Application of Information and Communication Technology (ICT) in Vocational and Technical Education Programmes in Nigeria

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Abstract:- Nowadays, it is globally recognized that Information and Communication Technology (ICT) has a vital role to play in education, especially in vocational and technical education (VTE) programme. This is because we are in the era of globalization where we can access information through various technological means. Also, high relationship occurs between ICT and VTE. This paper examined the application and importance of ICT in vocational and technical education programmes. Such importance includes the following: accessing knowledge, quick access to educational objectives, teaching and learning facilitator. The study also examined the limitations to the integration of ICT in vocational and technical education programmes in Nigeria. It is therefore recommended among others the need for inclusion of ICT as a discipline in the educational curricula and that the ICT facilities should be made available in the system.

Keywords:- Application, ICT, Vocational and Technical Education (VTE).

I. INTRODUCTION

The basic understanding of Information and Communication Technology (ICT) in vocational and technical education (VTE) programme cannot be underestimated. Information and Communication Technology (ICT) is the processing and maintenance of information and the use of all forms of computer, communication, network and mobile technologies to mediate information. (Iloanusi and Osuagwu, 2009)

According to Tinio Victoria (2002), ICT is defined as a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. These technologies include computers, the internet, broadcasting technologies (radio and television) and telephony of information societies (Shaikh and Khoja, 2011). Globalization and technological change processes have created and accelerated a new global economy powered by technology, fueled by information and driven by knowledge. The emergence of this new global economy has serious implications for the nature and purpose of educational and overall development of a country.

Vocational and technical education has contributed greatly to societies by alleviating ignorance and thereby improving the economies of many nations.

In the technologically advanced country like the USA, many people are gaining access to the use of ICT in such a pace that makes it difficult to give the exact number of computer machines that are now available in their schools with high connectivity (Harper 1987 cited by Egunjobi and Ibode 2005). Also, a research conducted by Light Daniel (2009) in India, Chile and Turkey shows that some Asians countries are witnessing a transformation in their education and policy due to application of information and communication technology for effective and dynamic information dissemination which has a great and positive impact on their educational system. Chilean governments have pursued a consistent reform effort to modernize teaching and learning, improve light and expand school infrastructure and integrate ICT into schools (Cox 2004 turkey cited by light 2009). In Chile, there is an integration of ICT-based programmes into teaching and learning processes in schools and instructors are given proper training in the use of the ICT facilities. Turkey has been instituting educational reforms to modernize and expand its school system and include the use of ICT in the vocational and technical education programme to encourage students to implore and develop their skills. Also, some developing countries in Africa have embraced ICT such as Botswana, Kenya and South Africa. Their governments have initiated technology training programs and internet connectivity to a relatively high level.

According to Iloanusi and Osagwu (2009), the goals of ICT in education (especially in vocational and technical education) should embrace these four approaches which include emerging, applying, infusing and transforming approaches. It was estimated that 90% of Nigeria educational institutions are in the emerging phase, 7% in the applying phase and 3% in the infusing and transforming phases. This shows that ICT is still at a very low level in Nigeria educational system and therefore, there is a need for Nigeria government and the relevant bodies to rise to the challenge of integrating information and communication technology into its teaching and learning environment without the exception of vocational and technical education.

Vocational education is an entrepreneurship type of education that helps in developing one's ability and competency. Technical education is a term applied to schools, institutions and educational programmes that specialize in the skilled trades, applied sciences, modern technologies and career preparation. Vocational and technical education is a scientific and technological know-how education that assists an individual to acquire and develop his skills for optimum job performance (Chris 2003). A nation that desires technological growth must do all it takes to position vocational and technical education and educators aright. It is generally believed that one of the major parameters for measuring a country's economic growth, development and self-reliance is the extent of the country's development in vocational and technical education (Kehinde & Adewuyi 2015)

II. APPLICATION AND IMPORTANCE OF VOCATIONAL AND TECHNICAL EDUCA TION PROGRAMME

Information and communication technology is presently seen as a facilitator of a better and improved educational system environment. (Tinio Victoria, 2002). It is no more a gainsaying to trace the success of any society to proper use of information and communication technology at all educational levels (Shaikh and Khoja 2011). ICT adequately gives information related activities a means to its ends. It provides convenience in terms of usage for users, speed, accuracy and preciseness of information. (Oyedokun & Fausat et al, 2018). Teaching, learning and research in vocational and technical education have taken a new look due to the prevalence of information and communication technology. (Damkor et al 2015). Computer education cannot but given a priority in the present era where access to information is mainly through information and communication technology. Damkor et al, 2015 opined that, for a nation to grow, there must be an advancement in ICT use among its workforce. It is a global belief now that no country can function effectively in an educational system devoid of ICT literacy. Nigeria is not left out in the struggle for ICT literacy.

The use of ICT in vocational and technical education adds value to teaching and learning by enhancing the effectiveness of learning. The educational system and educators will experience great achievement with the current roles of ICT in education if ICT is efficiently integrated into vocational and technical education programmes (Reetika, 2017).

Application of ICT according to Iloanusi & Osuagwu (2009) and Kehinde & Adewuyi (2015) to vocational and technical education programmes enhances the following:
- Improvement of the curriculum of education
- Knowledge exploitation
- A robust output from ICT-based education
- Encouragement of critical thinking
- The offering of unlimited means of achieving educational goals
- Quick access to educational objectives

- It is used as a means but not as an end.
- Providing educational advancement and easy accessibility of information to the less privileged
- Increasing educational approaches
- Performing the role of teaching and learning facilitator
- A national impetus for technological growth
- Helps in developing local technology by indigenous technicians and technologists.
- Agent of spontaneous economic strength
- It serves as an eye-opener for self-reliance and creation of employment

III. LIMITATIONS TO THE INTEGRATION OF ICT IN VOCATIONAL AND TECHNICAL EDUCATION PROGRAMMES

The place of ICT in the educational reformation of a nation cannot be overemphasized. All the concerned bodies and stakeholders in education should put the following into consideration: education policy and planning infrastructure, telecommunications and information infrastructure and competencies. They should all be involved in the reformation at various facets to see the above mentioned done. Also, the goals, objectives, guidelines, and the resources needed for the reformation should be made available to put the initiative on the move. But, sadly, integration of ICT into vocational and technical education programmes in Nigeria is faced with some challenges such as:
- Insufficient fund allocation
- Inadequate skilled manpower
- Power outages
- Poor policy, planning and implementation
- Inadequate ICT infrastructure
- Lack of appropriate technical skills and training (Adetimirin, Amkpa and Abba, 2009).

Also, there is
- No accessible facilities and equipment
- Lack of ICT facilities.
- Climatic condition.

IV. CONCLUSION

We are presently in a digital era, where all actions, thoughts and ways of life are influenced by ICTs. In an educational system especially vocational and technical education, Information and Communication Technologies (ICTs) is so imperative that its roles and application cannot be brushed aside. ICT revolution makes knowledge a competitive resource. The need for recurrent education and the changing labour market conditions call for flexible access and integration of ICTs into vocational and technical education. It is necessary to raise the percentage of the professions connected with information technologies for different fields in the educational systems of the country and find a way of getting rid of the limitations to the use of Information and Communication Technologies.

RECOMMENDATION

In a developing country like Nigeria, relevant educational bodies should constitute a forum to structure and tailor the educational system in a way that will accommodate ICTs for the smooth running of VTE programmes. This can be done by first looking at the advantages derived from the use of ICTs in the developed world where ICT was properly integrated into their VTE programmes and get a clue from them. It is important to integrate and improve provisions of vocational and technical education programmes in Nigeria with Information and Communication Technology facilities. There should be adequate funding on ICT, implementation of robust and effective ICT policy, creating new ICT-based curricula for VTE programmes, creating a good networking environment for students at all facets of education to compete with their colleagues in the developed world. There should also be a steady power supply and adequate training for both staff and students of vocational and technical education in Nigeria schools.

REFERENCES

[1]. Adetimirin, A.E. (2009). Use of the internet by information professionals in some selected university libraries in southwest Nigeria. *An International Journal of Information and Communication Technology (ICT), 6*(1).

[2]. Amkpa, S.A. & Abba, T. (2009). Factors inhibiting the implementation of information and communication technologies (ICTs) in nigeria universities libraries. *An International Journal of Information and Communication Technologies (ICT). 6*(1).

[3]. Chris, C. (2003). The use of ICTs in technical and vocational education and training. *UNESCO Institute for Information Technologies in Education.*

[4]. Damkor, M., Irinyang, D., & Haruna, M. (2015). The role of information communication technology in nigeria educational system. www.ijrhss.org

[5]. Egunjobi, A.O., & Ibode, O.F. (2005). Utilization of information and communication technology (ICT) in nigeria educational system: problems and prospects. *An International Journal Promoting ICT in Education and Training (e-journal).*

[6]. Iloanusi, N.O., & Osuagwu, C.C. (2009). ICT in education: Achieving so far in nigeria.

[7]. Kehinde, T.M., & Adewuyi, L.A. (2015). Vocational and technical education. A viable tool for transformation of the nigerian economy. *European Centre for Research Training and Development UK.* www.eajournals.org

[8]. Light, D. (2009). The role of ICT in enhancing education in developing countries: Findings from an evaluation of the intel teach essentials course in india, turkey and chile. *Journal of Education for International Development. 4*(2).

[9]. Oyedokun, T.T., & Oyewumi, F.A. et al (2018). Assessment of ICT competencies of library staff in selected universities in kwara state, nigeria. *Library Philosophy and Practice (e-journal).* https//digitalcommons.unl.ed//libphilprac.1797.

[10]. Reetika, B. (2017). Effectiveness of ICT in education. https://www.franchiseindia.com.

[11]. Shaikh, & Khoja, (2011). Role of ICT in shaping the future of pakistani higher education system. http://www.researchgate.net

[12]. Tinio, V.L. (2002). ICT in education. www.eprimers.org., http://www.goodreads.com