# ACQUIRED AND REQUIRED COMPETENCIES IN INTERACTIVE COMPUTER IN LABOUR MARKET SECTOR FROM THE EMPLOYERS'

By

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*ABSTRACT*

*This study investigated acquired and required competencies in interactive computer technology (ICT) in labour data collected from employers' and employees'. The study is a descriptive research of the survey type. The population of the study consisted of unemployed graduates, employed graduates and various parastatal where graduates seek for employment in Ondo state. The study sample consisted of fifty employed graduates randomly selected from different parts in Ondo state, one hundred unemployed graduates randomly selected from different parts of Ondo state and fifty employers of 6 respondents each from the Banking Sector, Radio Station, Power Holding Company Sector, Local Government Sector, Hospital, Teaching Service Commission Sector, Construction Companies Sector, Police Force and Road Safety, randomly selected for the study. A self developed questionnaire was used to gather information for this study. Six research questions were raised for the study and analyzed using frequency percentage count and simple percentage. Based on the findings, some recommendations were made.*

*Keywords: Acquired Competencies, Required Competencies, Graduates, Employers, Employees, University, Computer.*

## INTRODUCTION

Computer has become an important entity in all aspects of life. In the past two or three decades, the use of computer has fundamentally changed the practices and procedures of nearly all forms of endeavour within the labour market, like in the banking sector, education, oil and gas, security, sports, medicine, tourism, travel, law, engineering, architecture etc.. The impact of computer across the past twenty or thirty years has been enormous. The way this field operates today is vastly different from the way they operated in the past (Oliver 2002).

Nigeria has witnessed rapid industrialization and also increased the availability and knowledge of computer, of which Ondo State is not left out.

The economic changes of Ondo state for the past few years and particularly the new approach to business, peculiar to the need for the business people, to adopt a business philosophy adjusted to the new context, created specific needs on the labour market and as a consequence imposed new requirements concerning the competencies acquired by graduates during their academic training.

Responses within the higher education system during the last ten years have included the progressive introduction of a competence-based learning model as a way of increasing graduate employability so that graduates can better adapt to the constant transformation of professional environments and also to raise the levels of the workers, qualification and expertise called for by the labour market in developed society. This new educational model redefines the traditional role of the transmission of theoretical and practical knowledge in the different fields of study in that it emphasizes its dimension of applicability and action orientedness and the possibility of its transferability to various situations and contexts. Furthermore, it also incorporates the skills, attitudes and other individual aptitudes that provide for competent professional practice, Rothwell, Herbert, Rothwell (2008) Van Der Heijde (2006).The necessity of analyzing these characteristics for the higher education system as a whole, is evident given the notable increase in the population that has gained access to higher education in recent decades and the limited increase in productivity in comparison with the level that should have resulted from a more highly skilled work force. The decrease in productivity level in the

mid-nineties has jeopardized economic competitiveness and has raised questions regarding the adequacy and quality of the educational system and the use made by the market of the skilled workforce and its skills and competences. Marzo Navarro, Pedraja Iglesias, Rivera Torres(2009).

In recent decades, there has been rapid expansion of tertiary-level education across many countries. Some questions asked by some researchers over the years have been: Is there now 'over-supply' of graduates? Is there evidence of 'over-qualification' and skill mismatch? Are students studying the 'right type' of subjects at tertiary-level? Is there a shortage of science and technology graduates in particular? Finally, how does type of institution matter for labour market prospects? The labour market consequences of increasing supply can be considered within a simple demand and supply framework. Starting from a position whether the demand for and supply of graduates are equalized, a boost in the supply of graduates should, lead to a reduction in the wage premium because employers have a wider range of similarly qualified people to choose from. However, if for whatever reason, employers demand more tertiary graduates, then there may not be a fall in the wage premium. The wage premium depends on the interaction of demand and supply. In recent decades, there has been a big increase in both the demand and supply of tertiary-educated graduates. There is a controversial literature on reasons for the former, but the predominant view is that 'skill based technology change' is a major contributory factor. There has been continued expansion of tertiary education in the last decade. However, the wage premium attached to tertiary education has increased, and the wage premium declined markedly between 1974 and 1990, a period of industrialization when there was massive growth in tertiary education. However, there is still a positive return to tertiary education. Thus, in no case considered here, can one speak of 'over-supply' of tertiary education. The strong, positive and (often) increasing return to tertiary education suggests that 'under-supply' is more of an issue and that continued expansion is justified. With regard to employability, there has been some catch-up of the less educated group over the last decade. However, those with tertiary education continue to have a much higher probability of being in employment. On the other hand, it sometimes takes a long time for some (usually less well performing) graduates to find jobs after leaving tertiary education and even then, some graduates are not observed in jobs that appear to be well matched to their qualifications. At the same time, shortages in certain sectors are reported. An empirical literature has developed that attempts to measure this, and the (sometimes misused) terms of 'over-education' and 'under-education' have emerged. The former arises if an individual holds higher qualifications than required by his/her job whereas the opposite applies for the 'under-educated'. However, statistics of 'over-education' and 'under-education' are difficult to interpret as workers are matched to jobs based on a range of characteristics (not just their education level). Also, apparent mismatch may partly be a temporary phenomenon. The extent to which such problems are seen as temporary varies across studies and countries. One generalization which can be made is that the fact of observing 'over-qualified' individuals in the workforce does not mean that there is over-supply of tertiary educated graduates. If there were over-supply, relative wages and employment probabilities would fall to the level of their closest substitutes – and this has not happened, Olufunke Akomolafe and Olajire Adeole Adegun (2009).

The tertiary education systems have expanded rapidly, with different rates of change being experienced across countries and with expansions occurring at different times. This has had important and profound impacts on labour markets and in the way in which employers use highly educated labour. These expansions have, for the most part, been predicated on the assumption that more education is good for individuals and for society as a whole, not only in terms of economic outcomes like wages or employment, but also for a wide range of social outcomes like improved health, reduced crime and higher well being. However, along with expansion of the system has come a range of new questions that have emerged as consequence of there being many more tertiary graduates. For example, has the increase in tertiary graduates resulted in an oversupply of workers with tertiary qualifications, and thus a decline in the 'value of a degree?'

Has the increased supply of tertiary graduates changed labour markets for skilled workers? Are there substantial (or widening) differences in returns to schooling across different fields of tertiary study? Is there any evidence that supply of science and technology graduates is failing to keep pace with labour market?

Labour market desires greater attention upon the backdrop of higher rate of youth unemployment. Skill mismatch between job-seekers and employers, inadequate skilled information technology workforce, complied with under- employments have been prevalent in the labour market. The role of higher education in turning out employable graduates who could readily fill available vacancies is pertinent. Higher education therefore should take into cognizance the need to make contact and interaction with employers of labour and design curriculum to meet the reality of modern labour market. Higher education should make internships and work study a normal part of the educational experience. Moreover, research into the need of private sectors and employer of labours and relevance of higher education in labour market deserves attention. It is high time, higher education designed programmes that make agriculture and other vocational courses relevant, highly desired and required in modern labour market.

### Research Questions

To guide this study the following questions were generated.

(1) What are the software skills/competencies acquired by the employee (student)?

(2) What are the web designing and internet skills/competencies acquired by the employee (student)?

(3) What computer repairing skills/competencies is acquired by the employee (student)?

(4) What are the software skills/competencies required by the employer from the employee (student)?

(5) What are the web designing and internet skills/competencies required by the employer from the employee (student)?

(6) What computer repairing skills/competencies are required by the students?

### Methodology

The study is a descriptive research of the survey type as it attempts to evaluate the acquired and required competencies in interactive computer in the labour market sector from the employers' and employees' perspective in Ondo state, Nigeria. The appropriateness of the survey design for this study stems from the fact that the study attempts a description of the competencies or skills acquired by graduates (the employees) such as creativity skills, analytical skills, managerial skills, oral expression, written expression, personal attributes, use of language skills, etc.. and the competencies required by the labour market (the employers). The population of the study consists of unemployed graduates, employed graduates and various parastatal where graduates seek for employment in Ondo state. The study sample was chosen from fifty employed graduates randomly selected from different parastatals in Ondo state, one hundred unemployed graduates randomly selected from different parts of Ondo state and fifty employers which include six respondents from Banking Sector, Radio Station, Power Holding Company Sector, Local Government Sector, Hospital (Federal Medical Centre & General Hospital), Teaching Service Commission Sector, five respondents from Construction Companies Sector, Police Force and four Road Safety randomly selected from Ondo state. The instrument was administered using test and retest method to 20 respondents outside the sample. The scores were correlated using Pearson correlation coefficient moment. The data collected was analyzed using simple percentage and frequency count on the six research questions that was raised for the study.

### Results

#### *Question 1*

Table 1 shows the frequency count and percentage score of the respondents on software competencies acquired by the employee (student). Item 1 has the highest number of respondents that are skilled, it indicates who 95.3% are skilled on how to evaluate computer brand, operating system, window, memory e.t.c, while 4.7% are unskilled. Out of the skilled respondents, 67.3% acquired the skill through school, 21.3% acquired the skill through friends

and 11.3% acquired the skill through personal development. Item 13, has the next top number of respondent who are skilled in computer software, 87.3% knows how to determine how a system should work and how changes in conditions, operations, and the environment will affect the computer outcomes while 12.7% are unskilled. 60.7% of the skilled respondents acquired their knowledge through school, 20.7% through friends and 18.7% through self development. In Item 9, 86.7% agreed that they know which types of software programs are compatible with certain types of hardware while 13.3% said that they are not skilled. Out of the skilled respondent 58.7% acquired the skill from school, 19.3% through friends and 22.0% through self development. Item 2 and 12 have the same percentage of respondent for "which is the skill on how to use file manager and how to connect different peripherals so that they work seamlessly with each other respectively". 83.3% agreed that they are skilled while 16.7% are unskilled. But Item 7 indicates that only 64.7% knows how to write programs to meet specifications while 35.3% did not know it at all. 51.0% acquired the skill through school, 10.7% through friends and 38.3% through self development. The average mean indicates that in the overall computer software skills 78.99% of the students are skilled while 21.01% are unskilled. 14.74% acquired the skills from school, 55.44% from friends and 29.81% from self development. This implies that though most of the students acquired the skills most of the skills were acquired outside the school training. It is diagrammatically represented in Figure1.

*Question 2*

What are the web designing and internet

| S/N | Software skill Item | N | Yes | No | Through | Through | Through |
|---|---|---|---|---|---|---|---|
| 1 | How to evaluate computer brand, operating system, window, memory e.t.c? | 150 | 143 (95.3)% | 7 (4.7)% | 101 (67.3)% | 32 (21.3)% | 17 (11.3)% |
| 2 | Use the file manager? | 150 | 125 (83.3)% | 225 (16.7)%5 | 91 (60.7)% | 27 (18.0)% | 32 (21.3)% |
| 3 | Reboot a frozen computer [ctrl-alt-del]? | 150 | 121 (80.7)% | 29 (19.3)% | 92 (61.3)% | 19 (12.7)% | 39 (26.0)% |
| 4 | Create presentations with Power point? | 150 | 124 (82.7)% | 26 (17.3)% | 81 (54.0)% | 18 (12.0)% | 51 (34.0)% |
| 5 | Design photos with Adobe Photoshop? | 150 | 115 (76.7) | 35 (23.3) | 77 (51.3)% | 17 (11.3)% | 56 (37.3)% |
| 6 | Understand how each part fits together, such as graphics cards and motherboard slots? | 150 | 121 (80.7) | 29 (19.3)% | 72 (48.0)% | 39 (26.0)% | 39 (26.0)% |
| 7 | Write programs to meet specifications? | 150 | 97 (64.7)% | 53 (35.3)% | 76 (51.0)% | 16 (10.7)% | 57 (38.3)% |
| 8 | Install and upgrade programs? | 150 | 101 (67.3)% | 49 (32.7)% | 75 (50.0)% | 18 (12.0)% | 57 (38.0)% |
| 9 | Know which types of software programs are compatible with certain types of hardware? | 150 | 130 (86.7)% | 20 (13.3)% | 101 (67.3)% | 29 (19.3)% | 33 (22.0)% |
| 10 | RAM and hard-drive space requirements? | 150 | 113 (75.3)% | 37 (24.7)% | 91 (60.7)% | 27 (18.0)% | 49 (32.7)% |
| 11 | Write computer programs for various purposes? | 150 | 110 (73.3)% | 40 (26.7)% | 92 (61.3)% | 14 (9.3)% | 51 (34.0)% |
| 12 | Connect different peripherals so that they work seamlessly with each other? | 150 | 125 (83.3)% | 25 (16.7) | 81 (54.0)% | 29 (19.3)% | 43 (28.7)% |
| 13 | Determine how a system should work and how changes in conditions, operations, and the environment will affect the computer outcomes? | 150 | 131 (87.3)% | 19 (12.7)% | 77 (51.3)% | 31 (20.7)% | 28 (18.7)% |
| 14 | Handle the backup and protection of essential data? | 150 | 116 (77.3)% | 34 (22.7)% | 72 (48.0)% | 13 (8.7)% | 47 (31.3)% |
| 15 | Plan projects? | 150 | 111 (74.0)% | 39 (26.0)% | 76 (51.0)% | 14 (9.3)% | 63 (42.0)% |
| 16 | Format a system successfully when corrupt? | 150 | 113 (75.3)% | 37 (24.7)% | 75 (50.0)% | 11 (7.3)% | 53 (35.3)% |
| | Average Mean X | = | 78.99% | 21.01% | 55.44% | 14.74% | 9.81% |

Table 1. Frequency count and percentage score of the respondents on software skills/competencies acquired by the employee (student).

| S/N | Wed Designing & Internet Skill Item | N | Yes | No | Through Friends | Through school | Through self development |
|---|---|---|---|---|---|---|---|
| 17 | Use Internet for business (Buying, selling and Advertisement)? | 150 | 139 (92.7)% | `11 (7.3)% | 37 (24.7)% | 24 (16.0)% | 89 (59.3)% |
| 18 | Design a web page or website? | 150 | 105 (70.0)% | 45 (30.0)% | 19 (12.7)% | 51 (34.0)% | 80 (53.3)% |
| 19 | Use internet for job search? | 150 | 101 (67.3)% | 49 (32.7)% | 12 (8.0)% | 55 (36.7)% | 83 (55.3)% |
| 20 | Set up online conferencing? | 150 | 97 (64.7)% | 53 (35.3)% | 21 (14.0)% | 61 (40.7)% | 68 (45.3)% |
| 21 | Create e-learning sites for a company? | 150 | 96 (64.0)% | 54 (36.0)% | 13 (8.7)% | 73 (48.7)% | 64 (42.7)% |
| 22 | Log on to workgroups? | 150 | 107 (71.3)% | 43 (28.7)% | 28 (18.7)% | 60 (40.0)% | 62 (41.3)% |
| 23 | Build a network from scratch? | 150 | 102 (68.0)% | 48 (32.0)% | 28 (18.7)% | 56 (37.3)% | 66 (44.0)% |
| 24 | Create in-house network administrator? | 150 | 107 (71.3)% | 43 (28.7)% | 22 (14.7)% | 57 (38.0)% | 71 (47.3)% |
| 25 | Configure routing tables? | 150 | 103 (68.7)% | 47 (31.3)% | 25 (16.7)% | 24 (16.0)% | 64 (42.7)% |
| 26 | Manipulate routing protocols? | 150 | 104 (69.3)% | 46 (30.7)% | 27 (18.0)% | 51 (34.0)% | 65 (43.3)% |
| 27 | Create of network addresses? | 150 | 111 (74.0)% | 39 (26.0)% | 14 (9.3)% | 55 (36.7)% | 80 (53.3)% |
| 28 | Maintain servers? | 150 | 108 (72.0)% | 42 (28.0)% | 21 (14.0)% | 61 (40.7)% | 65 (43.3)% |
| 29 | Install effective antivirus software to prevent malware or spyware from damaging a network? | 150 | 112 (81.3)% | 28 (18.7)% | 32 (21.3)% | 73 (48.7)% | 74 (49.3)% |
| 30 | Set up security parameters that prevent hackers or unauthorized users from accessing information? | 150 | 125 (83.3)% | 25 (16.7)% | 34 (22.7)% | 60 (40.0)% | 79 (52.7)% |
| 31 | Turn on a browser and locate a web page? | 150 | 117 (78.0)% | 33 (22.0)% | 23 (15.3)% | 56 (37.3)% | 83 (55.3)% |
| 32 | Set up security/surveillance cameras? | 150 | 101 (67.3)% | 49 (32.7)% | 26 (17.3)% | 57 (38.0)% | 65 (43.3)% |
| 33 | Correctly configure and update the internal firmware and settings in network components? | 150 | 119 (79.3)% | 31 (20.7)% | 30 (20.0)% | 24 (16.0)% | 79 (52.7)% |
| 34 | Set up routers for wireless connections? | 150 | 113 (75.3)% | 37 (24.7)% | 18 (12.0)% | 51 (34.0)% | 75 (50.0)% |
| 35 | Translate complex computer jargon and terminology into user-friendly language that is easily understood? | 150 | 120 (80.0)% | 30 (20.0)% | 21 (14.0)% | 55 (36.7)% | 79 (52.7)% |
| 36 | Encrypt data and block network access? | 150 | 79 (52.7)% | 32 (21.3)% | 21 (14.0)% | 61 (40.7)% | 77 (51.3)% |
| 37 | Communicate by email? | 150 | 110 (73.3)% | 40 (26.7)% | 26 (17.3)% | 73 (48.7)% | 75 (50.0)% |
| 38 | Provide budget input? | 150 | 114 (76.0)% | 36 (24.0)% | 26 (17.3)% | 60 (40.0)% | 75 (50.0)% |
| 39 | Enter database information? | 150 | 108 (72.0)% | 42 (28.0)% | 19 (12.7)% | 56 (37.3)% | 72 (48.0)% |
| 40 | Download/upload company forms? | 150 | 107 (71.3)% | 43 (28.7)% | 25 (16.7)% | 57 (38.0)% | 71 (47.3)% |
| 41 | Preserve (back up) important data? | 150 | 104 (69.3)% | 46 (30.7)% | 26 (17.3)% | 24 (16.0)% | 72 (48.0)% |
| 42 | Distinguish between the proper device to be used for storage? e.g Flash, Memory card, Hard disk, CD, DVD, Diskette e.t.c | 150 | 126 (84.0)% | 24 (16.0)% | 34 (22.7)% | 51 (34.0)% | 78 (52.0)% |
| | Average Mean X | = | 70.37% | 26.06% | 16.11% | 34.90% | 48.99% |

Table 2. Frequency count and percentage score of the respondents on web designing and internet skills/competencies acquired by employee (student).

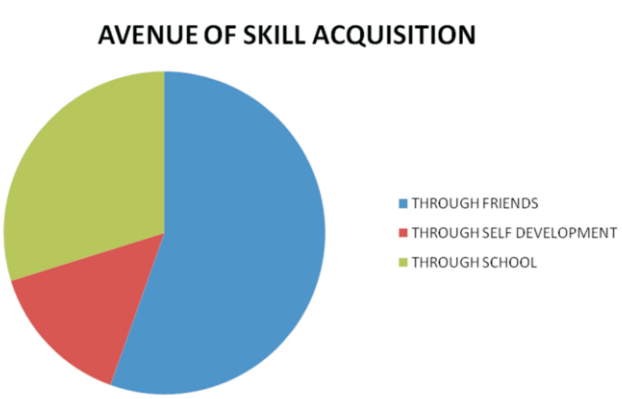


Figure 1. Average Mean of the Avenue of Software Skill Acquisition

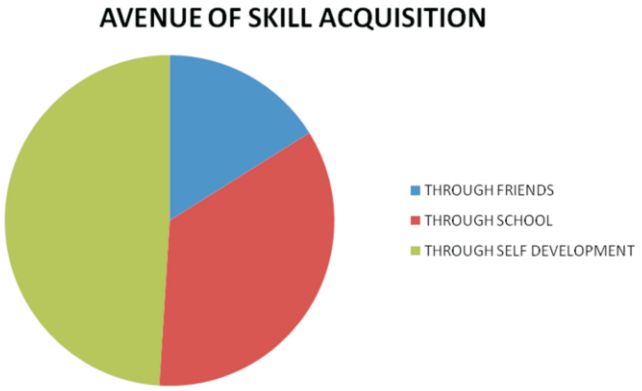


Figure 2. Average Mean of the Avenue of Web Designing and Internet Skill Acquisition

skills/competencies acquired by the employee (student)?

Table 2 shows the frequency count and percentage score of the respondents on web designing and internet skills/competencies acquired by employee (student). In Item 17, 92.7% are skilled in the use of internet for buying, selling and advertisement while 7.3% are not skilled. Out of the skilled respondents, 59.3% acquired the skill through school, 24.7% acquired the skill through friends and 16.0% acquired the skill through personal development. Item 42 indicates that 84.0% of the respondents are skilled in distinguishing between the proper devices to be used for storage? e.g flash, memory card, hard disk, CD, DVD, diskette e.t.c while 16.0% are not skilled. 52.0% know the skill through school, 22.7% through friends and 25.3 through self development. Item 26, indicates that 69.3% know how to manipulate routing protocol while 30.7% are unskilled. 43.3% of the skilled respondents acquired their knowledge through school, 18.0% through friends and 38.7% through self development. In Item 30, 83.3% agreed that they can set up security parameters that prevent hackers or unauthorized users from accessing information while 16.7% said that they are not skilled. Out of the skilled respondent 52.7% acquired the skill from school, 22.7% through friends and 24.7% through self development. Item 33, indicates that 79.3% can correctly configure and update the internal firmware and settings in network components while 20.7% are not skilled. 52.7% of the skilled respondents know the skill through the school training, 20.0% through friends and 27.3% through self development. Item 22 and 24 have the same percentage of respondent for "How to log on to workgroups and create in-house network administrator" respectively. 71.3% agreed that they are skilled while 28.7% are unskilled. Item 21, indicates that only 64.0% know how to create e-learning sites for a company while 36.0% are not skilled at all. 42.7% acquired the skill through school, 8.7% through friends and 48.7% through self development. The average mean indicate that in the overall web designing and internet skill 70.37% of the students are skilled while 26.06% are unskilled. 34.90% acquired the skills from school, 16.11% from friends and 48.99% from self development. This implies that most of the skills were acquired outside the school training. It is diagrammatically represented in Figure 1.

*Question 3*

What computer repairing skills/competencies are acquired by the employee (student)?

Table 3 shows the frequency count and percentage score of the respondents on computer repairing skills/competencies acquired by employee (student). Item 44, has the highest number of respondents that are skilled, it indicates that 86.0% are skilled on how to determine the kind of tools and equipment needed to do a job, while 13.3% are unskilled. Out of the skilled respondents, 58.0% acquired the skill through school, 19.3% acquired the skill through friends and 22.7% acquired the skill through personal development. Item 46, has the next top number of respondent that are skilled in computer repairing, 85.3% can modify the configuration of software in order to adapt it to the specific applications needed for a specific purpose while 14.0% are unskilled. 56.0% of the skilled

| S/N | Computer Repairing Skill Item | N | Yes | No | Through Friends | Through school | Through self development |
|---|---|---|---|---|---|---|---|
| 43 | Build and take apart a computer with ease? | 150 | 122 | 27 | 90 | 25 | 35 |
| 44 | Determine the kind of tools and equipment needed to do a job? | 150 | 129 | 20 | 87 | 29 | 34 |
| 45 | Create Codes to re-write or over-write pre-existing codes for proper functioning of the computer? | 150 | 126 | 23 | 80 | 29 | 41 |
| 46 | Modify the configuration of software in order to adapt it to the specific applications needed for a specific purpose? | 150 | 128 | 21 | 84 | 29 | 37 |
| 47 | Familiar with the different hardware options available on the market and with any older systems employed to be repair or replaced? | 150 | 126 | 23 | 89 | 21 | 40 |
| 48 | Solve technical threats and viruses? | 150 | 105 | 44 | 78 | 17 | 55 |
| 49 | Troubleshoot/Ability to clear faults? | 150 | 94 | 55 | 69 | 18 | 63 |
| 50 | Repair other computer gadgets like printers, scanners, modem e.t.c | 150 | 111 | 38 | 82 | 11 | 57 |
| | Average Mean X = | | 78.45% | 20.90% | 54.91% | 14.90% | 30.18% |

Table 3. Frequency count and percentage score of the respondents on computer repairing skills/competencies acquired by the employee (student).

| S/N | Software kill Item | HR | HR | R | PR | NR |
|---|---|---|---|---|---|---|
| 1 | How to evaluate computer brand, operating system, window, memory e.t.c? | 50 | 18(12.0)% | 27(18.0)% | 5(10.0)% | 0(00.0)% |
| 2 | Use the file manager? | 50 | 0(00.0)% | 25(50.0)% | 25(50.0)% | 0(00.0)% |
| 3 | Reboot a frozen computer [ctrl-alt- dell? | 50 | 0(00.0)% | 26(52.0)% | 24(48.0)% | 0(00.0)% |
| 4 | Create presentations with Power point? | 50 | 1(2.0)% | 39(78.0)% | 10(20.0)% | 0(00.0)% |
| 5 | Design photos with Adobe Photoshop? | 50 | 5(10.0)% | 29(58.0)% | 10(20.0)% | 6(12.0)% |
| 6 | Understand how each part fits together, such as graphics cards and motherboard slots? | 50 | 22(44.0)% | 22(44.0)% | 6(12.0)% | 0(00.0)% |
| 7 | Write programs to meet specifications? | 50 | 0(00.0)% | 21(42.0)% | 23(46.0)% | 6(12.0)% |
| 8 | Install and upgrade programs? | 50 | 0(00.0)% | 33(66.0)% | 17(34.0)% | 0(00.0)% |
| 9 | Know which types of software programs are compatible with certain types of hardware? | 50 | 1(2.0)% | 31(62.0)% | 13(26.0)% | 5(10.0)% |
| 10 | RAM and hard-drive space requirements? | 50 | 1(2.0)% | 32(64.0)% | 15(30.0)& | 2(4.0)% |
| 11 | Write computer programs for various purposes? | 50 | 4(8.0)% | 25(50.0)% | 15(30.0)% | 6(12.0)% |
| 12 | Connect different peripherals so that they work seamlessly with each other? | 50 | 17(34.0)% | 28(56.0)% | 2(4.0)% | 3(6.0)% |
| 13 | Determine how a system should work and how changes in conditions, operations, and the environment will affect the computer outcomes? | 50 | 5(10.0)% | 34(68.0)% | 11(22.0)% | 0(00.0)% |
| 14 | Handle the backup and protection of essential data? | 50 | 4(8.0)% | 34(68.0)% | 12(24.0)% | 0(00.0)% |
| 15 | Plan projects? | 50 | 0(00.0)% | 17(34.0)% | 23(46.0)% | 10(20.0)% |
| 16 | Format a system successfully when corrupt? | 50 | 1(2.0)% | 25(50.0)% | 23(46.0)% | 1(2.0)% |

Table 4. Frequency count and percentage score of the respondents on the software skills/competencies required by the employer from the employee (students).

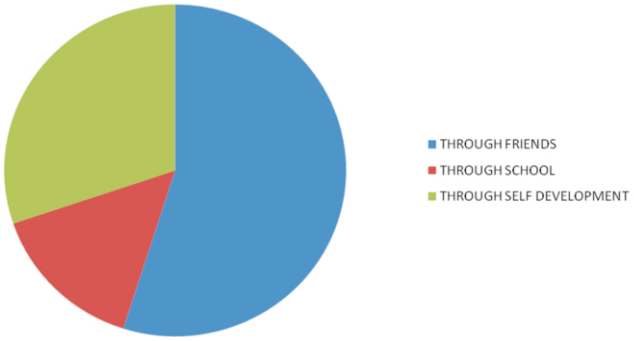


Figure 3. Average Mean of the Avenue of Computer Repairing Skill Acquisition

respondents acquired their knowledge through school, 19.3% through friends and 24.7% through self development. Item 45 and 47 have the same percentage of respondent which is the skill on how to create codes to re-write or to over-write pre-existing codes for proper functioning of the computer and familiar with the different hardware options available on the market and with any older systems employed to be repair or replaced respectively. 84.0% agreed that they are skilled while 15.3% are unskilled. Item 49, indicates that only 62.7% knows how to troubleshoot i.e. ability to clear faults while 36.7% did not even know it at all. 46.0% acquired the skill

through school, 12.0% through friends and 42.0% through self development. The average mean shows that in the overall computer repairing skills, 78.45% of the students are skilled while 20.90% are unskilled. 14.90% acquired the skills from school, 54.91% from friends and 30.81% from self development. This implies that most of the skills were acquired outside the school training. It is diagrammatically represented in Figure 3.

*Question 4*

What are the software skills/competencies required by the employer from the employee (student)?

Table 4 shows the frequency count and percentage score of the respondents on the software skills/competencies required by the employer from the employee (student). Item 6 indicates that 44.0% employers agreed that it is highly required for an employee to understand how each part fits together, such as graphics cards and motherboard slots. 44.0% also said it is required and 12.0% agreed it is partially required. Item 1 indicates that 12.0% employers agreed that it is highly required for an employee know how to evaluate computer brand operating system, window, memory e.t.c. 18.0% also said it is required and 10.0% agreed it is partially required. Item 12 indicates that 34.0% employers agreed that it is highly required for an employee know how to connect different peripherals so that they work seamlessly with each other, 56.0% agreed that it is required, 4.0% agreed it is partially required and 6.0% agreed it is not required. But, in Item 15, 20.0% agreed that it is not required for an employee to know how to plan a project, 46.0% agreed that it is not required, 34.0% agreed that it is required and none said it is highly required.

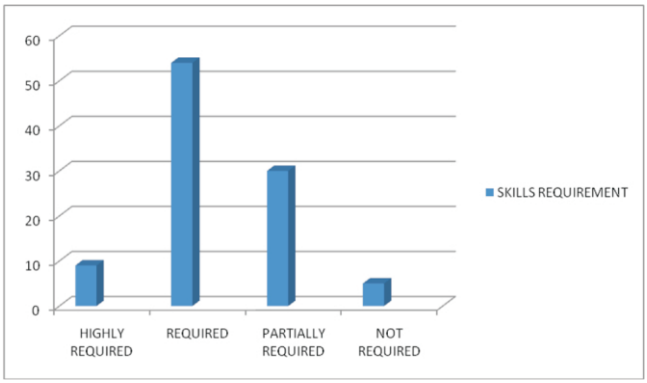


Figure 4. Average Mean of the Rate of Software Skills Requirement By the Employer

The average mean indicate that in the overall software skills, 9.0% of the employer agreed that it is highly required, 54.0% agreed it is required, 30.0% agreed it is partially required and 5.0% agreed it is not required. It is diagrammatically represented in Figure 4.

*Question 5.*

What are the web designing and internet skills/competencies required by the employer from the employee (student)?

Table 5 shows the frequency count and percentage score of the respondents on web designing and internet skills/competencies required by the employer from the employee (student). Item 42 indicates that 46.0% employers agreed that it is highly required for an employee to be able to distinguish between the proper device to be used for storage e.g. flash drive, memory card, hard disk e.t.c. 30.0% agreed that it is required and 24.0% agreed it is partially required. Item 40 indicates that 38.0% employers agreed that it is highly required for an employee to know how to download/upload company forms. 18.0% agreed it is required and 40.0% agreed it is partially required. Item 41 indicates that 36.0% employers agreed that it is highly required for an employee to know how to preserve/back up important data, 22.0% agreed that it is required, 40.0% agreed it is partially required and 2.0% agreed it is not required. Item 38 indicates that 36.0% employers agreed that it is highly required for an employee to know how to provide budget input, 20.0% agreed it is required and 44.0% agreed it is partially required. Item 37 indicates that 34.0% employers agreed that it is highly required for an employee to know how to communicate by e-mail, 44.0% agreed that it is required, 18.0% agreed it is partially required and 4.0% agreed it is not required. Item 34 indicates that 34.0% employers agreed that it is highly required for an employee to know how to setup routers for wireless connections, 32.0% agreed it is required and 34.0% agreed it is partially required. But, in item 22, 14.0% agreed that it is not required for an employee to know how to log on to work groups, 18.0% agreed that it is not required, 36.0% agreed that it is required and 32.0% said it is highly required. Item 23 also indicates that 12.0% agreed that it is not required for an employee to know how to build

| S/N | Web Designing & Internet Skill Item | N | HR | R | PR | NR |
|---|---|---|---|---|---|---|
| 17 | Use Internet for business (Buying, selling and Advertisement)? | 50 | 13 (26.0)% | 21 (42.0)% | 11 (22.0)% | 5 (10.0)% |
| 18 | Design a web page or website? | 50 | 5 (10.0)% | 18 (36.0)% | 22 (44.0)% | 5 (10.0)% |
| 19 | Use internet for job search? | 50 | 7 (14.0)% | 22 (44.0)% | 17 (34.0)% | 4 (8.0)% |
| 20 | Set up online conferencing? | 50 | 16 (32.0)% | 11 (22.0)% | 19 (38.0)% | 4 (8.0)% |
| 21 | Create e-leaning sites for a company? | 50 | 12 (24.0)% | 15 (30.0)% | 18 (36.0)% | 5 (10.0)% |
| 22 | Log on to workgroups? | 50 | 16 (32.0) | 18 (36.0)% | 9 (18.0)% | 7 (14.0)% |
| 23 | Build a network from scratch? | 50 | 9 (18.0)% | 11 (22.0)% | 24 (48.0)% | 6 (12.0)& |
| 24 | Create in-house network administrator? | 50 | 10 (20.0)% | 16 (32.0)% | 22 (44.0)% | 2 (4.0)% |
| 25 | Configure routing tables? | 50 | 9 (18.0)% | 17 (34.0)% | 23 (46.0)% | 1 (2.0)% |
| 26 | Manipulate routing protocols? | 50 | 1 (2.0)% | 15 (30.0)% | 19 (38.0)& | 4 (8.0)% |
| 27 | Create of network addresses? | 50 | 11 (22.0)% | 17 (34.0)% | 21 (42.0)% | 1 (2.0)% |
| 28 | Maintain servers? | 50 | 14 (28.0)% | 20 (40.0)% | 15 (30.0)% | 1 (2.0)% |
| 29 | Install effective antivirus software to prevent malware or spyware from damaging a network? | 50 | 16 (32.0)% | 21 (42.0)% | 13 (26.0)% | 0 (00.0)% |
| 30 | Set up security parameters that prevent hackers or unauthorized users from accessing information? | 50 | 13 (26.0)% | 14 (28.0)% | 22 (44.0)% | 1 (2.0)% |
| 31 | Turn on a browser and locate a web page? | 50 | 11 (22.0)% | 25 (50.0)% | 14 (28.0)% | 0 (00.0)% |
| 32 | Set up security/surveillance cameras? | 50 | 14 (28.0)% | 22 (44.0)% | 14 (28.0)% | 0 (00.0)% |
| 33 | Correctly configure and update the internal firmware and settings in network components? | 50 | 18 (36.0)% | 11 (22.0)% | 21 (42.0)% | 0 (0.0)% |
| 34 | Set up routers for wireless connections? | 50 | 17 (34.0)% | 16 (32.0)% | 17 (34.0)% | 0 (00.0)% |
| 35 | Translate complex computer jargon and terminology into user-friendly language that is easily understood? | 50 | 13 (26.0)% | 18 (36.0)% | 18 (36.0)% | 1 (2.0)% |
| 36 | Encrypt data and block network access? | 50 | 10 (20.0)% | 20 (40.0)% | 19 (38.0)% | 1 (2.0)% |
| 37 | Communicate by email? | 50 | 17 (34.0)% | 22 (44.0)% | 9 (18.0)% | 2 (4.0)% |
| 38 | Provide budget input? | 50 | 18 (36.0)% | 10 (20.0)% | 22 (44.0)% | 0 (0.00)% |
| 39 | Enter data base information? | 50 | 17 (34.0)% | 16 (32.0)% | 16 (32.0)% | 1 (2.0)% |
| 40 | Download/upload company forms? | 50 | 19 (38.0)% | 9 (18.0)% | 22 (40.0)% | 0 (0.00)% |
| 41 | Preserve (back up) important data? | 50 | 18 (36.0)% | 11 (22.0)% | 20 (40.0)% | 1 (2.0)% |
| 42 | Distinguish between the proper device to be used for storage? E.g. Flash, Memory card, Hard disk, CD, DVD, Diskette e.t.c | 50 | 23 (46.0)% | 15 (30.0)% | 12 (24.0)% | 0 (0.00)% |
| | Average Mean X | = | 27.0% | 32.0% | 34.0% | 4.0% |

Table 5. Frequency count and percentage score of the respondents on web designing and internet skills/competencies required by the employer from the employee (student).

a network from scratch, 48.0% agreed that it is not required, 22.0% agreed that it is required and 18.0% said it is highly required.

The average mean indicate that, 27.0% of the employers agreed that it is highly required for an employee to acquire web designing and internet skill, 32.0% agreed it is required, 34.0% agreed it is partially required and 4.0% agreed it is not required. It is diagrammatically represented in Figure 5.

***Question 6***

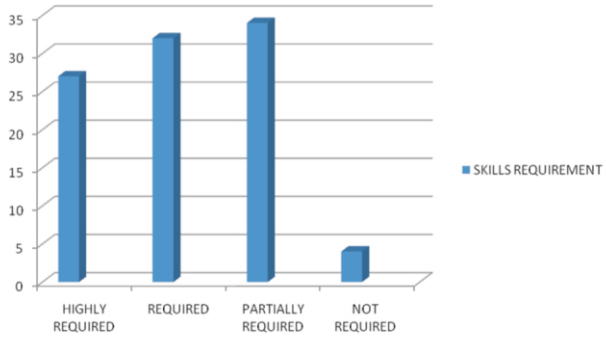


Figure 5. Average Mean of the Rate of Web Designing and Internet Skills Requirement by the Employer

What computer repairing skills/competencies are required from the students by the employers?

Table 6 shows the frequency count and percentage score of the respondents on computer repairing skills/competencies required by the employees from the employers (students). Item 43 indicates that 43.0% employers agreed that it is highly required for an employee to be able to build and take apart a computer with ease. 34.0% also said it is required and 14.0% agreed it is partially required. Item 44 indicates that 50.0% employers agreed that it is highly required for an employee to know how to determine the kind of tools and equipment needed to do a job, 36.0% agreed that it is required and 14.0% agreed it is partially required. Item 50 indicates that 42.0% employers agreed that it is highly required for an employee to know how to repair other computer gadgets like printers, scanners, modem e.t.c, 50.0% agreed that it is required, 8.0% agreed it is partially required. But, in item 46, 16.0% agreed that it is not required for an employee to know how to modify the configuration of software in order to adapt it to the specific applications needed for a specific purpose, 30.0% agreed that it is partially required, 38.0% agreed that it is required and 16.0% said it is highly required. Item 45 indicate that 15.0% agreed that it is not required for an employee to know how to create codes to re-write or over-write pre-existing codes for proper functioning of the computer, 30.0% agreed that it is partially required, 34.0% agreed that it is required and 22.0% said it is highly required.

The average mean indicate that in the overall computer repairing skills, 31.0% of the employer agreed that it is highly required, 40.0% agreed it is required, 25.0% agreed it is partially required and 5.0% agreed it is not required. It is diagrammatically represented in Figure 6.

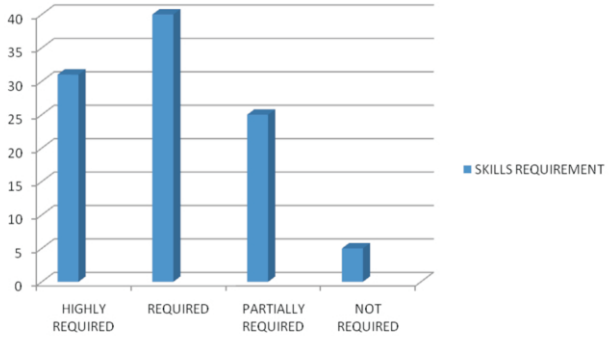


Figure 6. Average Mean of the Rate of Computer Repairing Skills Requirement by the Employer

| S/N | Computer Repairing Skill Item | N | HR | R | PR | NR |
|---|---|---|---|---|---|---|
| 43 | Build and take apart a computer with ease? | 50 | 26 (43.0)% | 17 (34.0)% | 7 (14.0)% | 0 (00.0)% |
| 44 | Determine the kind of tools and equipment needed to do a job? | 50 | 25 (50.0)% | 18 (36.0)% | 7 (14.0)% | 0 (00.0)% |
| 45 | Create Codes to re-write or over-write pre-existing codes for proper functioning of the computer? | 50 | 11 (22.0)% | 17 (34.0)% | 15 (30.0)% | 7 (15.0)% |
| 46 | Modify the configuration of software in order to adapt it to the specific applications needed for a specific purpose? | 50 | 8 (16.0)% | 19 (38.0)% | 15 (30.0)% | 8 (16.0)% |
| 47 | Familiar with the different hardware options available in the market and with any older systems employed to be repair or replaced? | 50 | 6 (12.0)% | 19 (38.0)% | 24 (48.0)% | 1 (2.0)% |
| 48 | Solve technical threats and viruses? | 50 | 15 (30.0)% | 18 (36.0)% | 15 (30.0)% | 2 (4.0)% |
| 49 | Troubleshoot/Ability to clear faults? | 50 | 13 (26.0)% | 26 (52.0)% | 10 (20.0)% | 1 (2.0)% |
| 50 | Repair other computer gadgets like printers, scanners, modem e.t.c? | 50 | 21 (42.0)% | 25 (50.0)% | 4 (8.0)% | 0 (00.0)% |
| | Average Mean X | = | 31.0% | 40.00% | 25.0% | 5.0% |

Table 6. Frequency count and percentage score of the respondents on computer repairing skills/competencies required by the employers from the employee (students).

### Discussion and Conclusion

Table 1 reveals that 95.3% of the respondents have the skill of how to evaluate computer brand, operating system, window, memory etc., because for every buyer or user of computer the first questions that is asked has always been what is the brand of the computer?, what is the operating system?, what is the window and so on, which enable individuals to know specifically the type of computer in use. This is the main reason why most of the respondents are skilled in that aspect. Looking at this from the aspect of employers from Table 4 none of them indicated that it is not required, 12.0% agreed it is highly required, 18.0% said it is required and 10.0% said it is partially required. More so, indication shows that only 64.7% knows how to write programs to meet specifications, 35.3% did not even know it at all. This is because writing programs are handled mostly by computer engineers who studied programming specially and fortunately, from the aspect of employers 12.0% agreed that it is not required, and none said it is highly required because most parastatals have already pre- installed programs on their computer, all what they need is an employee that will work on them. From these findings, Akomolafe and Adegun (2009) said, there should be collaboration between employers of labour and higher education as the new reality of education in modern world is that, there should be contact and interaction between employers and higher education administrators, in other words industry and education should team up to respond to a need in the market place, in a practical manner. Higher education should therefore make closer links with employers to help them identify and adopt strategies to overcome any skills shortages and to be responsive provider of education in areas of higher - level skill shortage. This will also serve as a way of increasing graduate employability and make graduates adapt to the constant transformation of professional environments as well as to raising the levels of worker qualification and skills expertise called for by the labour market in the society.

The total average mean scores for acquired computer software skill indicated that 78.99% of the respondents are skilled while 18.80% are not skilled. The total average mean of how the skills are acquired showed that 14.74% acquired the skills from friends, 45.31% through personal development and 55.44% during their course program in school. This implies that most of the students are skilled in computer software, but considering the channels which the skills are acquired, the skills acquired from friends and through personal development are combined to be what they acquired outside the school training which is 60.05% , which more than 39.95% acquired in the school. Therefore, though the students are skilled in computer software, they acquired most of the skills outside the school training. This might be as a result of lack and inadequacy of computer facilities and equipment for teaching and training of students in Nigerian higher education institutions.

From the findings in Table 2 on web designing and internet skills, 92.7% are skilled in the use of internet for buying, selling and advertisement while 7.3% are not skilled, this is because in the country currently, UTME forms, Post UTME forms are filled online and, almost all the tertiary institutions drop their adverts on the internet and, payment of schools fees, courses registration are done online. This forced most of the students to be familiar or acquitted or the web and internet use for the above listed purposes among others. This corroborates Dada (2008) that, computer and internet has made communication easier and faster and that, with the help of ICT today, the whole world has become a global village if not a global sitting room. Messages can be sent and received from far and near with the aid of Global System of Mobile Communication (GSM), telephone, electronic mail (e-mail) and internet within a short period of time which has really helped the labour market sector.

Table 5. and Figure 5 on employers requirement of skills indicated that the total percentage of the highly required, and partially required stands as 90.0%, while just 10.0% said the skills are not required. This implies that almost all the skills are very important in the labour market sector. The overall average mean percentage of how the web designing and internet skills are acquired indicted that skills acquired from friends and through personal development combined 51.01% of what they acquired outside the school training which is, greater than the 48.99% acquired in the school. The fallout from this is that , though the students are skilled in internet and web activities, about

68.76%,of the acquired skills are from outside the school training. This is deviating from Comfort and Olajire (2009), that, the main job of a school, or a university, or any institute of higher learning, is to prepare students for a real job in the real world so that they can go out and take their rightful productive place in the society. To accomplish this, the educational system must be in close contact with the business community and be willing and able to determine and respond to the needs of that community. Higher education can make internships and work study a normal part of the education experience. In this way, students are able to apply their newly gained knowledge to the real world and then to continue their education with a more certain knowledge of how they will apply it in the marketplace. According to Olasi (2008) "Graduates looking to secure good jobs must use the benefit of internship to secure their future and their career, no matter what the starting packages are for a start. This would also solve the problem of unemployment. The study established that the percentage of the employees (students) that can write program to meet specifications is very low and providentially, the percentage required by the employers is also low because most of the parastatals are using pre-installed programs.

Most of the respondents (students) indicated that they did not know how to create e-learning sites, majority of those that acquired the skill, acquired it through friends and self development. The skills were not acquired in the course of school training., Most employees (students) did not know how to clear faults and solve technical treats, and these skills are highly required by virtually all the employer of labour.

Based on the findings of this study, it could be noted that though the employee i.e. the students acquired most of the computer skills required by the employers, the skills where acquired through self development. The necessary skills where not acquired through the training received while in school. This could either be that the curriculum did not give room for such training courses and even where anything related were done; there were no adequate equipments and facilities for thorough training, practical activities lesson and supervision.

The proposals of 'one student, one laptop' by the Government remain a mirage on papers, and never implemented. If this had been made possible , the student would have been more proactive and productive with little supervision. The present situation all over the place is that the classical approach is no longer defensible for the vast majority of students. The political class who lived and dictate policies at outside the "ivory tower" of academia view issues in a different perspective with little or no concern for Education of the younger ones which should be more practically oriented and focused on one primary objective of producing man power who are competent enough to fill available jobs in the world competitive economy.

## Conclusion

In order to train graduates at whatever level of education for the meaningful economic relevance, there is the need to strike a balance among economic needs, job market requirement and academic skills. Maintaining the balance entails varying the theory and practical contents and duration of training particularly for vocational skills. This implies that in a short term perspective of meeting local needs of any society , the gap between formal training institutions and prevalent economic needs the society should be bridged through mounting of non-certificate training courses geared towards upgrading the productive skills of the technicians. These courses should be based on the economic needs and job market requirement identified. For this reason, the training needs must be established through either needs assessment carried out among the industries/ in the community or requests from those who need the skills.

## Recommendation

To enable good and effective graduates' employment in Ondo state, the following are recommended:

- There should be collaboration with the industrial sectors and curriculum adaptation in all the higher institutions in Nigeria to meet the labour market requirements.
- The higher education must be more closely tied to the businesses and industries that manage the market economy.

- There should be collaboration between employers of labour and higher education.
- The accreditation exercise of the National Universities Commission (N.U.C) is a welcome development to see that all higher institutions running computer programs meet a certain benchmark in terms of facilities, equipments and course programmes, if an institution failed to meet up with such benchmarks that can match with the student population, such institution should not be accredited.
- The state government should budget more fund to education so as to provide enough infrastructures, facilities and equipment to meet up with the ever growing student population admitted into the state owned tertiary institutions.
- There should be a general computer study programme that will cut across all the departments in the institution.
- An attachment program during the school year e.g. Student Industrial Work Experience Scheme SIWES, Industrial Training IT e.t.c should be made compulsory for at least one semester (thirteen weeks) as against the six weeks presently observed in some institutions in Nigeria.
- Governments should subsidize computer system for the students so as to enable them have their own personal computer for personal training and self development in ICT.
- Computer training textbooks should be made available with affordable prize for the students by the government.
- Students should seize the opportunity of the e-learning and e-library to read more in their area of specialization.
- The use of interactive board should be made available in tertiary institutions.
- There should be free internet services in all the tertiary institutions so that students can browse the internet for help anytime.

It is hoped that the implementation of these recommendations would lead to the ultimate goals of producing improved authentic employable graduates.

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## ABOUT THE AUTHORS