is rejected.

Discussion of Findings

The findings of the study revealed that there was an average level of job output among lecturers in colleges of education in Southwestern Nigeria. The students in the study area had a high perception of the job output of their lecturers in the areas of coming to class regularly, punctuality to class, encouraging students to successfully complete tasks, rate of communication with the students, and active listening when students are speaking. However, it is worrisome to observe that most of the students have a poor perception of their lecturers taking time to explain difficult concepts. This is expected to have some adverse effects on the competence and teaching ability of the students of colleges of education, who are rightly described as the future teachers, as they cannot give what they do not have.

The findings of the study revealed that there was an average level of ICT adaptability among lecturers in colleges of education in Southwestern Nigeria. This means that ICT adaptability is yet to be fully implemented in these colleges. The result of this study as regards the average level of ICT adaptability corroborates that of Obiri-Yeboah, Kwarteng and Kyere-Djan (2013) that ICT was not fully integrated in teaching, research and learning in tertiary institutions in Ghana. The level of each of the ICT adaptability variables was also found to be average. It was observed that only printers, computers, photocopying machine, internet facilities, interactive white boards, CBT for exam monitoring, projector slides for presentation, and computer accessories were available while the remaining 4 ICT tools were not available.

This finding is similar to the report of Ejilibe (2013) that level of availability of ICT resources was also low in colleges of education in Southeastern Nigeria. Likewise, Okolocha and Nwadiani (2015) had reported that few available ICT resources were available in colleges of education and universities. Similar to the present study, Adedeji (2011) had reported the non-availability of some ICT equipment in colleges of education in Southwestern Nigeria. The result of the present study partly corroborates that of Akuegwu *et al.* (2011) who reported that the availability of ICT facilities for quality instructional service delivery was significantly low except in the area of internet-connected desktop computers.

The findings of this study indicated an average level of accessibility of ICT tools in the study area. The results showed that only computers, printers, computer accessories, photocopying machines and internet facilities were accessible while the remaining 7 ICT tools were not accessible. Average accessibility of the few available ICT tools in the study area worsens the situation for the lecturers in the colleges. Furthermore, it was observed that there was an average level of ICT utilisation in the study area as only printers, computers, photocopying machines, computer accessories and internet facilities were utilised while the remaining 7 ICT tools were not utilised. Previous studies had reported a low level of level of utilisation of the available ICT tools, resources and facilities (Adedeji, 2011; Egomo *et al.*, 2012; Ejilibe, 2013; Akuegwu *et al.*, 2011) and the rare utilisation of ICT resources (Okolocha and Nwadiani, 2015) in colleges of education and universities by Biology lecturers was also low in colleges of education in Southeastern Nigeria.

The findings of the study showed that though a significant relationship was observed between accessibility and job output among lecturers in the study area, it was also weak and negative. The same kind of relationship was observed between ICT utilization and job output. This means that an increase in ICT accessibility and ICT utilisation led to a decrease in the job output of the respondents. Also, there was no significant relationship between ICT availability and job output. In addition, the findings of the study revealed that the relative influence of ICT availability, ICT accessibility and ICT utilisation on job output among the respondents were not significant. These findings support the findings of Ani, Ngulube and Onyancha (2015) that there was no significant perceived effect of accessibility and use of electronic resources by discipline on research productivity. These findings disagree with Okolocha and Nwadiani (2015) who reported that ICT resource utilisation has a high influence on teaching. These findings are also in contrast with those of Ben (2015) who observed that there was a significant relationship between ICT usage and lecturers' job performance in tertiary institutions in Akwa Ibom State, Nigeria. The ICT adaptability variables (ICT availability, ICT accessibility and ICT utilisation) were observed to have a significant joint influence on job output among the respondents. This is similar to the report of Okafor, Imhonopi and Urim (2011) that 77.5% of the study participants reported that the utilisation of internet services had also improved their quality of teaching while a similar improvement in the area of research was reported by 79.1% of the study participants. This result also corroborates that of Agba and Ocheni (2017) who reported that work-related factors like internet facilities are significant determinants

of the job performance of academic staff in Nigerian public and private universities. An implication of this is that a joint improvement in the variables of ICT adaptability will lead to an increase in the job output of the respondents.

Conclusion

Based on the major findings of this study, it is concluded that ICT adaptability variable contributes significantly to the job output of lecturers of colleges of education in Southwestern Nigeria, and if the goal is to improve the job output of lecturers in colleges of education, then ICT tools must not only be available but mechanisms must be put in place to ensure accessibility and utilisation of ICT tools among lecturers in colleges of education.

Recommendations

Considering the observation that the ICT adaptability variables have significant joint influence on the job output of lecturers, it is important to reinforce and apply these variables as part of agendas in achieving institutional goals and greater increase in employees' teaching and research outputs. Attention should be given to ICT adaptability in motivating them to higher job output level. ICTs also should be integrated into the current curricula. There should be consistent monitoring and evaluation of government policy on ICTs in education. It is also essential for the government and other relevant stakeholders to provide funding for the procurement and maintenance of ICT resources, ensuring existence of functional computer laboratories, consistent power supplies in schools and provision of in-house training for teachers so that they keep in touch with the developments in ICT and related technologies. The effective development of digital libraries in colleges

of education would ameliorate the problems of accessibility and utilization of electronic resources by academic staff in research. Lastly, the libraries in colleges of education should develop a relevant electronic collection development policy to support the sustainable subscription of electronic resources across academic disciplines to enhance an efficient research process.

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