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ICTS INSTRUCTIONAL COMPETENCIES POSSESSED BY LECTURERS FOR IMPLEMENTING OTM CURRICULUM IN PUBLIC TERTIARY INSTITUTIONS IN RIVERS STATE

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Abstract
In the recent times, implementation of office technology and management (OTM) curriculum largely depends on ICTs instructional competencies. Therefore, this study determined the level of ICT instructional competencies possessed by lecturers for implementing OTM curriculum in public tertiary institutions in Rivers State. One research question guided the study and three null hypotheses were tested. Descriptive survey research design was adopted. From a population of 69 OTM lecturers, the census survey sampling was employed. A five-point response options questionnaire was used for data collection, and it was validated by expert. The reliability of the instrument was established using Cronbach's alpha which yielded a alpha coefficient of 0.93. Mean was used to answer the research question, while one-way analysis of variance (ANOVA) and t-test were used to test the null hypotheses at 0.05 level of significance. Findings revealed that the lecturers possessed ICTs instructional competencies at a high level for the implementing OTM curriculum. The lectures do not differ significantly in the level they possessed ICTs competencies for OTM curriculum implementation based on their level of education, teaching experience and institution ownership. Therefore, it was recommended that OTM lecturers should conciously engage in further ICTs trainings to sustain and improve their ICTs instructional competencies for effective curriculum implementation in their areas of operations.
Keywords. ICTs, instructional competencies, lecturers, curriculum implementation, public tertiary institutions.

Introduction

Curriculum is the totality of all the experiences, skills, competencies and attitudes learners are expected to learn and acquire under the guidance of lecturers (Ukata et al., 2017). This means that for learners to acquire appropriate skills and competencies, the curriculum must be implemented effectively. Curriculum implementation is a network of various activities that are involved in translating curriculum contents design into classroom activities and changing the people's attitudes to accept and participate in such activities.

Office Technology and Management (OTM) is an academic programme offered in Nigerian tertiary institutions. In the polytechnics, it is called Office Technology and Management (OTM), while in the colleges of education and universities it is offered as an option in the Business Education programmes with the programme name - OIM, Office Information System, Office Education and Technology Management (OETM), or Office Management and Technology (OMT). The National Board for Technical Education (NBTE), which is the supervisory agency for polytechnic education in Nigeria, introduced OTM in 2004 to replace the former Secretarial Studies programme (Ukata, 2019), while National Commission for Colleges

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of Education (NCCE) and National University Commission (NUC) are responsible for colleges of education and universities. The curriculum for OTM was enriched with several ICT courses in order to equip graduates of the programme with 21st Century employability skills. It was designed in modular approaches with theoretical ICT knowledge and intensive practical training to equip students with modern office and secretarial skills for employment in various fields of endeavours. Expectedly, implementing the new ICT-driven Office Technology and Management (OTM) curriculum threw up various new issues such as the level of ICTs instructional competencies of the lecturers (Oludele & Dosunmu, 2013; Ukata, 2019). The OTM curriculum as designed incorporates six components namely; Office Application Software, Office Technology, Business and Administrative Management, Numeric Component, General Studies and Students Industrial Work Experience Scheme (SIWES) (Oludele & Dosunmu, 2013).

The objectives of OTM curriculum include to adequately equip graduates with skills to effectively and efficiently use different ICTs resources, to provide students with ICT based teaching/learning skills, competencies and approaches for the global work place and to expose them to the industrial work experiences to practice the skills before and after graduation (Ukata, 2019; Umukoro, 2014). In order to achieve these objectives, OTM lecturers are expected to possess ICTs instructional competencies to be able to implement the curriculum. The OTM curriculum has been implemented in Nigerian tertiary institutions for close to two decades yet there are reports from employers in Nigeria generally and Rivers State in particular that the OTM graduates do not seems to demonstrate adequate level of ICT skills and competencies for effective performance in the 21st Century workplace (Oludele & Dosunmu, 2013; Ukata, 2019).

Consequently, scores of the graduates remain unemployed several years after graduation which could be due to lack of ICTs instructional competencies among OTM lecturers to effectively implement the curriculum and help develop students' employability skills. Instructional competencies are standards possessed by lecturers that are concerned with application of professional knowledge, skills, proficiencies, attitudes and behaviour within the workplace which are underpinned by their professional values. Instructional competence is also a cognitive structure that facilitates specified changes in behaviours of the learners. Kumar (2013) explained that instructional competencies cover a broad range of skills, proficiencies, competencies, attitudes and behaviours that represent the ability to deal with complex and unpredictable situations in informal and formal environments. ICTs instructional competencies required of OTM lecturers for adequate curriculum implementation include but not limited to effective use of basic and advanced ICTs hardware and software to teach learners. Kurt (2015) asserted that ICT instructional competencies enable lecturers to adopt materials such as overhead projectors, slide projectors, opaque projectors, computers, various software, LCD projectors, camcorders, digital cameras, scanners, the internet, social media platforms, online classrooms, satellite, interactive television, audio, video conferencing and artificial intelligence among others for teaching ICTs-related employability skills.

Over the decades, even with the evolution of effective classroom management, most OTM lecturers and students have depended on orthodox instructional techniques like "write with chalk and talk", "talk and write", "write and explain," "listen and take note", and "memorize and recite". These techniques have proved to be grossly inadequate for effective OTM curriculum implementation especially when used alone (Ukata, 2019). Such instructional techniques popularly known as teacher-centered or lecture method which regard students as empty vessels to be filled by the lecturer are incapable of developing the needed employability skills in OTM students (Ukata et al., 2017). In view of the above, there is need for OTM lecturers to adopt techniques that are learner-centered which regard students as active participants in the

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instructional process with ample use of ICTs (Erik, 2017). Azih and Ama (2019) asserted that adequate possession of competencies by lecturers for utilizing basic computer users software will facilitate effective curriculum implementation in any field of learning.

Lecturers' ICTs competencies and instructional strategies can positively influence OTM students' skills acquisition to a great extent (Umoru &Shaibu, 2018). Furthermore, Nnaji and Hauwa (2019) posited that lecturers' possession of competencies in teaching office applications and keyboarding will lead to acquisition of employability skills among students.

However, Nwaukwa (2015) lamented that majority of business teachers lacked computer skills required to integrate new technologies for successful instructional delivery as required for implementing ICT-based curriculum. Also, Fadare (2014) identified problems and bewailed that business teachers in tertiary institutions are not adequately utilizing computer for instructional delivery due to their lack of new technology skills and modern instructional competencies this may be because cooperative instructional delivery were not adopted. ICTs instructional competencies lead to employability skills which are set of skills, attitudes and behaviours that are necessary for gaining and progressing in employment. These employability skills delivered to learners through ICTs instructional competencies enhance employees' work performance by minimizing errors and promoting collaboration with co-workers, as well as reduce unemployment in the society because they make graduates employable and marketable (Joshua, 2021). Osaro (2021) averred that many countries now regard ICTs skills as part of core skills graduates must possess for gainful employment. ICTs employability skills cover effective use of computer hardware and software, internet, media and broadcasting, libraries and documentation centers, network-based information services and other related information and communication activities.

The subjects for this study are male and female OTM lecturers with different levels of educational attainment and years of teaching experience in state and federal public tertiary institutions in Rivers State. Mohammad et al, (2011) averred that how well lecturers demonstrate ICTs instructional competencies depend on their level of educational qualification, training and retraining, age and teaching experience. For example, lecturers with higher degrees such as (PhD and M.Sc./M.Ed.) are expected to possess higher level of ICTs instructional competencies than those with HND/B.Sc./B.Ed. According to Scholars (2013), teaching experience and age are among the factors that influence lecturers' level of ICTs instructional competencies because younger and experienced lecturers are more likely to possess them at a higher level than older and less experienced ones. Also, lecturers who have spent 10 years and above in teaching OTM courses are expected to possess higher level of ICTs instructional competencies for effective curriculum implementation than those with less than 10 years teaching experience.

Public tertiary institutions in the study are owned either by federal or state government and according to Top Education Degrees (2020) institution ownership plays a major role on the level of ICTs instructional competencies possessed by OTM lecturers for developing employability skills among students. Consequently, the study tested the influence of these respondent variables on the level of ICTs instructional competencies possessed by the lecturers.

Problem of the Study

The OTM curriculum that is ICT-based has been implemented several years in Nigeria tertiary institutions for instructional delivery. The possession and application of ICTs instructional competencies by OTM lecturers are expected to enable its graduates acquire the ICTs skills and seamlessly secure paid employment in public and private organizations or be self-employment. However, it is often observed that many graduates of the programme are

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unemployed years after graduation causing the level of graduate unemployment to continue to increase; thereby defeating the main objective OTM which is acquisition employability skills.
Drawing from these concerns, the researchers are worried that OTM graduates from the tertiary institutions are judged unemployable by employers of labour due to lack of ICT-based employability skills despite the rich contents of the curriculum over the years. The popular view that the ugly situation is due to the level of ICTs instructional competencies possessed by lecturers for effective OTM curriculum implementation has little or no empirical evidence. It is, therefore needful, to conduct this study to determine the level of ICTs instructional competencies possessed and applied by OTM lecturers for effective teaching of practical courses in the curriculum for developing employability skills among students in public tertiary institutions in Rivers State. Findings of the study will provide empirical data to enable stakeholders suitably address the lack of employability skills among OTM graduates to reduce the level of graduate unemployment.

Purpose of the Study

The purpose of this study was to determine the level of ICTs instructional competencies possessed by OTM lecturers in public tertiary institutions in Rivers State in implementing the curriculum for developing students' employability skills.

Research Question

One research question guided the study, thus

1. At what level do OTM lecturers in public tertiary institutions in Rivers State possess ICTs instructional competencies for the implementing of OTM curriculum?

Hypotheses

The following null hypotheses were tested at 0.05level of significance:

1. Lecturers do not differ significantly in the mean ratings on their level of ICTs instructional competencies possessed for implementing OTM curriculum in public tertiary institutions in Rivers State based on educational attainment (PhD, M.Sc./M.Ed., and B.Sc./B.Ed./HND).
2. Years of teaching experience (1-5, 6-10, and above 10 years) do not significantly measure lecturers' mean ratings on their level of ICTs instructional competencies possessed for implementing OTM curriculum in public tertiary institutions in Rivers State.
3. There is no significant difference in lecturers' mean ratings on their level of ICTs instructional competencies possessed for implementing OTM curriculum in public tertiary institutions in Rivers State based on institution ownership (federal and state).

Methods

The study adopted the descriptive survey research design. Population of the study was all the 69 OTM lecturers from the five public tertiary institutions (two universities, two polytechnics and one college of education) in Rivers State that offer OTM programme. Census survey was adopted to sample all the 69 OTM lecturers because it is of manageable size. The instrument used for data collection was a self-designed five-point response options questionnaire titled "Level of lecturers' ICTs instructional competencies possessed for implementing OTM curriculum". It contains 13 items with rated as very high level, high level, moderate level, low level and very low level. The questionnaire was subjected to face and content validation by three

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experts from the Faculty of Education in Nnamdi Azikiwe University, Awka. The measure of internal consistency method was used to establish the reliability of the instrument. The instrument was administered to 20 lecturers from the University of Uyo who were not part of the population of the study. The Cronbach's alpha was applied to compute the reliability coefficient which yielded alpha value of 0.93. This high reliability coefficient value shows that the instrument was reliable for the study as recommended by Nworgu (2015) that a research instrument with a reliability index of 0.70 and above is reliable.

The researchers personally administered the copies of the questionnaire to the respondents in their schools with the help of four research assistants who were adequately briefed on the modalities to follow. The researchers first visited each of the tertiary institutions and sought consent from the relevant Heads of Department for the study. Thereafter, the researchers and assistants visited each school and handed over the required number of copies of the instrument to the Heads of the Department to distribute to the OTM lecturers for completion and, revisited after five working days to retrieved the completed copies. Sixty-five copies of the instrument were correctly filled, retrieved and used for data analysis.

The arithmetic mean and standard deviation were used to answer the research question and ascertain how homogeneous or heterogeneous the respondents' opinions were relative to the questionnaire items and the aggregated mean. The one-way analysis variance (ANOVA) and independent sample t-test were used to test the null hypotheses at 0.05 level of significance. The ANOVA was used for the first two null hypotheses because it measured one categorical independent variable with three levels. The independent sample t-test to test null hypothesis 3 because it contained one independent variable with only two leves. A null hypothesis was rejected where the calculated significant (Sig.) value, (p- value) was greater than or equal to (≥) the alpha value of 0.05. Otherwise, the null hypothesis was not rejected. The data analysis was carried out using Statistical Package for Social Sciences (SPSS) version 25.

Results

Research Question 1. At what level do OTM lecturers in public tertiary institutions in Rivers State possess ICTs instructional competencies in implementing the curriculum for developing students' employability skills?

Table 1

Respondents' mean ratings on their level of ICTs instructional competencies possessed for implementing OTM curriculum

SN	**ICT Competencies** (Ability to…)	$\bar{X}$	SD	Remarks
1	Identify parts of the compute	3.60	.88	High Level
2	Explain functions of the parts the computer	3.67	.92	High Level
3	Explain roles of the operating system in computer usage	3.75	.81	High Level
4	Correctly illustrate how to password documents on desktop	3.76	.78	High Level
5	Give correct instructions on how to manage files	3.72	.85	High Level
6	Provide correct guides in using storage devices	3.56	.84	High Level
7	Tutor how to convert documents using different file formats online	3.47	.88	Moderate Level
8	Deliver lesson through different social media platforms	3.64	.89	High Level
9	Educate how to edit text professionally	3.55	.88	High Level

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10	Teach how to use different ICT instructional aids	3.52	1.03	High Level
11	Explain how to manage database successfully	3.33	.94	Moderate Level
12	Teach how to use different Microsoft Word application	3.58	.91	High Level
13	Provide suitable guides on how to analyse data using Statistical Package for Social Sciences	3.75	1.07	High Level
	Aggregate	3.60		High Level

Table 1 shows that 11 out of the 13 items of ICTs instructional competencies for implementing OTM curriculum to enable students acquire employability skills have mean scores ranging from 3.55 to 3.76 which means that the OTM lecturers possessed them at a high level. The remaining two competencies have mean scores of 3.33 and 3.47 which means that the lecturers possessed them at a moderate level. However, the aggregate mean score of 3.60 shows that OTM lecturers in the area of ICTs instructional competencies possessed for implementing curriculum to enable students acquire employability skills at a high level. The standard deviations for 11 out of 13 listed items ranged within 0.78 to 0.94 which shows that respondents were homogeneous in their opinions. Standard deviations of 1.03 to 1.07 for the remaining two items indicate that respondents were heterogeneous in their opinions.

Hypotheses Testing

Table 2.

ANOVA summary on the level of ICTs instructional competencies possessed by OTM lecturers for implementing curriculum based on educational attainment

Sources of Variance	Sum of Squares	df	Mean Square	F-cal.	Sig.	Decision
Between Groups	2.258	2	1.129	1.288	.283	Accept H_{O1}
Within Groups	54.357	62	.877			
Total	56.615	64				

Table 2 shows a calculated F-value of 1.28 with a significant (sig.) p-value of 0.28 which is greater than the alpha value of 0.05 (0.28 > 0.05) at degrees of freedom of 2 and 62. Therefore, the null hypothesis (H_{O1}) was accepted. This means that there is no significant difference in the mean ratings of the lecturers on their level of ICTs instructional competencies possessed for implementing the OTM curriculum based on educational attainment.

Table 3. ANOVA summary on the level of ICTs instructional competencies possessed by OTM lecturers for implementing curriculum based on years of teaching experience

Sources of Variance	Sum of Squares	df	Mean Square	F-cal.	Sig.	Decision
Between Groups	1.641	2	.820	1.061	.352	Accept H_{O2}
Within Groups	47.959	62	.774			
Total	49.600	64				

Data on Table 3 show a calculated F-value of 1.06 with a significant (sig.) p-value of 0.35 which is greater than the alpha value of 0.05 (0.35 > 0.05) at degrees of 2 and 62. Therefore, the null hypothesis (H_{O2}) was accepted. This means that there is no significant difference in the mean ratings of the OTM lecturers on their level of ICTs instructional competencies possessed for implementing curriculum for students to develop employability skills based on years of teaching experience.

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Table 4. The t-test on the level of ICTs instructional competencies possessed by OTM lecturers for implementing curriculum based on institution ownership

Ownership	N	$\overline{X}$	SD	Df	t-value	Sig.	Decision
State	48	3.50	.92	63	-.82	.41	Accept H_{O3}
Federal	17	3.70	.77				

Table 4 shows a calculated t-value of -0.82 with a significant (sig.) p-value of 0.41 which is greater than the alpha value of 0.05 (0.41 > 0.05) at 63 degrees of freedom. Therefore, the null hypothesis was accepted. This means that the OTM lecturers do not differ significantly in their level of ICTs instructional competencies possessed for implementing curriculum for students to develop employability skills based on institution ownership.

Discussion

Findings of the study show that the OTM lecturers possessed ICTs competencies at a high level for implementing the curriculum for students in public tertiary institutions in Rivers State to acquire employability skills. This finding disagrees with Nwaukwa (2015) who lamented that majority of business teachers lacked computer skills required to integrate new technologies for successful instructional delivery as required for implementing ICT-based curriculum. Also, finding of the study differed from Fadare (2014) who identified problems and bewailed that business teachers in tertiary institutions are not adequately utilizing computer for instructional delivery due to their lack of new technology skills and modern instructional competencies this may be because cooperative instructional delivery were not adopted.

The findings of the study also show that the level of ICT instructional competencies possessed by the OTM lecturers was not influenced by their educational attainment. This finding disagrees with the report of Mohammad et al., (2011) that how well lecturers demonstrate ICTs instructional competencies depend on their educational attainment which affects their understanding of the subject matter, selection of tools, use of appropriate instructional strategies and application of classroom management skills in teaching. The findings further show that the lecturers do not differ significantly in their level of ICTs instructional competencies possessed for implementing curriculum as a result of years of teaching experience. This finding also disagrees with Scholars (2013) who affirmed that teaching experience and age are factors that influence lecturers' ICTs instructional competencies possession, because younger and experienced lecturers are more likely to possess them at a higher level than older and less experienced ones. Finally, the findings of this study shows that institution ownership do not influence the level of ICTs instructional competencies possessed by OTM lecturers in public tertiary institutions in Rivers State. This finding is at variance with Top Education Degrees (2020) which reported that institutional ownership plays major roles on lecturers' level of possessed ICTs instructional competencies for developing employability skills among students. This finding could be as a result of the fact that federal institutions do not provide better salary packages, teaching environments, aids, laboratories, motivation and staff development programmes than state institutions.

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Conclusion

Based on the findings of the study, it was concluded that the level at which OTM lecturers in public tertiary institutions in Rivers State possessed ICTs instructional competencies for implementing OTM curriculum is adequate to develop employability skills of students. Also OTM lecturers do not differ significantly in their mean ratings based on educational attainment, years of teaching experience and ownership of their institutions. This means that there could be other institutional or student related factors which are responsible for the lack of employability skills among graduates of the programme.

Recommendations

Based on the findings and conclusion of the study, the following recommendations were made:

1. Since whatever knowledge one acquires remains with them, the OTM lecturers should make personal sacrifices from their earnings and engage in training through short courses, seminars and conferences to sustain, improve and update their ICTs instructional competencies for effective curriculum implementation and sustained relevance in their areas of operations.
2. Heads of Departments of OTM programme should encourage lecturers by recommending them for sponsorship to suitable training programmes, workshops, seminars and conferences to enhance their ICTs instructional competencies for effective curriculum implementation.
3. State and federal governments should increase provision of relevant ICTs resources for effective OTM curriculum implementation to facilitate employability skills acquisition for students' success in employment upon graduation.
4. Management of institutions that offer OTM programme should ensure regular power supply in the laboratories for adequate utilization of available ICTs resources by lecturers and students.

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