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INTEGRATING INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SKILLS INTO VOCATIONAL TECHNICAL EDUCATION (VTE) TEACHERS OF SECONDARY SCHOOLS TO ENHANCE INCLUSIVE EDUCATION IN ORUMBA SOUTH L.G.A OF ANAMBRA STATE

THERESA OBUMNEME OKOLI, Ph.D

*Federal College of Education (Technical), Umunze,
Anambra State.*

And

STELLA NGOZIKA OKAFOR, Ph.D

*Federal College of Education (Technical), Umunze,
Anambra State.*

Abstract

This paper aimed at highlighting methods of integrating ICT skills into vocational technical education(VTE) teachers in other to enhance inclusive educations. Three research questions guided the study. Descriptive survey design was adopted for the study. A total number of 240 Vocational Technical Education (VTE) teachers of selected secondary schools were used for the study. No sampling was done as the population was manageable. A structured 39- items validated questionnaire was used for data collection. Data related to the research questions were analyzed using mean and standard deviation. The findings showed that VTE teachers of secondary schools in Anambra State need word processing, internet skills, and skills needed in assisting disable students for effective teaching and learning. It was thus recommended among others that VTE teachers should be given pre-service and in-service training to help them reorient their thinking about inclusion policy. The study concluded that there is need to integrate the present VTE teachers into the acquisition of these emerging information technology skills and also that the program of inclusive education need to change in both curriculum and instruction.

It is well known that over the last three decades, school population have become increasingly diverse with students coming from broad range of culture, socio-economic backgrounds, language, environments and family structures, as well as having a wide range of abilities. Thus, providing a quality education for all students in an inclusive setting is therefore acknowledged as the most challenging issue in education today as asserted by Creswell, (2014).

Inclusion in the context of education according to Baker and Zigmond (2015) is based on the idea that all children learn together, regardless of differences or disabilities. To this note, inclusion begins with the premise that all learners have unique characteristics, abilities, interest and particular learning needs to receive individual accommodation in the general education system. Inclusive education approaches differences and learning opportunities which implies transition from separate, segregated learning environments for persons with disabilities to schooling in the general education system. Thus effective transitions from special education approaches to inclusive education requires careful planning and structural changes to ensure that learners with disabilities are not placed within the regular or mainstream school system without the appropriate accommodation and supports that ensure an inclusive learning environments.

Specifically, Skidmore (2004) explained that providing adequate care and education for children with disabilities in an inclusive context is a complex issues, hence each child confronts health and education professionals with a diversity of individual problems in the physical, psychological, social and educational domains, therefore, teachers supports students by acquiring academic and work skills, as well as developing the knowledge and attitudes that students need in other to become caring and compassionate citizens through integrating information and communication technology skills into VTE teachers to enhance inclusive education. According to Tutt, (2017) such education requires a high quality services of well trained vocational technical education (VTE) teachers with material resources and knowledge of inclusion.

Vocational Technical Education (VTE) teachers according to Ogwo and Oranu (2013) has the responsibility to teach general concepts in classroom and practical exercises in workshops and laboratories which provide students with skills and knowledge necessary to enter an occupation. Vocational Technical Education has been recognized as an impetus for economic development in both developed and developing countries of the world. At a time when the shrinking of job market is a global phenomenon, vocational technical education “for all” and “lifelong” may provide an answer to growing unemployment especially in a developing country like Nigeria.

Education as a catalyst for change, according to Block (2014) recognizes inclusive curriculum which addresses the child's cognitive, emotional, social, and creative development based on four pillars of education for the twenty-first century- learning to know, to do, to be and to live together. Inclusive curriculum breaks negative stereotypes not only in textbooks but also in teacher's attitudes and expectations. Inclusive education provides not only for institutional improvement, but also for an increased awareness of human rights and a reduction in discrimination. Essentially, Ainscow, (2018), opined that inclusive education involves changes in attitude, behavior and ways of working, and has potential to make an effective starting point to address the right of learners in a range of cultures and contexts.

Ogwo and Oranu (2013) added that many school teachers are perceived to lack the skills needed by employers of labour, hence, Akindolu in Olayanju (2008) explained that information and Communication Technology (ICT) refers to all kinds of electronics that are needed for broadcasting, telecommunication and all forms of computer mediated communications. The use of ICT by Vocational Technical Education (VTE) teachers to enhance inclusive education in understanding some of the abstract topics and making the subject real with the use of assistive technology which is essential in aiding and facilitating the learning capacity of the learner and assessing both the students and teachers performance in bringing potentials to reality. (Brownlie and Feniak, 2018).

Therefore, in the opinion of Campbell (2013), inclusive education is having all students attend and welcomed by their neighbourhood schools in age- appropriate, regular classes and is supported to learn, contribute and participate in all aspects of life of the school through integration of information communication and technology.

Information Communication Technology (ICT) encourages individual learning and provides students with vast electronics learning abilities. Thus, Ahmad (2014) opined that acknowledging the capabilities or differential abilities of all learners, the education of children with special needs in inclusive classroom becomes more of shared responsibility between the different stakeholders such as the parents, government, curriculum planners especially the teachers. Thus, demanding a shift in attitude, availability, accessibility of infrastructure, pedagogy, need-based methods, materials for instructional delivery, acceptance and accommodation at all levels in the education system especially the secondary school demands attention. Therefore, integrating ICT into VTE teachers gives a breast of technological advancement in the wave of change in technology and pedagogical methods especially in enhancing inclusive education through knowledge of some basic word processing, internet and assistance skills that would support teaching and learning and ICT has been identified world wide as a way out for this mainstream.

Alebuero and Olusanya (2013) conceptualized ICT as the combination of items of equipment (hardware) and computer programmes (software) that allows access, retrieve, store, organize, manipulate and present information by electronic means. Similarly, Toomey (2011) argued that when ICT is combined with good teaching and learning practices, the following are likely to be the results;

It will lead to the development of advance skills of technological competence, problem solving, critical thinking and team work.

It plays variety of roles to support children and young people with disabilities as well as adults in the school system.

Ogwo and Oranu (2013) emphasized that it is important for VTE teachers to acquire the skills, knowledge and competencies in word processing to be efficient in the performance of their work. Also, Tommey (2011) noted that new ways of performing office task have emerged with new technologies therefore, VTE teachers need to adopt the new skills so that they would be able to train students who can function effectively in their career and even advance in it. Word processing is not just a machine, it is a sophisticated system that required well planned education and more programmatic curriculum development. Parakash (2013) noted that new designations and job opportunities occur daily, therefore, there comes the need for VTE teachers to be versatile in the effective use of the system and to match with the new challenges by acquiring new skills and competencies for office and classroom technology so that students can be well informed about what they will find in the world of work.

In the views of Casey-Black, and Knob lock, (2012), ICT integration in VTE teachers of secondary schools include pedagogical, cultural, social, professional and administrative where effective technology integration can help provide all learners the ability to access, compete their work with greater ease and independence in performing tasks that they were formerly unable to accomplish. Integration of VTE teachers with internet based skills helps to access electronic documents, engage in internet business, chat via internet, etc.

Moodley (2012) asserted that the internet offers the best opportunity of getting specialized information from the web. Chime (2014) argued that the internet is one of the major innovations of the computer that has found its way deeply into the academic sector. Using the internet makes available to the teachers information that cannot be found in any other way except through the world -wide -web (www). Oyedum (2015) is of the opinion that the internet provides access to more information than the librarian could dream of, therefore, teachers need skills on internet before they could access it.

Alebuero and Olusanya (2013) noted that the pedagogical use of ICT in the classroom by VTE teachers include collaboration, project based and self-paced learning to improve

teaching with the need to take advantage of the growing availability of educational resources as software packages and web pages. Therefore, teachers of VTE will need to update curricula related content and clear strategies by focusing on three areas of ICT usages, namely technology to train and rehearse, technology to assist learning and technology to enable learning, where learning is commonly referred to as the process of acquiring knowledge and skills, Fulton-calkins, (2013).

Ogwo and Oranu, (2013), asserted that an effective teaching/learning process must stimulate intellectual curiosity and offer a sense of enjoyment that will move the students from passive role of recipients of information to the active role of builder of knowledge. However, engaging the students (learner) in this process of ICT skills can be the most challenging task for vocational technical education (VTE) teachers. Hence, the need to integrate Information and Communication Technology (ICT) skills into VTE teachers to enhance inclusive education becomes paramount. Thus, the concept of inclusive education has brought with itself the much needed share of equality in approach for the education of the disabled by giving them a leveled field to rightly exhibit their differential abilities, proving themselves capable enough to learn and perform together with their non-disabled peers. And with this shift in approach, Moodley (2012) asserted that there also emerges the need to tailor the teaching strategies or means of instructional delivery in the classroom in other to address the diverse learning needs of all learners in an equitable manner. This goal can only be achieved through competent integration of information and communication technology (ICT) into VTE teachers. It is on this premise that this study sought to determine the ICT skills needed in VTE teachers in other to enhance inclusive education.

The purpose of this study was to determine the Information and Communication Technology Skills (ICT) needed by vocational technical education (VTE) teachers to enhance inclusive education in secondary schools in Orumba South Local Government Area of Anambra State, Specifically, the study sought to determine;

ICT skills needed by VTE teachers on word processing.

ICT skills needed by VTE teachers in the use of internet.

ICT skills needed by VTE teachers in assisting disable students.

The study was guided by the following research questions;

What are the ICT skills needed by VTE teaches on word processing?

What are the ICT skills needed by VTE teachers on the use of internet?

What are the ICT skills needed by VTE teachers in assisting disable students?

Method

The study adopted a descriptive survey research design aimed at determining the Information and Communication Technology skills in enhancing inclusive education in vocational technical education(VTE) teachers of secondary schools in Orumba South Local Government Area of Anambra State. The population of the study comprised 240 VTE teachers who were selected from secondary schools in Orumba South. Due to the small size of the population, there was no need for sample and sampling. The entire population was used for the study.

A structured validated questionnaires constructed by the researchers was used to collect data with the help of three research assistance. It consisted of section A, B, C and D. Section A was designed to identify respondents personal and demographic data while Section B has information on ICT skills needed by VTE teachers on word processing with 16 items, section C elicited information on ICT skills needed by VTE teachers on the use of internet with 11 items and section D elicited information on ICT skills needed in assisting disable students with 12 items. The content and face validity of the questionnaire were established by three experts from teachers of VTE and measurement and evaluation from University of Nigeria, Nsukka (UNN). The reliability coefficient of the instrument was established using modified Richards on 21 (Cronbach alpha) and this yielded a value of 0.71. This value was considered high enough for the instrument to be employed. The data generated were analyzed using mean and standard deviation to answer the research questions. Where any score above 3.00 was adjudged to be accepted while scores below 3.00 were regarded as non-acceptable.

Decision for the items and research questions was based on items and cluster means relative to the real limits of numbers as Very Highly needed (VHN) 4.50-5.00; Highly Needed (HN) 3.50-4.49; Needed (N) 2.50-3.49; Somewhat Needed (SWN) 1.50-2.49 and Not Needed (NN) 1.00-1.49.

Research Question 1

What are ICT skills needed by VTE teachers on word processing?

Analysis of data relating to this research question is presented in Table 1

Table I: Respondents' mean Ratings on ICT Skills needed by VTE Teachers of Secondary School on Word Processing

S/N	Word Processing skills	X	SD	Remarks
1	Ability to use word processing packages	4.52	0.87	VHN
2	Ability to save and design file names to documents	4.47	0.67	HN
3	Ability to delete and correct spellings	4.61	0.58	VHN
4	Ability to view menu to manipulate the page layout	4.71	0.80	HN
5	Ability to use the insert menu	4.41	0.81	HN
6	Ability to format document	4.39	0.78	HN
7	Ability to change paper orientation	4.29	0.88	HN
8	Ability to move cursor around an active documents	4.57	0.72	VHN
9	Ability to adjust margins in document	4.48	0.73	HN
10	Ability to use the tools menu	4.57	0.58	VHN
11	Ability to preview and print test	4.50	0.78	VHN
12	Ability to align, centre and justify test in document	4.32	0.79	HN
13	Ability to merge two or more documents	4.03	0.85	HN
14	Ability to copy and move text	4.51	0.60	VHN
15	Ability to use superscript and numbers	4.32	0.79	HN
16	Ability to use exit command in a file	4.53	0.79	VHN
Cluster Mean		4.37	0.67	HN

Table 1 shows that 9 out of the 16 word processing skills had mean scores that ranges from 4.17 to 4.48 which shows that the 9 word processing skills were highly needed by VTE teachers in secondary schools in Anambra State. The remaining items specifically items 1, 3, 8, 10, 11, 14 and 16 had mean scores of 4.52, 4.61, 4.57, 4.57, 4.50, 4.51 and 4.53 respectively which indicates that the seven word processing skills were very highly needed by VTE teachers of secondary schools.

Research Question 2

What are ICT skills needed by VTE teachers on internet skills?

Analysis of data relating to this research question is presented in Table 2.

Table 2: Respondents' Mean ratings on the ICT Skills needed by VTE Teachers of Secondary School on the Use of Internet

S/N	Internet skills	X	SD	Remarks
17	Ability to access the internet	4.48	0.50	HN
18	Ability to access different websites	4.52	0.50	VHN
19	Ability to download files	4.37	0.05	HN
20	Ability to send and access electronic documents	4.29	0.62	HN
21	Ability to transfer protocol	4.47	0.50	HN
22	Ability to use internet phones	4.31	0.71	HN
23	Ability to use facsimiles	4.51	0.50	VHN
24	Ability to use internet services such as internet relay, chat	4.28	0.70	HN
25	Ability to engage in electronic commerce business	4.47	0.50	HN
26	Knowledge of distance education, education delivery	4.92	0.50	VHN
27	Ability to use phone including cell phone	4.62	0.57	VHN

Table 2 showed that 7 out of the 11 internet skills had mean scores that ranges from 4.28 to 4.48 which shows that the 7 skills on the use of internet skills were highly needed by VTE teachers of secondary schools in Anambra State. The remaining 4 items specifically, item 2, 7, 10, 11 had mean scores of 4.52, 4.51, 4.52 and 4.63 respectively which indicates that the four skills on the use of the internet were very highly needed by VTE teachers of secondary schools in Anambra State.

Research Question 3

What are ICT skills needed by VTE teachers in assisting disable students?

Analysis of data relating to this research question is presented in Table 3.

Table 3: Respondents’ mean Ratings on ICT Skills needed by VTE Teachers of Secondary School on Assistance Skill Needed

S/N	Skills needed in assisting disable students.	X	SD	Remarks
28	Ability to accommodate students with disabilities.	4.37	0.73	HN
29	Ability to break down prejudice.	4.38	0.85	HN
30	Ability to provide optimal learning environments for developmental progress.	4.43	0.73	HN
31	Ability to create an inclusive curriculum.	4.59	0.73	VHN
32	Ability to create appropriate learning material.	4.43	0.79	HN
33	Ability to promote social integration.	4.37	0.79	HN
34	Ability to allow for physical participation of students.	4.52	0.74	VHN
35	Ability to use individualized education programme (IEP).	4.29	0.83	HN
36	Ability to use assistive technology.	4.48	0.73	HN
37	Ability to use interactive teaching methods.	4.57	0.58	VHN
38	Ability to reduce stereotypes.	4.50	0.78	VHN
39	Ability to assess and diagnose.	4.32	0.79	HN
Cluster Mean		4.43	0.45	HN

Table 3 shows that 8 out of 12 skills needed in assisting disable students had mean scores that ranges from 4.29 -4.48 which shows that the 8 assistance skills were highly needed by (VTE) teachers of secondary schools in Anambra State. The remaining 4 items specifically, items 4, 7, 10, and 11 had mean scores of 4.59, 4.52, 4.57 and 4.50 respectively indicating that the assistance skills were very highly needed.

Discussion of Findings

Findings of the study are discussed as follows:

Word Processing Skills Needed by VTE Teachers in Anambra State

The finding shows that VTE teachers needed skills on the sixteen (16) word processing skills identified. The findings agreed with Ogwoand Oranu (2013) who emphasized that it is important for VTE teachers to acquire the skills, knowledge and competencies in word processing to be efficient in the performance of their work.

The findings of Tommey (2011) revealed that new ways of performing office and school tasks have emerged with new technologies. VTE teachers need to adopt the new skills so that they would be able to train students who can function effectively in their career and even advance in it. This finding is also in agreement with Parakash (2013) who reported that new designations and job opportunities occur daily, therefore, there comes the need for VTE teachers to be versatile in the effective use of the system and to match the new challenges by acquiring new skills and competencies for office and class technology so that students can be well informed about what they will find in the world of work.

Internet skills needed by VTE Teachers of Secondary Schools in Anambra State

This finding on internet skills is in consonance with the work of Moodley (2012) who stated that the internet offers the best opportunity of getting specialized information from the web. It also agrees with Chime (2014) who maintained that the internet is one of the major innovations of the computer that has found its way deeply into the academic sector. Where the internet makes available to the teachers information that cannot be found in any other way except through the world wide web (www). The findings agree with Oyedum (2015) who stated that the internet provides access to more information than the librarian could dream of, therefore, teachers need skills on internet before they could access it.

Skills Needed by VTE Teachers in assisting Disable Students

The finding is in consonance with the study of Block (2014) who recognizes inclusive curriculum that addresses the child's cognitive, emotional, social, and creative development that help VTE teachers to break negative stereotypes in teachers' attitudes. Findings of the study also agree with Brownlie and Feniak (2018) who stated that VTE teachers should use assistive technology in aiding and facilitating the learning capacity of the learners.

Conclusion

Based on the findings of this study, the researchers concluded that VTE teachers of secondary schools in Anambra State need word processing skills, internet skills, and assistance skills for effective teaching and learning in inclusive classrooms. Therefore, VTE teachers with different professional status agree that the skills identified through the study represent the true ICT skills for enhancing inclusive education in our secondary schools. This implies that there is need to integrate the present VTE teachers into the emerging information technology skills.

Recommendations

Based on the findings of the study, the researchers made the following recommendations; Vocational technical education (VTE) teachers should be given pre-service and in-service training to help re-orient their thinking about inclusion policy. Create public service and awareness campaigns targeted on all youth, promoting inclusion of persons with disabilities to combat stigma. Government should provide an individualized learning support for disabled learners, by enhancing their curriculum or learning needs to suit their transition to the next stage of learning through collaboration with other Education providers.

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