

ICT Skill Needs of Nigerian Secondary School Leavers Towards Sustainable Economy and Peaceful Co-existence

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Abstract: The high rate of youth unemployment in Nigeria is posing a threat to the social peace of the country. Hence, this study, to identify the ICT skill needs of Nigerian secondary school leavers towards sustainable economy and peaceful co-existence. Three research questions, one hypothesis, were formulated, answered and tested in the study. The survey research design was adopted for the study. The population for the study was 2,765 final year secondary school students at the verge of graduation in the seven public secondary schools in Nsukka urban, Enugu State, Nigeria. A Sample size of 700 students, drawn using a simple random sampling technique was studied. A structured questionnaire was used to collect data, and Cronbach alpha technique was used to determine the internal consistency of the items, which yielded a co-efficient of 0.81. Data collected were analyzed using mean while t-test statistic was used to test the hypothesis. The study identified viable basic computer skill needs, software development skill needs, and hardware maintenance skill needs of the school leavers, and recommended that the government and curriculum planners should integrate the identified skill needs into the secondary school curriculum to empower the youths for economic sustenance and peaceful co-existence.

1 INTRODUCTION

Peace is an occurrence of harmony characterized by the lack of violence, conflict behaviors and the freedom from fear of violence. It is commonly understood to mean the existence of healthy or newly healed prosperity in matters of social or economic welfare, the establishment of equality, and a working political order that serves the true interests of all (Wikipedia, 2009). It is a state of mutual harmony between people or groups, especially in personal relations.

In Africa today, one emerging threat to peace and security is youth unemployment. According to Amadi (2014), the priority of African leaders should be to provide African citizens with education, skills, healthcare, food security, employment opportunities in a peaceful and democratic environment and develop governance structures that are participatory, transparent and accountable to the citizens.

Adebayo (2013) attests to this by stating particularly that despite the abundant human and natural resources available in Nigeria, West Africa, the unemployment rate has continued to be on the increase. The author further said that every year, thousands of graduates are produced but there are no

jobs for majority of them. Nigerian streets are littered with youth hawkers who ordinarily would have found gainful employment in some enterprise. Furthermore, the large number of youths who are unemployed are capable of undermining democratic practice as they constitute a serious threat if engaged by the political class for clandestine and criminal activities (Adebayo, 2013) This is because according to Osakwe (2013), high levels of unemployment can threaten the security of any nation. To worsen it, is the fact that a great number of those unemployed are mostly university graduates and secondary school leavers who are supposed to be the workforce strength of any society (Ochonma, 2011).

Secondary education in Nigeria, is the second in the tripod of education starting from the Primary, Secondary and Tertiary stages in ascending order of magnitude. Secondary education has two distinct objectives which are: Preparing recipients for higher education and preparing recipients for useful living within the society (news24Nigeria, 2012). Secondary school education in Nigeria is in two tiers – the Junior and the Senior. Each tier has a three-year duration, and designed to equip its graduates who wish to end their educational career at the end of any of the tiers, with saleable skills that would

make for self reliance. However, the secondary school education has failed in this area of skill acquisition (vocation) partly because the reasons for its inclusion in the curriculum have been forgotten or because of ignorance of its benefits (news24Nigeria, 2012). The geometric increase of youth unemployment in the country, which includes to a large extent, male and female secondary leavers, attests to the fact that this aim is not being achieved.

To reduce youth unemployment in the nation, viable entrepreneurship education should be incorporated into the curricula of secondary and tertiary schools. Doing this will also turn the graduates into job -creators and not job-seekers. This will help to curb the trend of graduates seeking the elusive white-collars jobs (Adebayo, 2013).

One viable area where entrepreneurship education can be focused on for empowering our youths for gainful and self employment is the area of Information and Communication Technology (ICT). ICT is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning (Rouse, 2005). ICT refers to technologies that provide access to information through telecommunications. It focuses primarily on communication technologies which includes the Internet, wireless networks, cell phones, and other communication mediums.

ICT skills are those related to the use of computers and then the ability to transmit stored information through fixed line networks or through wireless phone networks. It has to do with the knowledge of and ability to use communications technology such as telephony hardware, computers, etc. Today, ICTs are transforming the world of work, creating new job opportunities and making labor markets more innovative, inclusive, and global. According to Vein (2013), ICTs are influencing employment both as an industry that creates jobs and as a tool that empowers workers to access new forms of work, in new and more flexible ways. The emerging ICT-enabled employment opportunities matter because countries around the world are looking to create more good jobs, which have positive social and economic sustainability for workers and for society.

According to Tatum (2014), economic sustainability is the term used to identify various strategies that make it possible to use available resources to their best advantage. The idea is to

promote the use of those resources in a way that is both efficient and responsible, and likely to provide long-term benefits. The goal is to establish profitability over the long term.

ICTs are providing new avenues for sustainable economy and job creation that could help tackle global unemployment. ICTs connect people to jobs. Online employment marketplaces are helping an estimated 12 million people worldwide find work by connecting them with employers globally (Vein, 2013). There are job search services using internet-based and mobile tools and such services empower workers by making labour markets more transparent and inclusive.

For young people ICT offer a way into more formal careers, as well as providing supplementary income. The future of ICT is therefore secure with the coming generations and that is why Olatunde in Aminu (2013), appealed to the federal and state governments of Nigeria to empower the youth with necessary ICT skills to make them self-employed. He emphasized that ICT is one of the sectors through which, the Nigerian youth could be empowered without necessarily depending on government for white collar jobs or waiting for any assistance to meet daily upkeep. Aminu (2013) further reported that ICT will ensure that many unemployed youths are responsible to themselves and also contribute their quota to the country's Gross Domestic Product (GDP). This is because, according to Olatunde, there are still software and the hardware sub-sectors of ICT with diverse opportunities yet to be fully exploited.

Consequently, since the secondary school leavers in Nigeria are within the age bracket of youths that are vulnerable and may become a source of unrest and instability in the country if not usefully engaged, this study is focused on identifying their ICT skills needs in order to integrate them into the school curriculum or youth economic empowerment programmes organized in the country, to ensure economic sustainability and peaceful co-existence. To address this issue, the study specifically identified:

1. Basic Computer skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence.
2. Software development skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence.
3. Hardware Maintenance skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence.

2 RESEARCH QUESTIONS

1. What are the basic computer skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence?
2. What are the software development skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence?
3. What are the hardware maintenance skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence?

3 HYPOTHESIS

Ho: Gender is not a source of significant difference in the ICT skill needs of Nigerian secondary school leavers towards sustainable economy and peaceful co-existence.

4 METHODOLOGY

The study adopted the survey research design and was carried out in Nsukka, Enugu state, Nigeria. The population for the study was 2,765 final year secondary school students at the verge of graduation in the seven public secondary schools in Nsukka metropolis.

A sample size of 700 students, drawn using the simple random sampling technique to select one hundred students from each school, was studied. A structured questionnaire was developed from the

literature reviewed to obtain data for the study and was face validated by three experts knowledgeable in the application of ICT for entrepreneurship development. The Cronbach alpha technique was used to determine the internal consistency of the questionnaire items which yielded a co-efficient of 0.81. The scale for the questionnaire was Highly Needed (HN), Averagely Needed (AN), Slightly Needed (SN), and Not Needed (NN) with weightings of 4, 3, 2, and 1 respectively.

Data obtained from 675 students were analyzed and studied. The weighted mean was used to answer the research questions, while t-test statistic was used to test the hypothesis. A cut off point of 2.5 was used to determine the ICT skill needs of the secondary school leavers towards sustainable economy and peaceful co-existence. The null hypothesis of no significance was accepted for any item whose significant probability is greater than the significant probability level (0.05) used for testing the hypothesis, and was rejected if less. The standard deviation was used to determine the closeness or otherwise of the responses of the respondents to the mean. Any item with a low standard deviation indicated that there were less variations in the responses of the respondents, indicating that the mean values of the items were valid.

5 RESULTS

Data collected for the study are presented in Tables 1 – 3.

Table 1: Respondents mean scores and t- test analysis on the basic computer skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence.

S/N	BASIC COMPUTER SKILL NEEDS: Ability to:	Research Question		Hypothesis				Results	
		\bar{X}	SD	\bar{X}_1	\bar{X}_2	t-cal	Sig	RQ	Ho
1.	Boot a computer	2.28	1.09	3.43	3.20	2.59	0.00	NN	S
2.	Identify and Utilize computer Peripherals	3.70	0.58	3.28	3.60	2.26	0.12	N	NS
3.	Wordprocess documents/Information	3.48	1.77	3.13	3.23	1.29	0.10	N	NS
4.	Save documents	3.19	0.99	2.89	3.37	6.87	0.00	N	S
5.	Print documents	3.20	0.90	2.94	3.12	2.51	0.63	N	NS
6.	Retrieve saved documents	3.05	0.94	2.89	3.37	6.53	0.10	N	NS
7.	Send e-mails	3.19	0.94	2.85	3.33	6.76	0.00	N	S
8.	Access e-mails	3.16	0.90	3.13	3.34	2.91	0.00	N	S
9.	Use social networks to access information	3.26	0.89	3.42	3.28	1.79	0.36	N	NS
10.	Use of Internet search engines to access information	3.23	0.84	3.40	3.27	1.76	0.00	N	S
11	Upload and Download from the World Wide Web	3.33	0.95	3.06	3.71	2.51	0.28	N	NS

Key: \bar{x} = Mean of responses of school leavers, SD= Standard deviation , x_1 = Mean of responses of male school leavers, x_2 = Mean of responses of female school leavers, t-cal = Calculated t-test value using SPSS, Sig = Probability level at 0.05 level of significance

Table 2: Respondents mean scores and t- test analysis on Software skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence.

S/N	SOFTWARE SKILL NEEDS: Ability to:	Research Question		Hypothesis			Remark		
		\bar{X}	SD	\bar{X}_1	\bar{X}_2	t-cal	Sig	RQ	H ₀
1.	Use of Wordprocessing softwares	3.48	0.75	3.38	3.53	2.54	0.00	N	NS
2.	Use of Spreadsheet Management programs e.g MS Excel	3.23	0.86	3.12	3.29	2.42	0.43	N	S
3.	Use of data management programs e.g MS Access, Oracle, SQL etc	3.33	1.92	2.95	3.55	3.92	0.30	N	NS
4.	Use of presentation packages e.g MS Powerpoint etc	3.28	0.79	3.26	3.29	0.40	0.05	N	NS
5.	Use of software for design e.g Corel Draw, AutoCAD etc	3.45	0.77	3.45	3.45	0.03	0.88	N	S
6.	Use of desktop publishing software	3.24	0.89	3.12	3.31	2.66	0.25	N	NS
7.	Use of content management systems	3.11	0.91	2.74	3.32	8.32	0.34	N	S
8.	Design Websites	3.26	0.93	3.07	3.37	4.13	0.23	N	S
9.	Operate on diverse operating systems	3.15	0.97	2.85	3.32	6.30	0.10	N	NS
10.	Writing programs using different programming languages	3.27	0.92	3.07	3.39	4.45	0.04	N	NS

Key: \bar{x} = Mean of responses of school leavers, SD= Standard deviation , x_1 = Mean of responses of male school leavers, x_2 = Mean of responses of female school leavers, t-cal = Calculated t-test value using SPSS, Sig = Probability level at 0.05 level of significance, NN = Not Needed, N = Needed, S = Significant, NS = Not Significant.

Table 3: Respondents mean scores and t- test analysis on Hardware skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence.

S/N	HARDWARE MAINTANANCE SKILL NEEDS:	Research Question		Hypothesis			Remark		
		\bar{X}	SD	\bar{X}_1	\bar{X}_2	t-cal	Sig	RQ	H ₀
1.	Computer assembling and maintenance	3.54	0.84	3.46	3.59	1.88	0.00	N	NS
2.	Troubleshooting hardware and software problems	3.32	3.30	2.80	3.62	3.14	0.19	N	S
3.	Installing and configuring the peripherals, components and drivers	3.40	0.82	3.26	3.47	3.20	0.00	N	NS
4.	Installing software and application to user standards	3.35	0.86	3.32	3.36	0.64	0.13	N	NS
5.	Sound knowledge of digital and analog embedded computer hardware	3.15	0.95	2.85	3.32	6.38	0.45	N	S
6.	Wide knowledge of motherboard and circuit designs of monitor	3.40	0.79	3.35	3.43	1.25	0.09	N	NS
7.	Proficiency in electrical hardware test equipment (Multi meter, PCB testing card, analog meter, etc.)	3.27	0.86	3.02	3.41	5.84	0.08	N	NS
8.	Deep knowledge of printer and cartage refilling	3.43	0.80	3.25	3.53	4.36	0.00	N	S
9.	Installation Hard disks, Floppy drives, CD Drives, Sound Blaster cards, CPU, Memory, Power supply unit, Network card, Video graphics card, Hard disk controller card on PC systems	3.64	2.79	3.32	3.83	2.26	0.71	N	NS
10.	Managing and Maintaining the Servers, PC's, Routers and Switches	3.85	3.41	3.49	4.06	2.10	0.02	N	S
11.	Configuring, Managing and Maintaining Networking Equipments	3.33	0.84	3.28	3.35	1.05	0.81	N	NS
12.	Network processing, centralized and distributive network connection	3.32	0.85	3.06	3.47	6.05	0.93	N	NS
13.	Backup Management, Reporting and Recovery	3.11	0.93	3.01	3.18	2.25	0.60	N	NS
14.	Virus Protection and Eradication	3.50	0.81	3.59	3.45	2.14	0.06	N	NS
15.	Troubleshooting of personal computers through on line Support concerning computer problems	3.17	1.00	2.76	3.40	8.37	0.02	N	S

Key: \bar{X} = Mean of responses of school leavers, SD= Standard deviation , X_1 = Mean of responses of male school leavers, X_2 = Mean of responses of female school leavers, t-cal = Calculated t-test value using SPSS, Sig = Probability level at 0.05 level of significance, N= Needed, S = Significant, NS = Not Significant.

The data presented in Table 1 revealed that 10 items had their mean values ranged from 3.05 – 3.70 which is above the cut off point of 2.5, indicating that the items are basic computer skill needs of the secondary school leavers for sustainable economy and peaceful co-existence. Item 1 had its mean as 2.28 which is lower than the cut off point indicating that ability to boot a computer is not a basic computer skill needs of the school leavers.

The data in the table further showed that the responses of the school leavers varied on Wordprocess documents/Information (SD = 1.77) than on the ability to Identify and Utilize computer peripherals (SD = 0.58).

Table 1 further revealed that five items had their significant probability less than 0.5, showing that the null hypothesis of no significance was rejected for those items, while it was accepted for the remaining six items whose significant probability was greater than 0.5.

Data in Table 2 revealed that all the items had their mean values ranged from 3.11 – 3.48 which is above the cut off point of 2.5, indicating that the items are the

Table 3 further revealed that five items had their significant probability less than 0.5, showing that the null hypothesis of no significance was rejected for those items, while it was accepted for the other ten items whose significant probabilities were greater than 0.5.

6 DISCUSSION OF RESULTS

Findings on research question 1 revealed 10 basic computer skill needs of the secondary school leavers for sustainable economy and peaceful co-existence. McKay (2014) had stated that in most places of business, a Software skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence. Furthermore, the table showed that the responses of the school leavers varied more on the use of data management programs e.g MS Access, Oracle, SQL etc (SD = 1.92) than the use of Word processing software (SD = 0.75).

Table 2 further revealed that four items had their significant probability less than 0.5, showing that the null hypothesis of no significance was rejected for those items, while it was accepted for the remaining six items whose significant probabilities were greater than 0.5.

Table 3 revealed that all the items had their mean values ranged from 3.11 – 3.85 which is above the

cut off point of 2.5, indicating that the items are hardware skill needs of Nigerian secondary school leavers for sustainable economy and peaceful co-existence. Data in the table further showed that the responses of the school leavers varied more on managing and maintaining the Servers, PC's, Routers and Switches the ability to analyze qualitative data (SD = 3.41) than on deep knowledge of printer and cartage refilling (SD = 0.80).

Table 3 further revealed that five items had their significant probability less than 0.5, showing that the null hypothesis of no significance was rejected for those items, while it was accepted for the other ten items whose significant probabilities were greater than 0.5. computer is standard, no matter where your employment is found, there is a good chance that a computer will be a basic tool to be used. The author further mentioned the one just need to know some basics like how to save and open a file, how to use a word processing program, and how to send and receive email. Moreover, as recorded in TARGETjobs (2014), most desk jobs will only need its seeker to know how to use Microsoft Office (Word, Excel, PowerPoint and Outlook) and a handful of websites.

Data in Table 2 revealed crucial software development skill needs of the school. These findings are supported by supported by Fowler (2012) who stated that there is big demand for people with top-notch computer skills and that Fowler (2012) who stated that there is big demand for people with top-notch computer skills and that this demand typically arises through one of two ways: either there are plenty of jobs requiring a particular program or skill set, or there is demand in very small, niche areas, this demand typically arises through one of two ways: either there are plenty of jobs requiring a particular program or skill set, or there is demand in very small, niche areas, where few people have the exact knowledge required for that specialized program in the ever-evolving technology industry. The author further mentioned that mobile web development is currently a very strong area of where few people have the exact knowledge required for that specialized program in the ever-evolving technology industry. The author further mentioned that mobile web development is currently a very strong area of growth within the IT industry. Also as recorded by CyberCoders Team (2013), the most in-demand software development skills include java/javascript, C#/ASP.NET, C++, Python, PHP, SQL/MySQL, and iOS/Andriod. The study also revealed hardware maintenance skill needs of the secondary school leavers. Computer

hardware can become damaged over time, and computer hardware maintenance is necessary for keeping computers up and running. Computer hardware maintenance deals with repairing and replacing broken and failing computer hardware.

According to Burn (2014), it involves taking care of the computer's physical components, such as its keyboard, hard drive and internal CD or DVD drives; cleaning the computer, keeping its fans free from dust, and defragmenting its hard drives regularly. The author further said that virus protection is also part of it, as some viruses can interfere with computer hardware.

Data from the hypothesis tested in the study, revealed that there were no significant differences in the mean rating of the responses of the male and female secondary school leavers on six basic computer skill needs, six software development skill needs, and ten hardware maintenance skill needs for sustainable economy and peaceful co-existence. However, there were significant differences in the mean ratings, in five basic computer skill needs, four software development skill needs, and five hardware maintenance skill needs. The implication of these findings is that for the 22 items where there were no significant differences in the mean ratings of the responses, the hypotheses were accepted. This further implies that despite the differences in gender, the opinions of the secondary school leavers were not significantly influenced on the 22 ICT skill needs for sustainable economy and peaceful co-existence. On the other hand, the opinions of the secondary school leavers were however, significantly influenced on 14 ICT skill needs, implying that there may be variations in the level of ICT skills needs as it relates to gender bias, for sustainable economy and peaceful co-existence.

7 CONCLUSION

A serious threat to peace and security in Nigeria, and indeed Africa is youth unemployment. In order to reduce youth unemployment, viable entrepreneurship education should be incorporated in the school curricula, especially at the secondary school level where the youthful life starts. Information Communication Technology (ICT) now being involved in every facet of life, is a viable area where entrepreneurship education can be focused on, for empowering youths for gainful and self employment. Hence, this study identified the ICT skills needs of Nigerian secondary school leavers that could be integrated into the school curricula for

training of youths for sustainable economy and peaceful co-existence.

8 RECOMMENDATION

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

1. The ICT skill needs identified should be integrated into the secondary school curriculum by Curriculum Planners for onward training of youths for self reliance.
2. Vocational institutes should adopt these identified ICT skills needs as a guide for training of youths for economic empowerment.
3. The secondary school leavers can also use the identified ICT skill needs as a guideline of skills to acquire on a personal basis.

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