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ACADEMIC STAFF INFORMATION AND COMMUNICATION TECHNOLOGY TRAINING PARTICIPATION AND TRAINING NEEDS FOR EFFICIENT JOB PERFORMANCE IN COLLEGES OF EDUCATION IN DELTA STATE

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ABSTRACT

This study assessed Academic Staff Information and Communication Technology (ICT) Training Participation and Training Needs for their Efficient Job Performances in Colleges of Education (COEs) in Delta State. Two research questions guided this study and two null hypotheses were formulated for the study. A descriptive survey research design was employed in the study. Population for the study consisted of 762 academic staff from 3 publicly-owned COEs (federal & state government-owned) in Delta State. Sample size for the study constituted 609 academic staff selected out of the entire population of academic staff from the COEs in Delta State using the stratified random sampling technique. A 19-item Questionnaire entitled: "Academic Staff ICT Training Participation and Training Needs for Efficient Job Performances Questionnaire (ASICTTPTNEJPQ)" which was constructed for academic staff was used for data collection in the study. The research instrument was face validated by one Computer Science expert and two Measurement and Evaluation experts from Delta State University Abraka. Reliability of the questionnaire was established through a pilot-test on a single administration sampling 20 academic staff from one of the COEs in Edo State. After the pilot test, the scores were measured using Cronbach Alpha formula to appraise the reliability of the research instrument. The scores gave coefficient reliability of 0.81 and 0.80 for the two clusters respectively; which were added up to give an overall internal consistency reliability value of 0.81, showing that the questionnaire was reliable. Data collated was analyzed using mean and standard deviation statistics. The hypotheses were tested using t-test statistics at an alpha level of 0.05 significance. Findings of the study indicated among others that the academic staff in both Federal and State COEs level of participation in various information and communication technology (ICT) training programmes, for their efficient job performances in the COEs in Delta State was low. Thus, the differences between the mean ratings of academic staff of the Federal and State Government-owned COEs on their level of participation in various information and communication technology (ICT) training programmes, for their efficient job performances in COEs in Delta State, was not significant. From the findings of the study, recommendations were made and among them included that the both the Federal and State Governments through the college management and leadership should provide sufficient funds to increase academic staff level of

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participation in various information and communication technology (ICT) training programmes for their efficient job performances in the COEs.

Keywords: *Academic, Staff, ICT, Participation, Training, Needs, Efficient, Job, Performance*

Introduction

The Information and Communication Technology (ICT) which has quite been existing for some decades is beginning to make significant and positive impact in the Nigerian education sector in this 21st century. Kpolovie and Wusaku (2011) and Tomie (2013) opined that the ICT includes the use of communication devices, mobile technological hardware devices, software applications, like the Microsoft word, Excel or spread sheets, power point, graphic design, Corel draw, Adobe page maker, online networking and connectivity, social media applications, among others. The Information and Communication Technology further embraces all physical objects, equipment or hardware used for information processing or transmissions like computers, cellular phones, videos, DVD, CD players, flash drive, CD-ROMs and TV transmitters. This also includes publication outlets like e-books, e-journals or through personal Websites, among many others. Olosunde and Akinpelu (2010) observed that ICT are enabling technologies (both hard wares and soft wares) necessary for the delivery of voice/audio data/high-speed and low-speed, video, fax and internet services, using wired and wireless resources/media and associated equipment that are connected via Internet-Protocol (IP). It covers internet services\provision, telecommunications equipment and services, information technology equipment and services means and broadcasting, commercial information and communication activities, international network, among others (Chukwuma & Aniekwe, 2011). The ICT hence, has continued to make significant contributions in teaching and learning in all education systems and levels. Habibu, Al-Mamun and Clement (2012) opined that ICT integration in education is meant and should be utilized as a tool to support educational objectives such as skills for searching and assessing information, cooperation, communication and problem-solving which are important for the preparation of students for the knowledge-based society. Innovative use of ICT can facilitate student-centered learning and promote quality e-learning delivery (that is, electronic learning) among students in the Colleges of Education - COEs (Habibu, Al-Mamun & Clement, 2012). Hence, every teaching/academic staff in the Colleges of Education (COEs) should use different ICTs to enhance quality instructional delivery in every course of study because it can engage the thinking, decision making, problem solving and reasoning behaviours of students (Ogbomo, 2011).

The academic staff of the Nigerian COEs who are equally known as lecturers play significant role in the teaching-learning paradigm shift of their institutions. As professional teachers, they must understand the potential benefits of different ICT in education, for their effective job performances. The COEs on the other hand, are teacher education institutions which offer diversified education and training for both pre-service and in-service teachers. They further provide Professional Diploma in Education (PDE) programme for graduate teachers without educational background. According to Enueme (2014), the colleges of education (COEs) are part of educational institutions that are saddled with the responsibilities of producing in-service teachers. They offer training programmes such as NCE courses to pre-service teachers. The Nigerian COEs as teacher education institutions have been established with certain the goals and objectives as highlighted by the Federal Republic of Nigeria (FRN, 2014) in the National Policy on Education (NPE). Achievement of all the goals and objectives of the COEs would involve improving all

instructional practices to become more functional, participatory experiential, student-centred, practical and activity-based using the Information and Communication Technology (ICT) tools support. According to the FRN (2014), the information and communication technology (ICT) is one of the educational support services and tools for revitalizing and promoting quality teaching and learning at all levels of the Nigerian education system for teachers' effective job performances. To support the incorporation and integration of ICT into the main streams of the Nigerian education system for continuous educational development, effective service delivery and improvement in job performances, the federal government had earlier initiated an ICT policy in the year 2001 in the country. From the foregoing discussions, effective use of the ICT serves as one means towards ensuring that quality services and instructional delivery are highly promoted in the COEs by academic staff through their efficient job performances.

Academic staff job performance according to Robbins and Judge (2013), is the disposition of teachers towards their work; and this likewise involves a collection of numerous attitudes to work. Job performance among teachers will be low if their working environment does not facilitate satisfaction of their needs. In the COEs, academic staff job performances include their participation in teaching and learning activities, research activities, consultancy and public services, supervision of students' projects, invigilation of examinations, organizing and conducting students' assessments and evaluation, and performing administrative roles such as the heads of departments, directors of units, among others. All these academic staff tasks and responsibilities cannot be efficiently executed without the support of the ICT. Several authorities like the Akudo (2022), Ali, Haolader and Muhammad (2013), Antwi-Boasiakoh (2015), Hussein (2014), Jensen and Sarroco (2002), Mandefro (2013), Olatoye (2011), Singh and Chan (2014) and Tasie (2011) have commented on the importance role and benefits of the ICT on education, especially in improving job performances among staff members. According to the aforementioned scholars, the information and communication technology (ICT) brings about a powerful learning environment and it transforms the learning and teaching process in which students deal with knowledge in an active, self-directed and constructive way. However, the process of utilization of the ICT can be very effective in teaching and learning only when academic staff of the COEs are well-exposed and knowledgeable in using them for their job performances. But in some cases, many academic staff have not shown much skills and competences in utilizing the ICT in the classroom. This situation raises so much doubts on their level of active participation and constant engagements in ICT training programmes; coupled with their training needs in various areas of ICT utilization and application. Thus, academic staff ICT participation will entail their constant and consistent engagement or involvement in computer education programme for knowledge and skills update in new use of emerging technologies.

For Avoseh (2008), participation generally involves sharing or taking part in something such as learning activities and training programmes. Scholars such as Jensen and Sarroco (2002) remarked that many schools do not have computers and access to the internet, which is an important requirement for supporting networking for learners and teachers, as well as, for collaborative learning and improving job performance. Also, neither do their teachers have the experience, competence nor skill to effectively use these ICT facilities in schools. Without academic staff consistent participation in ICT training programmes, it then, becomes very difficult for them to efficiently use many of these ICTs while executing their jobs. No wonder, teaching and learning activities are still highly dependent on the old traditional and conventional method of 'talk, chalk and board' in the COEs. Antwi-Boasiakoh (2015) opined that looking at the

developing countries such as Nigeria, there seems to be generally limited access time per month for academic staff to actively participate and turn up to certain ICTs training programmes, and even less time are spent with reliable Internet access. Therefore, one would think that academic staff of the COEs level of participation in ICT training programmes would have been determined by several factors which draws the researchers focus and attention towards their ICT training needs so as to improve their ICT usage for their efficient job performances. Scholars such as Akinnagbe and Baiyeri (2011), Akudo (2022), Hussein (2014), Tasie (2011), Olatoye (2011), Nwokedi, Amaewhule and Nwafor (2018) and Oyekanmi (2016) in their studies have indicated areas of ICT training needs for staff which will enhance their job performances. Thus, areas of ICT training needs for academic staff could be such areas in connection with the use of certain ICT hardware and software devices, online emerging and social media technologies, use of learning management system, application of certain online apps in lecturing, use of some statistical packages for research analysis, among many others. Therefore, the poor and deplorable situation of academic staff usage of ICT tools to efficiently execute their respective functions and tasks in the COEs have equally motivated the researchers to investigate academic staff (ICT) training participation and training needs for their efficient job performances in Colleges of Education (COEs) in Delta State.

Statement of the Problem

Academic staff of the COEs are important in the teaching and learning activities of their institutions. They stand at the forefront of education in order to ensure students' learning. Given the importance of academic staff in the provision of quality teachers education in the COEs, that is, 'no education system can rise above the quality of their teachers', there is need to ensure that these academic staff are proficient in utilizing various ICTs for their efficient job performances. Rather, the researchers' observations from most of the COEs including those in Delta State, showcase that many of the academic staff still highly depend and rely on the old conventional traditional method of teaching using 'chalk and talk' style. Many do not utilize the ICT during instructional delivery in the classroom, therefore, making their teaching more teacher-centred than student-centred. Many of them do not use the ICT during students' project supervision, while conducting their research or executing their consultancy work. For efficient job performances in the COEs, the use and integration of ICT in the teaching and administrative tasks must highly be encouraged. The poor situation of inadequate utilization of ICTs by academic staff for their efficient job performances have continued to raise some doubts and questions about academic staff ICT proficiency, their level of participation in ICT training programmes coupled with their training needs. The questions raised in this present study are that; Does it mean that the academic staff lack proficiency in using the various hardware, software and online technologies? If it seems so, then, what is their level of participation in ICT training programmes? What are their areas of training needs in order to boost their ICT competences for efficient job performances? In a bid to answer all these questions which seem to have created a gap that needs to be filled in this present study, this has warranted the present study. However, the need towards resolving issues in connection with academic staff ICT proficiency level and training needs for their efficient job performance is the problem of this study.

Purpose of the Study

The purpose of this study was to examine Academic Staff Information and Communication Technology (ICT) Training Participation and Training Needs for their Efficient Job Performances in Colleges of Education (COEs) in Delta State. The study specific objectives aimed at:

1. Finding out academic staff level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State.
2. Ascertaining the areas of academic staff information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State.

Research Questions

The following research questions were raised to guide the study:

1. What is the academic staff level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State?
2. What are the areas of academic staff information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State?

Hypotheses

The following null hypotheses were formulated and tested in the study at an alpha level of 0.05 significance:

1. There is no significant difference between the mean ratings of academic staff of the Federal and State Government-owned COEs on their level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State.
2. There is no significant difference between the mean ratings of academic staff of the Federal and State Government-owned COEs on their areas of training needs for their efficient job performances in Colleges of Education (COEs) in Delta State.

Research Method

A descriptive survey research design was employed in the study. This design was employed to collect data and information from a sample size of academic staff of different COEs in Delta State within their population using a questionnaire to determine their level of participation in ICT training programmes likewise their training needs. The information and data gathered from the respondents through a field survey will be used to form generalization and draw conclusion about the study. Justification for the choice of the descriptive survey research design according to Nworgu (2015) aims at enabling researchers to collect data from sample of a given population and describe them in a systematic manner, the characteristics, features or facts about this given population. Population for the study consisted of 762 academic staff from 3 publicly-owned COEs (federal & state government-owned) in Delta State. The breakdown involves 358 academic staff of the federal government-owned COE and 404 academic staff of the two state government-owned COEs. Sample size for the study constituted 609 academic staff selected out of the entire population of academic staff from the COEs in Delta State using the stratified random sampling technique. The academic staff were selected using the stratified random sampling technique based on institutional ownership. The stratified random sampling technique was used to stratify and select 80% of the academic staff from their respective strata based on institutional ownership of federal and state government-owned institution. Nworgu (2015) highlighted that in the stratified random sampling technique each element in the population is selected and included in the sample based on their existing characteristics in relation to their institutional ownership, geographical location, education zones, positions, ranks, sex, among others. To carry out this technique, it was convenient for the researchers to select samples from the entire elements based on their institutional ownership of federal and state government-ownership. The participants were easily

reached out by the researchers using the support of some research assistants. A 19-item Questionnaire entitled: "Academic Staff ICT Training Participation and Training Needs for Efficient Job Performances Questionnaire (ASICTTPTNEJPQ)" which was constructed for academic staff was used for data collection in the study. Construction of the questionnaire was guided by the purpose of the study and research questions. The items on the ASICTTPTNEJPQ was structured on a 4-point rating scale weighted as follows: (a) Very High Level (VHL) - 4, (b) High Level (HL) - 3, (c) Low Level (LL) - 2, (d) Very Low Level (VLL) –1, was used for answering only research question 1. And rating scale weighted as follows: (a) Strongly Agree (SA) - 4, (b) Agree (A) - 3, (c) Disagree (D) - 2, (d) Strongly Disagree (SD) –1, was used for answering research question 2. However, for the levels, VHL showcases that such an academic staff frequently or quarterly participated in computer training programmes (4 times annually), HL showcases that such an academic staff participated in computer training programmes (2 times annually), LL showcases that such an academic staff occasionally participated in computer training programmes (once between two to five years), and VLL showcases that such an academic staff rarely or scarcely participated in computer training programmes (once or two times in a lifetime career). The research instrument was face validated by one Computer Science expert and two Measurement and Evaluation experts from Delta State University Abraka. The corrections made by these experts in terms of their face value, content relevance, items clarity and sentence construction in order to determine the instrument's validity, were incorporated in the instrument before the final draft of the instrument. Nworgu (2015) opined that validity is concerned with measurements which deal with the appropriateness of a research instrument in measuring what it intends to measure, that is, it deals with accuracy and effectiveness of the measuring instrument.

Reliability of the questionnaire was established through a pilot-test on a single administration sampling 20 academic staff from one of the COEs in Edo State. After the pilot test, the scores were measured using Cronbach Alpha formula to appraise the reliability of the research instrument. The scores gave coefficient reliability of 0.81 and 0.80 for the two clusters respectively; which were added up to give an overall internal consistency reliability value of 0.81, showing that the questionnaire was reliable. The final copies of the questionnaire, that is, ASICTTPTNEJPQ was distributed to the respondents on a face-to-face, personal and hand-delivery process employing the on-the-spot method using services of six (6) research assistants, who reached out to the respondents in their various COEs. Copies of the questionnaire for the academic staff were delivered to them by the researchers and research assistants who were NCE students in one of the COEs in Delta State. These research assistants were instructed on how to communicate and retrieve the necessary information from the respondents. These research assistants were briefed on how to administer the questionnaire to the respondents in the COEs. This entailed explaining properly to the research assistants the institution's location of the sampled COEs selected for the study likewise the aim of the study. The researchers and the research assistants waited for the respondents to complete the questionnaire on-the-spot before retrieving them to obtain the highest possible rate of return. However, a total of 609 copies of the questionnaire were printed out and distributed by the researchers and the research assistants to the respondents. The rate of return on the retrieval of the research instrument from all the respondents was calculated at a 100% rate of return. Data collated was analyzed using mean and standard deviation statistics. The hypotheses were tested using t-test statistics at an alpha level of 0.05 significance. Frequency, mean statistics, section means and standard deviation statistics of all the items in the research instrument were calculated and used to

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analyze the research questions in order to test the mean scores differences and variability of the variables. The standard deviation statistics was used to ascertain the homogeneity of response of the items in the instrument. The mean score and standard deviation score for each item representing each research question in the various clusters were computed for academic staff in the federal and state government-owned COEs in Delta State respectively. As regards, the decision rule for the items on each of the research questions were based on the premise that any statement or item with a mean score of 2.50 and above was accepted and regarded as either proficient, high level or agree, while any item with a mean score below 2.50 was regarded as low level or disagree. In taking decision for the standard deviation, a low or moderate standard deviation indicated that the respondents were homogenous in their responses, whereas high standard deviation indicated otherwise. This implies that wherever the measure of variability is small among the responses, this indicated a small difference in the responses, whereas the measure of variability is large among the responses, this implies a wide difference and the responses are markedly different (Nworgu, 2015). The null hypotheses were tested using t-test statistics at an alpha level of 0.05 significance. The t-test statistics was used to determine the statistical differences in the mean ratings from the responses of the academic staff in the federal and state government-owned COEs in Delta State. Decision rule for test of the hypotheses using t-test was based upon the premise that wherever *p-value* obtained is greater than or equal to the alpha 0.05 level of significance, the null hypothesis - H_0 is not rejected (accepted). Otherwise, wherever an obtained *p*-value is less than the alpha 0.05 level of significance, such null hypothesis - H_0 is rejected. The test of hypotheses was done using Statistical Package in Social Science (SPSS).

Presentation of Results

Research Question 1: What is the academic staff level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State?

Table 1: Mean and Standard Deviation Scores of Academic Staff Participation Level Towards the Use of Various ICTs Training Programmes for Efficient Job Performances in COEs in Delta State (N = 609)

S/N	Statements	Federal COEs		Remarks	State COEs		Remarks
	Please showcase your level of participation in the different ICT training programmes for your efficient job performance in the college. Level of participation in computer education programmes on:	$\bar{x}$	SD		$\bar{x}$	SD	
1	use of various computer hardware devices such as laptop, desktop, overhead projectors and filmstrips, ipods, tablets, printers and scanners, duplicating machines, electronic whiteboard, etc for efficient job performance	2.15	1.01	Low Level	2.11	1.04	Low Level
2	use of different Microsoft office packages such as excel/spreadsheet, Microsoft word, PowerPoint, etc for efficient job performance	1.99	0.94	Low Level	2.09	1.01	Low Level
3	use of various e-learning together with online collaborative learning such as cloud computing, learning management system, etc for efficient job performance	1.88	0.83	Low Level	2.08	0.99	Low Level
4	use of other software applications such as CorelDraw, Page maker, etc necessary for efficient job performance	2.30	0.99	Low Level	2.05	0.96	Low Level
5	use of social media application such as Facebook, WhatsApp, Twitter, Instagram, Zoom, videoconferencing, teleconferencing, audioconferencing, etc for efficient job performance	2.15	0.96	Low Level	2.24	1.08	Low Level
6	use of different Google apps such as the google classroom, meet, handouts, sheets, forms, etc for efficient job performance	2.05	0.93	Low Level	2.31	1.11	Low Level
7	use of statistical software applications such as SPSS, GENSTAT, STAT, etc, to analysis data for efficient job performance	1.86	0.92	Low Level	1.89	1.00	Low Level
8	mastering a wide range of assessment paradigms which involves use of ICT for involving teaching methodologies which promotes efficient job performance	1.88	0.81	Low Level	2.19	0.97	Low Level

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Grand Mean/SD	**2.03**	**0.94**	**Low Level**	**2.12**	**1.03**	**Low Level**

Field Survey Data (2023), (Federal COEs = 286, State COEs = 323)

Analysis on Table 1 indicates mean and standard deviation scores of the academic staff level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State. Furthermore, the analysis shows that the academic staff in Federal and State COEs rated all the items below 2.50 of the acceptable mean score, this reveals that the academic staff in both Federal and State COEs level of participation level is low in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State. The evidence of the above response is shown in grand mean scores of 2.03 and 2.12 for academic staff in Federal and State COEs respectively. More so, the grand standard deviation scores of 0.94 and 1.03 reveals that the academic staff in Federal and State COEs were homogenous on the academic staff level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State.

Research Question 2: What are the areas of academic staff information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State?

Table 2: Mean and Standard Deviation Scores on Academic Staff ICTs Training Needs for Efficient Job Performances in COEs in Delta State (N = 609)

S/N	Statements	Federal COEs $\bar{x}$	SD	Remarks	State COEs $\bar{x}$	SD	Remarks
	Please showcase your agreement concerning your ICT training needs necessary for your efficient job performance in the college. ICT training needs in:						
9	using different hardware for efficient job performance in supporting teaching in the lecture rooms/halls	3.26	0.72	Agree	3.24	0.79	Agree
10	maintenance training for efficient job performance in maintaining different ICT devices and gadgets	3.16	0.71	Agree	3.15	0.74	Agree
11	skills development to assist ICT teaching and learning approaches for efficient job performance in subject specific areas of specialization	2.99	0.84	Agree	3.21	0.74	Agree
12	research-oriented training on ICT use for data analysis - numerical data; spread sheets and programs, for efficient job performance	3.06	0.96	Agree	3.31	0.74	Agree
13	knowledge of operating the ICT devices for efficient job performance	3.09	0.85	Agree	3.14	0.91	Agree
14	good knowledge of manipulating various online ICTs such as social media apps and google apps in teaching for efficient job performance	3.22	0.69	Agree	3.16	0.83	Agree
15	clear skills of handling various ICT devices for efficient job performance in research developments	3.05	0.90	Agree	3.32	0.72	Agree
16	using the ICT devices to store, record, retrieve and present academic data for efficient job performance	3.12	0.86	Agree	3.17	0.87	Agree
17	knowledge updates including online professional collaborations through appropriate use of new technological devices for efficient job performance	3.01	0.80	Agree	3.11	0.84	Agree
18	assisting staff with ICT devices to be involved in human capacity building programmes for efficient job performance	3.01	0.87	Agree	3.15	0.89	Agree
19	using varieties software for efficient job performance in supporting students' learning	3.23	0.85	Agree	3.28	0.72	Agree
	Grand Mean/SD	**3.11**	**0.83**	**Agree**	**3.20**	**0.80**	**Agree**

Field Survey Data (2023), (Federal COEs = 286, State COEs = 323)

Data in Table 2 shows mean and standard deviation scores on the areas of academic staff information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State. In addition, Table 5 indicates that all items were rated above a mean

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score of 2.50 by both the academic staff in Federal and State COEs. This reveals that academic staff in Federal and State COEs agreed simultaneously on their areas of information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State. This evidence of the agreement among the respondents is revealed in grand mean scores of 3.11 and 3.20 for academic staff of Federal and State COEs respectively. The grand standard deviation scores of 0.83 and 0.80 indicates that the academic staff in both Federal and State COEs had the same opinion on the areas of academic staff information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State.

Test of Hypotheses

Hypothesis 1: There is no significant difference between the mean ratings of academic staff of the Federal and State Government-owned COEs on their level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State.

Table 3: Test of Difference between Mean Ratings of Academic Staff of Federal and State COEs on Their Participation Level in Various ICT Training Programmes for Efficient Job Performances in Colleges of Education (COEs) in Delta State

Colleges of Education	N	Mean	SD	df	t	Sig
Federal	286	43.31	8.21			
				607	-2.552	.873
State	323	44.97	7.81			

p > 0.05

Table 3 reveals that t-test was run to test the difference between mean ratings of academic staff of the Federal and State Government-owned COEs on their level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State. The analysis indicates no significant difference given that t-value = -2.552 and p > 0.05 (.873 > 0.05), therefore, the null hypothesis was accepted that the difference between mean ratings of academic staff of the Federal and State Government-owned COEs on their level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State is not significant.

Hypothesis 2: There is no significant difference between the mean ratings of academic staff of the Federal and State Government-owned COEs on their areas of training needs for their efficient job performances in Colleges of Education (COEs) in Delta State.

Table 4: Test of Difference between Mean Ratings of Academic Staff of Federal and State COEs on the Areas of Training Needs for their Efficient Job Performances in Colleges of Education (COEs) in Delta State

Colleges of Education	N	Mean	SD	Df	t	Sig
Federal	286	44.67				
				607	1.617	.398
State	323	53.52				

p > 0.05

Data analysis on Table 4 shows that t-test was run to test the difference mean ratings of academic staff of the Federal and State Government-owned COEs on their areas of training needs for their efficient

job performances in Colleges of Education (COEs) in Delta State. The result reveals no significant difference for the fact that t-value = 1.617 and p > 0.05 (.398 > 0.05), hence, the null hypothesis was accepted that the difference between mean ratings of academic staff of the Federal and State Government-owned COEs on their areas of training needs for their efficient job performances in Colleges of Education (COEs) in Delta State is not significant.

Discussion of Findings

Findings of this study generally revealed that academic staff in both Federal and State COEs level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State was low. Also, academic staff in Federal and State COEs agreed simultaneously on their areas of information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State. The differences between the mean ratings of academic staff of the Federal and State Government-owned COEs on their level of participation in various information and communication technology (ICT) training programmes, including their areas of information and communication technology (ICT) training needs, for their efficient job performances in Colleges of Education (COEs) in Delta State were all not significant. These were discussed under several subheadings in this section:

Academic Staff Level of Participation in Various Information and Communication Technologies (ICTs) for their Efficient Job Performances in Colleges of Education (COEs) in Delta State

The finding of this study indicated that academic staff in both Federal and State COEs level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State was low. The academic staff level of participation in computer education programmes on the: use of various computer hardware devices such as laptop, desktop, overhead projectors and filmstrips, ipods, tablets, printers and scanners, duplicating machines, electronic whiteboard, etc for efficient job performance, use of different Microsoft office packages such as excel/spreadsheet, Microsoft word, PowerPoint, etc for efficient job performance, use of various e-learning together with online collaborative learning such as cloud computing, learning management system, etc for efficient job performance, use of other software applications such as CorelDraw, Page maker, etc necessary for efficient job performance, use of social media application such as Facebook, WhatsApp, Twitter, Instagram, Zoom, videoconferencing, teleconferencing, audioconferencing, for efficient job performance, use of different Google apps such as the google classroom, meet, handouts, sheets, forms, etc for efficient job performance, use of statistical software applications such as SPSS, GENSTAT, STAT, etc, to analysis data for efficient job performance, and mastering a wide range of assessment paradigms which involves use of ICT for involving teaching methodologies which promotes efficient job performance. This finding corroborates with Akudo (2022) study on the extent of teachers' participation in continuous in-service training programmes for their improved job productivity in secondary schools in Anambra State which found out and revealed that the extent of teachers' participation in the various continuous in-service training programmes (on-the-job, off-the-job & computer-based training programmes) for their improved job productivity were all to a low extent. The finding of this previous study further revealed that the extent of teachers' participation in continuous computer-based in-

service training programmes for their improved job productivity in secondary schools in Anambra State was to a low extent. This finding included that the extent of teachers' participation in Microsoft Office Suite application training programmes in Microsoft Excel or Spreadsheet, Outlook, Word processing, PowerPoint, Microsoft OneNote, Microsoft outlook, Microsoft publisher, Microsoft Access; basic computer training programme for beginners related to use of different computer hardware such laptops, desktop, whiteboard, screen touch, digital cameras, graphic tablets, modems, printers, scanners, photocopiers, fax machine, LCD projectors, filmstrip, and 3D projectors; e-learning training programmes in areas such as Internet based learning like videoconferencing, use of google apps like the google classroom and social media application e.g zoom, skype, YouTube, cloud computing, web networking such as like World Wide Web, web browser, among others; computer-related storage devices training (disks, CDs, USB drives, zip disks, DVDs, etc.); self-paced computer training courses on videos, CDs or DVDs; online tutorials; and computer software graphic design applications training such as Corel draw, desktop publishing, Adobe page maker coupled with any other 3D graphic design; were all to a low extent. Finding of the present study corresponds with Hussein (2014) study on engaging academics in training in information communication technology (ict): An African experience with special focus on Uganda whose finding indicated that the university has put resources into the development of ICT policies, including policies related to training academics. Subsequently, academic staff were trained in ICT utilization. Findings further revealed that academics from these faculties were given training on using ICT for pedagogical purposes. All academics indicated that they had taken part in at least one training cycle. None had attended more than two training cycles to show that their level of participation was low. The hypothesis test indicated that the difference between mean ratings of academic staff of the Federal and State Government-owned COEs on their level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in Colleges of Education (COEs) in Delta State was not significant. This hypothesis deviated from Olatoye (2011) study on the levels of participation in ICT training programmes, computer anxiety and ICT utilization among selected professionals which revealed that there is a significant positive relationship between ICT training and utilization. Therefore, the higher the level of ICT training, the higher the ICT utilization. As a result of ICT training, computer knowledge will increase. There is a significant positive relationship between levels of participation in ICT programmes and computer utilization ($r=+0.755$, $p<0.05$).

Academic Staff Areas of Training Needs in Various Information and Communication Technologies (ICTs) for their Efficient Job Performances in Colleges of Education (COEs) in Delta State

Finally, the finding of this study indicated that academic staff of Federal and State COEs agreed simultaneously on their areas of information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State. Their areas of training needs for their efficient job performances in: using different hardware for efficient job performance in supporting teaching in the lecture rooms/halls, maintenance training for efficient job performance in maintaining different ICT devices and gadgets, skills development to assist ICT teaching and learning approaches for efficient job performance in subject specific areas of specialization, research-oriented training on ICT use for data analysis - numerical data; spread sheets and programs, for efficient job performance, knowledge of operating the ICT devices for

efficient job performance, good knowledge of manipulating various online ICTs such as social media apps and google apps in teaching for efficient job performance, clear skills of handling various ICT devices for efficient job performance in research developments, using the ICT devices to store, record, retrieve and present academic data for efficient job performance, knowledge updates including online professional collaborations through appropriate use of new technological devices for efficient job performance, assisting staff with ICT devices to be involved in human capacity building programmes for efficient job performance, and using varieties software for efficient job performance in supporting students' learning. This finding is in line with Nwokedi, Amaewhule and Nwafor (2018) study on capacity building needs of education lecturers in information and communication technology in universities, which found out that capacity building needs of education lecturers in universities included: knowledge of operating the ICT devices, good knowledge of handling the devices in teaching, clear skills of manipulating the devices for research developments, using the devices to store and present academic data, using the devices for record keeping, assisting staff with ICT devices to be involved in human capacity building programmes, and regular involvement of staff in knowledge updates through appropriate use of new technological devices. The study finally concluded that, capacity building needs of education lecturers in universities help them to acquire new knowledge and skills to carry out their duties effectively, skills on research and development, ideas needed for knowledge creation and team spirits to deliver lectures appropriately. The finding of this study also corroborates with Akinnagbe and Baiyeri (2011) study on the training needs analysis of lecturers for information and communication technology (ICT) skills enhancement in Faculty of Agriculture, University of Nigeria, Nsukka which found out that many university lecturers lack the information and communication technology (ICT) literacy skills necessary to navigate and use the overabundance of information available today. The results of the study revealed that, lecturers were skilled in general windows operation (M=1.79), word processing (M=1.81) and internet/on-line activities (M=1.74). They were not skilled in slides preparation/presentation (M=1.15), spreadsheets preparation (M = 1.26), and data analysis using computer software (M=0.84).

Findings of this previous study further revealed that the overall areas where training will be needed for lecturers in faculty of agriculture, University of Nigeria, Nsukka. The major areas where the highest demand for ICT training was registered by the lecturers was data analysis using computer software like SPSS, GENSTAT, Excel, E-view etc (95.0%). Academic staff had quite serious training needs in statistical method to participate in publishing research. This may be a serious issue as statistical analyses are required in conducting research in lecturers' area of specialization/department. Other areas of high demand for ICT training by the lecturers were internet and online activities (90.4%) and preparation of slides for presentations (90.0%). The respondents also indicated their demand for ICT training in the following areas: spreadsheets preparation (88.9%), computer general windows skills (77.4%) and word processing (76.4%). Professors need ICT training in excel spread sheet (83.3%), preparation of slides (83.3%), internet/online activities like browsing for research materials (83.3%) and data analysis using computer software like SPSS, GENSTAT (83.3%). Senior lecturers need ICT training in data analysis using computer software like SPSS, GENSTAT (100.0%) and internet and online activities like browsing for research materials (90.0%). Lecturer I need ICT training in internet and online activities like browsing for research materials (88.9%), excel spread sheet (80.0%) and preparation of slides (80.0%), while lecturer

II need training in excel spread sheet (81.8%) and data analysis using computer software like SPSS, GENSTAT (100.0%). Both assistant lecturers and graduate assistants need ICT training in data analysis using computer software like SPSS, GENSTAT (100.0%), internet and online activities like browsing for research materials (100.0%), preparation of slides (100.0%) and preparation of slides (75.0%; 100.0%), respectively. This implies that different levels of academicians are required to undergo different type of training in order of priority as observed by Tasie (2011). The hypothesis test indicated that the difference between mean ratings of academic staff of the Federal and State Government-owned COEs on their areas of training needs for their efficient job performances in Colleges of Education (COEs) in Delta State was not significant. This hypothetical finding agrees with Oyekanmi (2016) study which indicated that there was no significance difference between male and female basic Technology teachers based on gender at t (98) =0.023, p=0.981>0.05. There is no significant difference between male and female basic technology teachers based on qualification at F (5, 94) = 1.716, P=0.138> 5% alpha level of significance.

Conclusion

In conclusion, this present study submits and concludes that academic staff in both Federal and State COEs level of participation in various information and communication technology (ICT) training programmes which was necessary for their efficient job performances in the COEs in Delta State was low. Also, academic staff in Federal and State COEs agreed simultaneously on their areas of information and communication technology (ICT) training needs for their efficient job performances in Colleges of Education (COEs) in Delta State. As such, the differences between the mean ratings of academic staff of the Federal and State Government-owned COEs on their level of participation in various information and communication technology (ICT) training programmes, including their areas of information and communication technology (ICT) training needs, for their efficient job performances in COEs in Delta State, were all not significant. This situation calls for absolute redress if quality service delivery should triumph towards academic staff job performance in the COEs. Hence, the recommendations made.

Recommendations

Based on the findings of this study, the following recommendations has been proffered:

1. Both the Federal and State Governments through the college management and leadership should provide sufficient funds to increase academic staff level of participation in various information and communication technology (ICT) training programmes for their efficient job performances in the COEs.
2. TETFund through adequate financial sponsorship should support academic staff in Federal and State COEs on areas of their ICT training needs for their efficient job performances in the colleges.

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