SKILLS REQUIRED FOR THE MAINTENANCE OF IPAD TECHNOLOGY BY ELECTRICAL/ELECTRONIC STUDENTS IN TECHNICAL COLLEGES IN LAGOS STATE

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Abstract - The study was carried out to determine the Skills required for the Maintenance of Ipad Technology by Electrical/Electronic Students in Technical Colleges in Lagos state. Three research questions guided the study. The study adopted a survey research design. The population for the study was 110 which comprised 51 Electrical/Electronic teachers from Technical Colleges, Polytechnics, Colleges of Education (Technical) and Universities and 59 literate road side ipad technicians which were purposively chosen in Lagos State. The instrument for data collection was validated by three experts. Cronbach alpha reliability method was adopted to determine the internal consistency of the questionnaire item and the overall reliability coefficient of 0.89 was obtained. One hundred and ten copies of the questionnaire were administered, retrieved, and analyzed using mean and standard deviation. From the data analyzed it was discovered that; Ten (10) skills were required for the servicing of Ipad Technology by Electrical/Electronic Students in Technical Colleges in Lagos state, Eleven (11) skill were required for upgrading of Ipad Technology by Electrical/Electronic Students in Technical Colleges in Lagos state, Nine (9) skill were required for the flashing of Ipad Technology by Electrical/Electronic Students in Technical Colleges in Lagos state.. Based on the findings of the study, It was recommended that; All the skills identified in this study should be packaged and incorporated into Electrical/Electronic curriculum ofTechnical colleges to trainElectrical/Electronic students. Government and Agencies should ensure effective implementation of the identified skills by creating an enabling environment, and Workshop/Seminars should be organized for the students of Electrical/Electronic in Technical colleges in order to acquaint them with the skills required for the maintenance of Ipad.

Keywords - Skill, Maintenance, Ipad, Electrical/Electronic Students, Technical Colleges.

I. INTRODUCTION

Background of the Study.

Technical colleges are vocational institutions established in order to train individuals in various occupations. National Board for Technical Education (NBTE)(2000) described technical colleges as institutions where students are trained to acquire relevant knowledge and skills in different occupations for employment in the world of work. Okoro (2006) explained that these institutions are established to give full vocational training to students.Technical colleges are set up to train students by their teachers using available facilities.

Students are individuals studying at a school, college or university. Microsoft (2008) described student as somebody who studies at a school, college, or university. A student according to Bannon (2007) is someone who is studying in school such as college and University. Electrical/Electronics students in technical colleges are learners admitted into technical colleges to acquire Electrical/Electronics trades after meeting entry requirements laid down by NBTE. They are expected to possess necessary skills in their areas of specialization in order to embark on self employment after graduation.

Ipad which means Internet Pad is a 21st century technology. ipad is one of the portable mobile communication technologies used by people for different purposes. Bakare (2014) described Ipad as a portable device that uses wireless cellular technology to send and receive information. It is useful for business purpose, education, security, health, transportation among others. Ipad is a modern electronics technology. Technology according Waziri (2005) is the use of the product of creativity, inventions, and scientific research in the service of man. Miller, Bakare and Ikatule (2009) defined technology as the process by which humans modify nature to meet their needs and wants.

Ipad technology is made of sophisticated electronic parts that are prone to faults such as open circuit, short circuit, software and hardware faults most especially when handled carelessly. Ipad is useful to every individual but creates some maintenance problems most especially when they are bad. Bakare (2014) explained that this could be as a result of many sophisticated electronics found in the Ipad.. In order to have crops of skilled Ipad technicians who will be on ground for maintenance of various forms of Ipads, there is need determine the skillsRequired by technical college students for the maintenance of ipad technology.

Skill is that encompasses the knowledge, competencies and abilities to perform operational tasks. Skills are developed through life and work experiences and they can also be learned. It is the combination of knowledge and attitudes. Adobe (2003) defined skill as that which is essential to perform certain functions. It is a set or behaviors that encompasses skills, knowledge, abilities and personal attributes that taken together, are critical to successful work accomplishment. Samuel (2004) described skills as the quality of being adequately or well qualified physically and

intellectually. Technical skills are usually concerned with effective use of it systems tools for a job. Skills are acquired In Technical colleges. these skills are needed for the maintenance of ipad technology.

Maintenance is a work undertaken to keep or restore an asset to an acceptable standard at an acceptable cost. Olaitan, Igbo, Nwachukwu, Onyemachi and Ekong (1999) defined maintenance as a specific approved steps and precautions one takes to care for an equipment, machinery or facility which will ensure that such an item attains it optimal functional utility and lifespan. Maintenance could be routine, predictive, preventive, corrective, planned or unplanned. Bakare (2014) stated that predictive, corrective and preventive are the major types of maintenance. maintenance is to determine the condition of equipment or device in order to predict when maintenance should be performed

Statement of the Problem

Ipad technology is a useful device that creates some maintenance problems most especially when it is handled carelessly. Due to the complexity and unique features of this type of technology, it was observed that users found it very difficult to locate efficient or skilled technicians who can repair, service or maintain it. In order to increase the number of Ipad technology technicians, there is need to identify skills required for Ipad technology maintenance by electrical/electronics students of technical colleges. The numbers of unemployable graduates keep increasing due to lack of skill. The advancement of technology requires individuals to acquire skills and have versatile knowledge on electronics such as ipad technology. There are no efficient and competent ipad technology technicians to maintain bad ipads for users especially in lagos state .few available technicians cause more havoc to ipad when contracted to them. Identification of skills Required for maintenance of ipad technology becomes necessary for training of Electrical/Electronics students in Technical colleges. This will lead to mass production of competent and skilled manpower for Ipad technology maintenance, hence this research.

Purpose of the Study

Themain purpose of the study is to determine skillsrequiredfor the repair and maintenance of ipad technology by electrical/electronic students in technical colleges. Specifically the study will sought to identify

1. the skillsrequired for servicing of ipad technology.
2. the skillsrequired for upgrading of ipad technology.
3. the skillsrequired for flashing of ipad technology.

Research Questions

The following research questions will guide the study:

What are the skillsrequiredfor servicing of ipad technology?

What are the skillsrequiredfor upgrading of ipad technology?

What are the skillsrequiredfor flashing of ipad technology?

II. METHODOLOGY

The study adopted survey research design. Ayoade (2013) described survey research design as type of design to get detailed information that describes the existing phenomena of identified problems which justifies current conditions and practices to determine what others are doing with similar problems or situations and benefit from the experience and to make future plans and decision. This design was suitable for this study since it's aimed at identifying Competence.

This study was conducted in Lagos-State south-western Nigeria. There are 6 Technical colleges in Lagos-State offering electrical/electronic technologycourses with qualified and experienced Teachers. Lagos State is observed to have the highest number of iPad users.

The population for the study was 110 which comprised 51 Electrical/Electronic teachers from Technical Colleges, Polytechnics, Colleges of Education (Technical) and Universities and 59 literate road side ipad technicians which were purposively chosen in Lagos State.

The sample size for this study was 110. This involved 51 Teachers of electrical/electronic technology and 59 road side iPad technicians in Lagos State. Purposive sampling technique was used to select 59 literate road side iPad technicians from Alaba international market. Ladipo and Computer Village. The entire Teachers were involved in the study because of the manageable size.

Structured questionnaire was used as the instrument to collect data from the respondents. The questionnaire contained 40 items. Structured in-line with research questions.

The instrument was subjected to face validation by three experts,Two experts from Department of Technology and vocational Education, Ebonyi State University, Abakaliki, Ebonyi State and one expert from Federal College of Education (Technical), Akoka Lagos State. Each expert was served with a copy of the instrument and was requested to identify ambiguities and ensure that items were clearly stated and appropriate for the research question

In order to determine the reliability of the instrument, 20 copies of the questionnaire were administered on seven technicians and thirteen Technical teachers of electrical/electronic technology in Ogun State, South West, Nigeria. The internal consistency of the instrument was computed using Cronbach alpha. The overall reliability coefficient of the instrument was 0.91 Since reliability coefficient of above 0.60 was

obtained, the instrument was considered reliable for use in the present study.

Copies of the questionnaire were administered to 59ipad technicians and 51Electrical/electronic Technical teachers in Lagos State with the help of five research assistants. The same research assistants went round after two weeks to collect the copies of the administered questionnaire from the respondents. 110 administered questionnaire, were retrieved representing 100% retrieval. The data collected for the study was analyzed using Mean and standard deviation to answer the research questions. In deciding on the items,any item with the mean value of 2.50 or above was considered as required. While any item with the mean value of less than 2.50 was considered as not required

IV. RESULT

Research Question 1

What are the skills required by Electrical/Electronic students of Tecchnical college for the servicing of iPad technology?

The data for answering research question 1 are presented in Table 1

	Servicing of IpadSkill items	x	SD	Remark
1.	Use a clean soft cloth to clean the dirty screen of Ipad	3.66	0.48	Required
2.	Apply recommended methylated spirit for cleaning of Ipad body	3.52	0.65	Required
3.	Check the battery of the Ipad for hundred percent functionality	3.51	0.61	Required
4.	Use soft brush to dust the hidden/ inner part of the Ipads	3.55	0.59	Required
5.	Change the battery if bad or malfunctioning	3.42	0.68	Required
6.	Install screen guide to protect the screen of Ipads	3.23	0.71	Required
7.	Replace Ipad casing if rough	3.47	0.50	Required
8.	Select relevant tools and equipment for servicing the Ipad	3.52	0.69	Required
9.	Install anti-virus programme or software to contain virus attack	3.45	0.69	Required
10.	Couple the maintained Ipad technology	3.62	0.56	Required

Key; X= mean ,STD=standard deviation, decision X≥ 2.50 Agree

Table 1 Mean responses of the respondents onthe skills required by Electrical/Electronic students of Technical colleges for the servicing of iPad technology. N=110

The data presented in Table 1' revealed that all the I0 items had their mean values ranged from 3.23 to 3.66. This showed that the mean value of each item was above the cut-off point of 2.50, indicating that allskills are required by Technical college students for servicing of iPad technology. The Table also showed that the standard deviations of the competencies are within the range of 0.48 to 0.71. This indicated that the mean values of the respondents were not far from one another in their responses.

Research Question 2

What are the competencies required by Technical college students for the upgrading of iPad technology?

The data for answering research question 2 are presented in Table 2

	Upgrading Skill items	x	SD	Remark
1	Select the appropriate materials for upgrading Ipads	3.31	0.79	Required
2	Remove old or obsolete parts of the Ipad	3.53	0.67	Required
3	Unscrew the parts to be upgraded	3.35	0.78	Required
4	install or replace the obsolete parts of Ipad	3.48	0.66	Required
5	Connect Ipad to the computer using USB cord	3.60	0.60	Required
6	Open the iTunes software	3.39	0.61	Required
7	Select the Ipad name to the iTunes source list	3.55	0.61	Required
8	Select the summary tab	3.42	0.75	Required
9	Check for update button	3.45	0.74	Required
10	Select install newest button	3.38	0.74	Required
11	Test for functionality of upgraded Ipads	3.62	0.52	Required

Key; X= mean, STD=standard deviation, decision X≥ 2.50 Required

Table 2Mean Responses of the Respondents on the skills Required by Electrical/Electronic students of Technical colleges for the Upgrading of iPad Technology N=110

The data presented in Table 2 revealed that all the 11 items had their mean values ranged from 3.31to 3.62. This showed that the mean value of each item was above the cut-off point of 2.50; indicating that 11 competencies are required by Technical college students for upgrading of iPad technology. The table also showed that the standard deviation of the items is within the range of 0.47 to 0.79; this indicated that the mean values of the respondents were not far from one another in their responses.

Research Question 3

What are the skills required by Technical college students for the flashing of iPad technology?

The data for answering research question 3 are presented in Table 3

	Flashing Skill items	x	SD	Remark
1	Identify the International Mobile Station Equipment Identity (IMEI) of the Ipad	3.58	0.62	Required
2	Connect the USB cable to the computer	3.65	0.49	Required
3	Search for the compatible flashing software	3.58	0.60	Required
4	Download the flashing programme or software	3.65	0.48	Required
5	Check the drivers	3.69	0.46	Required
6	Recognize Mobile Equipment Identifier (MEID) and Electronic Serial Number(ESN)	3.71	0.45	Required
7	Select write after confirmation	3.67	0.48	Required
8	Flash the Ipad correctly	3.67	0.47	Required
9	Reboot the Ipad when successful	3.66	0.48	Required

Key; X= mean ,STD=standard deviation, decision X≥ 2.50 Required

Table 3 Mean responses of the respondents on the skills required by Electrical/Electronic students of Technical colleges for the flashing of iPad technology N=110

The data presented in Table 3 revealed that all the 9 items had their mean values range from 3.58to 3.71. This showed that the mean value of each item was above the cut-off point of 2.50. indicating that 11 competencies are required by Technical college students for flashing of iPad technology. The Table also showed that the standard deviations of the items are within the range of 0.45 to 0.72; this indicated that the mean values of the respondents were not far from one another in their responses.

V. DISCUSSION OF THE FINDINGS

The study revealed 10 competencies required by Technical college students for servicing of iPad technology. Among these competencies are: Use a clean soft cloth to clean the dirty screen of iPad, select appropriate methylated spirits for cleaning of iPad body, These findings are in agreement with the opinion of Ogbuanya and Fakorede (2009) that skills are the abilities to do something expertly and well. in accordance to set standard or manufacturers' instruction. The study also revealed 11skills are required by Technical college students for the upgrading of iPad technology. Among these skills are: select the appropriate material for upgrading, remove old or obsolete parts of the il'ad, unscrew the parts to be upgraded, replace the obsolete parts of lpad, connect iPad to the computer using USB cord, open the iTunes software, select the iPad name to the iTunes source list on the left. The findings were in agreement with Bakare (2014) who found out in his study that the selection of appropriate materials are part of the skills for upgrading iPads. The study further revealed that 9 competencies are required by Technical college students for the upgrading of iPad technology. Among these skill items are: Identify the International Mobile Station Equipment Identity (IMEI) of the Ipad, Connect the USB cable to the computer, Search for the compatible flashing software

Download the flashing programme or software, Check the drivers, Recognize Mobile Equipment Identifier (MEID) and Electronic Serial Number(ESN). The findings were in consonant with the opinion of David (2012) that skills such as;Identify the International Mobile Station Equipment Identity (IMEI) are flashings competencies.

VI. CONCLUSION

Based on the findings of the study: the fallowing conclusions were drawn: Ipad technology is a useful device that creates some maintenance problems most especially when it is handled carelessly. Due to the complexity and unique features of this type of technology, it very difficult to locate efficient or skilled technicians who can repair, service or maintain it. The numbers of unemployable graduates keep increasing due to lack of skill.

The advancement of technology requires individuals to to acquire skills and have versatile knowledge on electronics such as ipad technology. Technical colleges in Nigeria are set up to equip individuals in different occupations for either paid or self-employment. Lack of practical by Technical college graduates has resulted to a situation whereby most graduates hope solely on white collar employment which is not forthcoming, while they could establish an iPad solution centers if they possess skills..

RECOMMENDATIONS

Based on the findings of the study. the following recommendations were made:

1. All the skills identified in this study should be packaged and incorporated into Electrical/Electronic curriculum of Technical colleges to train Electrical/Electronic students.
2. Government and Agencies should ensure effective implementation of the identified skills by creating an enabling environment,
3. Workshop/Seminars should be organized for the students of Electrical/Electronic in Technical colleges in order to acquaint them with the skills required for the maintenance of Ipad.

REFERENCES

[1] Agbo, G.D. (2002). A needs assessment model for conducting follow-up studies. The Journal of Teacher Education, 31(3), 39-42.

[2] Anaele, E.A. (1997). Entrepreneurial competencies needed by technical college students for self-employment. Unpublished Ph.D Thesis. Department of Vocational Teacher Education. University of Nigeria, Nsukka.

[3] Bakare, J. (2009). Effect of reciprocal peer tutoring on the academic achievement of electronic technology students in technical colleges of Ekiti State. Unpublished M.Ed Thesis submitted to the Department of Vocational Teacher Education, University of Nigeria

[4] Bakare, J. (2011). Development of entrepreneurship skills in electrical installation and maintenance practice required by students in technical colleges in South-West zone of Nigeria. NVA Journal

[5] Erhunrun, D. B. (2007). Innovation, market structure and firm size. Review of Economics and Statistics, 69(4), 567-575.

[6] Ezeji S.C.O.A., (2001). A guide to preparing educational specification for secondary industrial arts facilities. Enugu: Cheston Agency Ltd.

[7] Federal Government of Nigeria (2007). Standards and criteria for institutional and programme accreditation in technical colleges and similar technical institutes in Nigeria. Kaduna: NBTE.

[8] Gall, M. D., Gall, J. P and Borg, W. R. (2007). Educational research: An introduction. (Eight Edition). Boston. New York: Pearson Education Inc.

[9] Ogbazi, J.N., and Okpala, J. (1994). Writing research report: Guide for researchers in education, the social sciences and the humanities. Enugu: Press Time Ltd.

[10] Okoro, M.O. (2006). Principles and methods of vocational and technical education. Nsukka: University Trust Publishers.

[11] Olaitan, S. O., Alaribe, M. O., and Asogwa, V. E. (2010). Motivational initiative for encouraging graduates of agriculture to engage in farming enterprises in southwestern states. Nigeria. Journal of Curriculum Studies, 17(3), 123-130.

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