

Inclusion Of Information And Communication Technology (ICT) Literacy In The Technology Education Programme Curriculum. In Nigeria

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Abstract: The paper discussed the imperativeness of including ICT (Information and Communication Technology) training in Technology Education Curriculum. In the present world of work, ICT is indispensable for successful adaptation to the work. When Technology education students become ICT compliant, they would be more efficient in carrying out their works in both private and public companies. The paper identified certain constraints to inclusion of ICT literacy in Technology Education programme to include; inadequate equipment, scarcity of curriculum development experts, insufficient teaching personnel/materials and epileptic power supply. The paper concluded that ICT literacy is the key thing that will enable Technology Education graduates face the challenges of the information age. It was recommended that government should provide enough funds to equip the Technology Education Laboratories and also sponsor Technology Education both locally and internationally for better delivery of instruction.

I. INTRODUCTION

Technology education is an important part of general education which emphasizes skill acquisition for use in industries. Knowledge of information and communication Technology (ICT) is indispensable in the modern world of work. This is necessitated by the fact that the world is viewed as a global village due to the technological advancement in communication skills and gadgets. Technology education according to Ajah (2004) is that aspect of the total educational programme that provides the knowledge, skills, understanding and attitudes needed to be successful in the technology world as a manufacturer, producer and/or consumer of goods and services.

Agu (2013) stated that ICT involves the use of networks, expert systems, and artificial intelligence in what is now known as electronic commerce (e-commerce) or electronic Technology (e-business). E-commerce facilitates the exchange

of information, goods and services between people. We live in an era of global economic competition with economies based on the effective use of information and communication and this is driving the infusion of networked ICT into the classroom.

Technology operations are also much dependent on ICT (Agu, 2013). This is because the impact of communication and information technology is felt in all aspects of an organization's life from manufacturing to the service sector. Hence Czinkota, Kotabe and Mercer (1997) in Agu (2013) noted that information technology affects the entire marketing framework and covers the relationship with suppliers and manufactures, the internal organization of the firm and the firm's interaction with its customers. It helps marketers to work with customers in more efficient ways like linking purchase with specific customers.

The aforementioned uses of information and communication technology in business management helps in

making higher profits and creating opportunities for business expansion and economic growth.

Hence Ezeh (2011) noted that for technology education to achieve its various aims, it is important to make its curriculum more functional by incorporating technological advancement into the curriculum through the introduction of new courses/facilities and modification of existing courses. To worsen the problems, it has been noted that most teachers lack the knowledge and skills in using technologies for instruction in the classroom (Oya, 2001).

II. NEED FOR ICT IN THE TECHNOLOGY EDUCATION CURRICULUM

The manufacturing environment has witnessed a great change and it will continue to change as a result of the innovations occasioned by the computer and more especially the internet (Ndunagu and Ego 2005). They went further to note that the era of ICT has made it imperative that a hard look be taken at the technology education curriculum. It is disheartening to see technology education graduates roaming the streets in search of jobs while the employers unsuccessfully look for ICT competencies from workers. Odoh (2005) lamented that in the present age, the illiterates are no longer those who cannot read and write but those who cannot use the computer and harness the tools provided by ICT. Infact, technology education has been unmatched for the required technological break through.

Thus, there is urgent need for effective inclusion of ICT related courses in the technology education curriculum. This is important because according to Oyedele (2001), the power centers have shifted from land and capital to data, information, judgments and decision making. Technology is the central nervous system of our information society. To be able to produce teachers who are ICT compliant, there is urgent need to review technology education curriculum to adequately include ICT related courses and to provide the necessary equipment for the teaching and learning of these courses.

III. ICT LITERACY AND JOB OPPORTUNITIES

Technology education graduates who are ICT compliant have a lot of job opportunities. In the industries for instance, the graduates who want to function as technicians in the factories are well equipped to use any modern office machine in their disposal if ICT compliant. They can function effectively in any type of industry, because their horizon is widened through the skills acquired in the ICT compliant technology education programme. Their job opportunities are enhanced. The technician can now stay longer and achieve better at his work place as information and messages can easily be keyed in and assessed. ICT compliant technician can use technology to enhance his ability to learn and be productive in his place of work. Odoh (2005) noted that the stereotyped image of the technician as 'a servant to the boss' has faded tremendously giving way to a perfect work partner with the boss. ICT literacy ensures this efficiency at work.

The technology education graduates who are well trained can fit into and be efficient in any work environment. This is because they are well trained and have acquired ICT skills. They as well manipulate any office/industrial machines at their disposals. Even the unemployed graduates that possess ICT literacy can be self-employed because they can now effectively manage businesses. They are also potential factory owners as they can set up their own small companies if they can source money to meet up the requirements. They can as well employ artisans and craftsmen staff thereby becoming employers of labour.

IV. CONSTRAINTS TO INCLUSION OF ICT IN THE TECHNOLOGY EDUCATION CURRICULUM

It is a welcome development that ICT related courses are gradually being introduced in the tertiary institutions, however, there are a number of problems that hinder the effective inclusion of ICT in the technology education curriculum. They are:

INADEQUATE EQUIPMENT AND INFRASTRUCTURES

Most institutions that offer technology communication, data processing, advertising and other related courses hardly own the relevant equipment to enable students to be conversant with the use of those equipment (Koko, 2005). This inadequacy should be addressed because the use of the equipment cannot be avoided in the world of work.

SCARCITY OF CURRICULUM DEVELOPERS/EXPERTS

Nigeria according to Agu (2013) lacks curriculum experts in the various areas of technology education and information technology. As a result, most of the curricula in technical subjects are not based on Nigerian experience. It is therefore a challenge to technology educators to learn to develop technical curricula that can meet the needs of the society.

INADEQUATE PERSONNEL

This constraint applies to both the secondary schools and tertiary institutions. The technology education teacher according to Agu (2013) should not only possess the knowledge skills and attitudes that will make him a successful educator, he should also possess competencies required in one or more areas of technology education and management. It is usual to see interlopers who claim to be technology educators deployed to teach specialized technical subjects like refrigeration and airconditioning, electronics, mechanical technology etc.

INADEQUATE TEXT BOOKS AND OTHER TEACHING MATERIALS

There is scarcity of quality technology education and information technology text books and other teaching materials and this is hindering the development of technology education and information technology. While text books on

technology Education authored by Nigerians are available in the market, books on information communication technology are difficult to find and this creates problem for technology teachers.

THE IMPEDIMENTS IN THE POWER SECTOR

The impediments in the power sector are one of the major challenges in the proper implementation of ICT in the technology education programme. This is because the power sector is highly epileptic in their supply of power and technology education programmes are actually in dire need of power for efficiency.

V. CONCLUSION

For technology education to take its rightful place in this era of information age, Information and Communication Technology should be effectively enshrined in the technology education curriculum. This is important because it will enable the technology education graduates to be well trained to face the challenges of this information age. Furthermore, it will enable them to be self employed in the absence of paid employment.

VI. RECOMMENDATIONS

The following recommendations are made:

- ✓ Government should provide enough funds to equip the technology education laboratories in the secondary and tertiary institutions. This will enable the students to be conversant with the various modern office equipment being used in the technological and business world.
- ✓ Technology educators should be sponsored to attend seminars and workshops both locally and overseas. This will enable them to acquire the skills needed in developing adequate curriculum for the technology education programme.

The Government should endeavour to do a serious reform in the power sector to enable them improve on their services. This will go a long way in helping technology educators to make effective use of the communication gadget available to them.

REFERENCES

- [1] Agu, E. J. (2013). Technology Education in the Era of Information and Communication Technology: Issues, Problems and Prospects. *Technology Education Journal* vol. 1
- [2] Ajah, S. A. (2004). Technology Education: Principles and Methods. Owerri: Kull Publishers International Ltd.
- [3] Czinkofa, M.R., Kotabe, M., & Mereer, D. (1997) Marketing Management Text and Cases. Blackwell: Oxford Publishers. *Technology Education Journal*, 3(4).pp 231-232.
- [4] Ego, A.U. (2000). Innovation in Technology Education Curriculum. Paper presented at the Annual Conference of NABE, Oke.
- [5] Ezech, T. P. (2011). Restructuring Technology Teacher Education Through information and Communication Technology Driven Curriculum. *Technology Education Journal*, vol. 3
- [6] Koko, M. N. (2005). Information Technology and Job Prospects of Technology Education Graduates. *Technology Education Journal*, vol. (1)
- [7] Ndunagu E. C. and Ego G. K. (2005) Status of Information and Communication Technology in the Technical Teacher Curriculum. *Technology Education Journal*; vol. (1). Pp 105-110.
- [8] Odoh, U. L. (2005). Challengers and Prospects of ICT for the Technology Education Curriculum. *Technology Education Journal*, vol. V (1).
- [9] Oya. J. F. (2001). The Technical Teacher Education Curriculum. *Technology Education Journal*, 3(4).