Enhancing Literacy Education and Skills Development in Nigeria: Information and Communication Technology Intervention

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Abstract

The low level and accessibility challenges of skills development in many literacy centres called for urgent attention in the face of the technological advancement of the 21st century. The lack of sufficient resources to embark on various developmental programmes towards tackling the challenges of new technologies has hampered the skills development ideas. Therefore, there is need to work on various ways of enhancing literacy and skills development through the collaboration of the State Agency for Mass Education and Agency for Adult and Non-Formal Education with the existing National Open University of Nigeria and other dual-mode distance learning institutions in the country in order to provide adequate assistance in the advancement of skills development in Nigeria.

The paper, therefore, examines the new constructs on literacy and its values, concept of skills and competency development, concept of ICTs and its importance to national economic development. The paper concludes with recommendations on some strategic ways of achieving skills development and sustainable development in Nigeria as obtainable in some advanced countries.

Introduction

The low level and accessibility to skills acquisition and development in today's technological age has necessitated among scholars and practitioners, the integration of information and communication technology into teaching of literacy skills acquisition and development through various adult education programmes. Based on the current trend in the use of information and communication technology in the world of work, our education policy makers must begin to think of a mechanism for building the capacity of our young adults through acquisition and usage of information and communication technology in their various vocations of choice for sustainable development.

It is obvious in our technology age, that no nation's literacy programmes can be well implemented or achieved without information and communication technology skill acquisition and development. To sustain literacy for development in this 21st century, there is need to focus more on the use of ICTs in all forms of literacy programmes in the country.

A discussion on enhancing literacy education and skills development cannot be properly contextualized without a contemporary understanding of what literacy education and skills development are all about. This is because the conceptualization and perception of the two concepts keep expanding as the challenges confronting humanity keeps emanating. Therefore, this paper aimed to examine the roles of ICTs in enhancing literacy education and skills development in response to the challenges of today's technological advancement and meeting the need of the contemporary world of work.

Conceptual Views of Literacy in Literature

In the beginning, the world did not begin with literacy, at least not with the tradition of literacy as linguistics and written elements. Living a qualitative life was never a problem as indigenous communities in Africa had literacy of their own. These practices

were undervalued and marginalized by the introduction of formal literacy. The communities were not 'tabula raza' waiting for the Gutenberg printed material as some scholars assume. However, the traditional system had inadequacies (Omolewa 1981; Aderinoye 1997; Sarumi 2005).

Even though there is no controversy as regards "literacy as the significant first step in building a better life" (Tahir 1987; Majasan 1989), the question "what is literacy?" though deceptively simple, opens up a world of complexities. The conceptual history of literacy dates back to its universal conception as reading, writing and numeracy. Street (1984) referred to this view of literacy as autonomous literacy. Incidentally, this was the view subscribed to by UNESCO in its first definition of literacy thus: "a person is literate who can, with understanding, both read and write a short simple statement on his or her everyday life" (UNESCO 1978 echoed in Okedara 1981; Aderinoye 1997).

This view of literacy is perceived as an outcome-driven approach of skill acquisition. It is seen as an end in itself rather than as a means to an end. This perception is globally used as the basis of computation of literacy rates and estimates for all countries. In other words, global adult literacy rate for a population aged 15 years and older is usually calculated on the basis of reading and writing ability.

An expanded vision of literacy was captured in the Draft Proposal and Plan for The United Nations Literacy Decade (UNLD, 2002) thus:

> Literacy policies and programmes today require going beyond the limited view of literacy that has dominated in the past. Literacy for all requires a renewed vision of literacy, which will foster cultural identity, democratic participation and citizenship, tolerance and respect for others, social development, peace and progress. It must admit that literacy is not confined to any particular age (childhood or adulthood), institution (such as the school system), or sector (such as education); that is related to various dimensions of personal and social life and development, and that it is a life-learning process. Such

renewed vision toward literacy for all, calls for renewed modalities operations, monitoring, and accountability procedures and mechanisms. (UNESCO 2005b, p.25)

The above UNLD view of literacy takes political, social and economic transformations into account and recognizes that people acquire and use literacy for different purposes. It also acknowledges that practices of literacy are embedded in different cultural processes, individual circumstances and collective structures (Omolewa 2010). This 'plural' vision sees literacy as culturally, linguistically and temporally diverse. Since literacy is shaped by cultural, educational and state institutions constraints on achieving literacy do not lie only with the individual but are also embedded in broader social relations (Fasokun 2005).

Arising from the UNLD expanded vision of literacy, the Hamburg Declaration and the Agenda for the Future of Literacy (CONFINTEA 1997) conceptualizes literacy though a broad lens, referring to it as "the basic knowledge and skills needed by all in a rapidly changing world" p5. The Declaration views literacy as a "catalyst for participation in social, cultural, political and economic activities, and for learning throughout life" p5. In 2008, UNESCO submitted to the United Nations General Assembly, the international plan of Action for the United Nations Literacy Decade, which noted that across the globe, many authorities recognize the multiple dimensions and evolving nature of literacy, with new literacies emerging as well as changing patterns of learning, including the use of digital technology.

New Constructs on Literacy Perception and Its Core Values

Based on the new construct toward the perception of literacy, it is no longer debatable that literacy is a prerequisite for most forms of learning. As stated in the preamble of the UN General Assembly resolution which proclaimed the United Nation Literacy Decade (UNLD):

… literacy is crucial to the acquisition, by every child, youth and adult, of essential life skills that enable them to address

the challenges they can face in life and represents an essential step in basic education, which is an indispensable means for effective participation in the societies and economies of the twenty-first century. (UN, 2005: 25)

Therefore, some of the values commonly associated with literacy, as documented, are:

(i)   literacy is prerequisite for most forms of learning, whatever the age group;

(ii)   literacy provides a solid foundation for poverty reduction and sustainable development in pursuit of a democratic and stable society;

(iii)   literacy provides a basis for the respect for human rights, the universalization of basic education, conflict resolution, nutritional sufficiency, and for an overall improved quality of life (Okedara 1981; Omolewa 1983; Aderinoye 1997; Laoye 1999);

(iv)   literacy is an indispensable means for effective social and economic participation, contributing to human development and poverty reduction. It empowers and nurtures inclusive societies and contributes to the fair implementation of human rights (Adedokun 2018);

(v)   literacy is key to communication and learning, and fundamental for active participation in today's knowledge-based societies. Without literacy, people are excluded from access to, and the use of, knowledge, and even from the most basic information they may need for daily living (Atang 2014; Akintayo 2018);

(vi)   literacy skills are essential in today's knowledge societies, conferring benefits on individuals, communities and nations (*Education for All Global Monitoring Report, 2006*).

(vii)   Being literate adds value to a person's life. Literacy can be instrumental in the pursuit of development—at personal, family and community levels; effective participation in electoral process, as well as at macro-levels of nations,

regions, and the world (Omolewa 2001; Akinpelu 2008; Aderinoye 2009; Adedokun 2018). Literacy is an indispensable foundation that enables young people and adults to engage in learning opportunities at all levels of the learning continuum (Egunyomi 2015). It involves a continuum of learning and proficiency levels which allows citizens to engage in lifelong learning and participate fully in community, workplace and the wider society. It is an essential means of building people's knowledge, skills and competencies to cope with the evolving challenges and complexities of life, culture, economy and societal development (UNESCO and UIL 2016).

Concept of Competency and Skills Development

According to Beardwell & Holden (2011, p. 745) competence is the ability to perform the activities within an occupational area to the levels of performance expected in employment. The four levels of managing and developing employees' knowledge and competencies are described in the order of increasing importance: know-what, know-how, know-why and care-why. Organizations that encourage employees towards the highest care-why level of self-motivated creativeness are most competitive. As for Martin (2010, p. 47) competence is defined as the characteristics and capabilities that directly lead to superior job performance. On the question of competencies strategic significance Klein (1998, p. 178) advises organizations to focus on what sort of knowledge and competence assets are worth developing and how value is derived from them. There is individual, team and organizational competence. Individual competencies consist of knowledge, skills, abilities and motivation that employees apply to work that benefits the organization. Collective knowledge instead consists of competencies inside of a group, team, unit or the whole organization and internal interaction of the group that creates added value. Competence areas (for example substance, business, organizational and social competencies) are usually the same for all employee groups and are divided into separate competencies. (Kujansivu, Lönnqvist, Jääskeläinen & Sillanpää 2007, p. 111-112.)

Concept of Skills

The word 'skill' is an essential concept in many fields of study including sociology, psychology, human resources management, economics and education. Unlike concepts and constructs in the natural sciences, skill is one of those Social Science words in parlance with many meanings, numerous synonyms such as "ability"; "competence"; "knack"; "aptitude" and "talent", and varied imprecise translations in other languages (Green, 2011). Widely regarded as a focus for analytical research and a core object for policy interventions in the modern global high-technology era, scholars in various disciplinary field ascribe high importance to 'skill' but they appear to be talking about different things when they converse (Green, 2011). For instance, while some construe it as 'the ability that has been acquired by training' others see it as 'ability to complete a task and find solution in some problem domain'.

According to Pitan and Adedeji (2012) skills are often categorized into two types: transferable and generic skills. They can be used across large numbers of different occupations and vocations in which specific occupational or technical skills are needed to work within an occupation or occupational group. In the same vein, Winterton (2006) averred that a distinction should be made between general skills, which are essential irrespective of any occupational context or so fundamental as to be considered basic life skills, and skills that are specific to a sector or a particular group of occupations which are only likely to be useful in a specified context or job. This conception of skills is better captured by Kechagias (2011) who emphasized that all skills are learned, or are capable of being learned and developed, and necessarily involve the appropriate (and observable) performance of particular types of activity and task. The researcher detailed further that skills are behaviours that are carried out when knowledge, aptitudes and personality traits are put into practice. They constitute the corpus of knowledge, procedures, competences, aptitudes and attitudes that are needed to carry out various activities to a certain degree of quality and effectiveness, and in an independent and flexible manner.

Concept of Information and Communication Technology

Colin Latchem in COL and UNESCO (2017) described "ICTs as a broad term encompassing radio, television, the Internet and the Web, satellite and Wi-Fi systems, mobile telephony, computer hardware and software, audio and video-conferencing, virtual reality, social media, wikis, 3D printers and so on". He also noted that "All of these technologies enable individuals and communities to find, analyse, share and present information, knowledge, skills, ideas and experiences". Such is the potential of this raft of tools that the United Nations Secretary-General, Ban Ki-moon has advised the world's leaders to "listen to your people. Information is freer than ever. Information is available to more people than ever. And citizens are using information technology as never before to demand democracy, dignity and opportunities" (ITU News, 2012).

Also, Kofi Annan, former UN Secretary-General, has declared, "We must ensure that information and communication technologies are used to help unlock the door to education" (UN News Centre, 2005). He also submitted that "ICTs can provide education to everyone, everywhere". They are particularly useful in serving the needs of the rural, regional, remote and socio-economically disadvantaged in communities, people returning to learning after an absence from study or work and people reskilling following displacement, redundancy or incarceration". He observed that "ICTs can be used for educating people at a distance and improving and enriching classroom or workplace learning". However, they are only tools. "The quality and usefulness of ICT-enabled teaching and learning depend upon careful attention to the issues of accessibility and equitability, principles of adult learning and instructional design and appropriateness of the delivery and support services". Some learners may be quite capable of autonomous learning through wholly online means, but others will need face-to-face or online support and mentoring. There is therefore no reason to fear that the adoption of ICTs will ever eliminate the need for teachers, but the teachers' role will need to be redefined from that of instructor to that of constructor and facilitator of learning environments (UNESCO Bangkok, n.d.).

The following question needs to asked and answered: why must an organization devote much of its scarce resources in developing employees' ICT skills and competencies? There are several benefits which ICTs in conjunction with new paradigm shifts in workplaces are capable of providing employees, including the opportunity to engage in adult education and its programmes and in lifelong learning. This is because the central element in ICTs is human capacity building, which is meant to strengthen the skills and capabilities of employees and adults as a whole (Nafiseh and Fereshte, 2015).

Coupled with this, in the present day work environment, more emphasis is on collaborative work team to gather information, communicate and to perform various tasks that cannot be accomplished manually. ICTs are becoming an essential part of everyone's life as an increasing amount of work activities now take place with the support of alternative means of communication. To make employees relevant in the global job market there needs to be effective integration of ICTs into various tasks performed by the employees, while enhancing their professional skills and competencies in terms of productivity.

Importance of Information and Communication Technology in National Economic Development

Information and Communication technologies (ICTs) are diverse sets of tools and resources used to communicate, create, disseminate, store and manage information. K. Ratheeswari (2018) reported in his work that "ICT stands for "information and communication technology". It refers to technologies that provide access to information through telecommunication". He said it is "similar to Information Technology (IT) but focuses primarily on communication technologies". He also observed that the rapid development in technology has made creative changes in the way we live, as well as the demands of the society. Recognizing the impact of new technologies on the workplace and everyday life, today's teacher education institutions try to restructure their education programs and classroom facilities, in order to minimize the teaching and learning technology gap between today and the future. ICTs

are making dynamic changes in society. They are influencing all aspects of life. The influences are felt more and more at schools. Because ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is forcing schools aptly respond to this technical innovation. (K. Ratheeswari 2018, p.1)

Besides, the increased importance of ICTs in the developmental process has made it expedient for everybody in all sectors to have a firm knowledge of ICT. Consequently, in order to compete globally, everyone needs to enhance themselves in the skills of ICTs knowing how to use it to work and communicate effectively and efficiently. In conclusion, ICT is the driving force for effective and efficient operation of trade and commerce as well as human capital development. (Ospina, 2013)

Literacy Education and Skills Development: The African Experience

Huitfeldt and Jütting in COL and UNESCO (2017) "report not only that two thirds of sub-Saharan Africa's people are under 25 years of age, but also that up to 90 per cent of employment is in the informal economy". This has been confirmed by comments in a more recent study by the International Labour Organization (ILO, 2015) that "informal employment is the standard condition among most youth in Sub-Saharan Africa" because it is often their only choice for survival and livelihood.

One of the key contributing factors to this problem is that in most African countries the formal Technical and Vocational Education and Training (TVET) system has been losing its ability to provide adequate skills training to enhance the employability of youth and women, due to low budgets, inadequate infrastructure, and out-of-date materials and pedagogy (COL and UNESCO 2017, p.143).

The discourse on the transformation of African TVET required to make it more responsive to the needs of the 21st century includes the optimistic view that rapid changes in the educational technology landscape and their adoption, not only by teachers but also by entire institutions and national systems, can help address Africa's highly

complex education and skills development challenges. The vision of digital technologies providing equitable access to quality, locally relevant TVET, especially for economically and socially excluded communities is one shared by the African Union (2014), Commonwealth of Learning (2010), UNESCO-UNEVOC (2007), Mead Richardson (2011) and many others (COL and UNESCO 2017, p.143).

Recommendations on Enhancing Literacy Education and Skills Development in Nigeria

Based on the various challenges identified in the area of ICTs intervention in literacy education and skills development affecting Africa and Nigeria in particular, it is imperative to recommend the appropriate mechanisms for enhancing literacy education and skills development in Nigeria:

1. Adoption of the German Dual System of VET

The German dual system of VET is an in-company training of vocational education and training in Germany. It offers qualifications in a broad spectrum of professions and is responsive to changing labour market needs. It is characterised by an intricate web of checks and balances at the national, state, municipal and company levels to ensure that the short term needs of employers do not negatively affect the broader educational and economic goals. The system as a whole is well resourced, combining public and private funding. The system is described as "dual" because vocational education and training takes place at two learning venues: in the companies and in vocational schools offering part-time courses (Carroll, 2013). The core institution at the national level for consensus building between all parties involved in VET is the Federal Institute for Vocational Education and Training (Bundesinstitut für Berufsbildung, or BIBB), which prepares the content of vocational training regulations for the federal government. The fourth documents the well-established online community of trainers and teachers in VET, foraus.de, which was conceptualised and implemented by BIBB and is BIBB's main communications channel with trainers and teachers in VET and its other stakeholders. (COL and UNESCO 2017, p.59&62)

2.   Adoption of Australia Open Training and Education Network (OTEN)

OTEN is a registered training organisation (RTO) that is managed by TAFE NSW – Western Sydney. TAFE NSW comprises ten institutes (including TAFE NSW – Western Sydney), all of which are part of the NSW Department of Industry, Skills and Regional Development. It delivers vocational education and training (VET) across the full range of regulated qualifications in the Australian Qualifications Framework (AQF) under which students attaining a VET qualification from any RTO can be confident that their qualification is both accredited nationally and also comprehensively recognised as such. As a state government–owned provider, TAFE NSW – Western Sydney plays an important role in enhancing the skills base in the fast-paced, ever-changing Greater West of Sydney, a regional hub that is projected to exceed 2.5 million residents by 2031 and to see both short and long-term rapid expansion and diversification in its industry and employment opportunities. OTEN provides more than 250 distance and online education and training courses to students in NSW, across Australia and overseas. VET courses in Australia can be enrolled into straight after secondary school or at any point in life by people wishing to receive industry-relevant vocational education that can also be a pathway to a university degree. A TAFE NSW – Western Sydney graduate survey conducted in 2013 indicated that 40 per cent of 2013 TAFE NSW – Western Sydney and OTEN graduates had continued to study in 2014, with 24.8 per cent doing so at university. However, many university graduates also undertake VET qualifications in order to follow their chosen career paths. (COL and UNESCO 2017, p.73&75)

3.   Adoption of Sri Lanka: TVET and ICTs

Sir John Daniel, former President of the Commonwealth of Learning (COL), commended Sri Lanka for its commitment to building an integrated system of Technical and Vocational Education and Training (TVET) (Daniel, Alluri and Mallet, 2008). One of the principal architects of the Sri Lankan TVET system has been the Ministry of Youth Affairs and Skills Development (MYASD), which has overall responsibility for formulating national policies and

Implementing youth development programmes. The formal TVET sector comprises about 635 public sector training centres and 718 private and NGO training centres. A large number of non-formal TVET providers also provide training in IT on a fee-for-service basis, and there is a widespread network of non-fee-levying institutions that are funded by various national and international charities. These providers educate people of all ages — from secondary school leavers to working adults, parents and others who have suspended their education for various reasons and need training or retraining. Unemployment is especially high among young people in the rural areas, and training is essential not only to help them improve their employment prospects but also to give them access to self-employment opportunities (COL and UNESCO 2017, p.88&89).

4.   Adoption of Canada: e-Apprenticeships

The Conference Board of Canada predicts that, in the next two decades, 40 per cent of all new jobs will be in the skilled trades and technologies and that this will increase the need for post-secondary training, including apprenticeships. Apprenticeships in Canada are regulated by the provinces and territories, which means that there are 13 unique systems.

They combine on-the-job training (80–85 per cent of the time) and college, union training centres, private provider or online training (15–20 per cent of the time) and provide the benefits of earning while learning. Once they have completed the required number of hours and/ or modules for their trade, apprentices sit the examinations for the certificate of qualification of their particular province or territory. Canada also has a standard of excellence known as the Interprovincial Standards Red Seal Program, which applies to 55 trades. Tradespersons successfully completing this interprovincial examination receive nationally recognised credentials.

This form of post-secondary training typically involves four years of employment and supervision by qualified industry journeymen. The classroom portion (six to eight weeks each year) requires the apprentices to be away from their workplaces, during which time they may or may not be paid, despite often incurring

travel, accommodation and miscellaneous costs that are not always reimbursed by their employers. Hartwig (2007) states that the move towards e learning for apprenticeships is driven by the rapid progress of industry, gaps between demand for and availability of skilled labour, the shortage of post-secondary educational places and the cost of apprenticeship training. Replacing classroom attendance with information and communication technology based (ICT-based) instruction means that learners can remain within their own communities, save on study costs, earn as they learn, immediately apply what they learn online in their workplaces and use technology to study. The latter is an increasingly important way of learning for all workers. ICT-based instruction also means that employers only have to do without the apprentices' services for one and a half days a week, rather than a couple of months. (COL and UNESCO 2017, p.169&170)

5.   Adoption and Active Involvement in INVEST Africa

The Innovation in Vocational Education and Skills Training in Africa (INVEST Africa) programme was established in 2010 by the Commonwealth of Learning (COL) in partnership with the Commonwealth Association of Polytechnics in Africa (CAPA). The dominance of traditional ways of teaching and the slow adoption of ICT-based teaching and learning were seen to be among the critical challenges in transforming African TVET. Therefore, the aims of INVEST Africa were to develop capacity in the use of educational media and technology in CAPA member institutions in order to:

- Expand access to TVET to the informal sector.
- Help the huge numbers of poorly educated, frustrated and unemployed youth who are "locked out" of the formal skills training systems.
- Address the unequal training opportunities fostered by inequities based on geographical location, gender and socio-economic factors.
- Improve the quality of TVET offerings in general.

The INVEST Africa concept of ICT-based teaching and learning concerns opening up systems through the development and use of open educational resources (OER) and methods used were variously referred to as Flexible and Blended Learning (FAB), Flexible Skills Development (FSD) and Open and Flexible Distance Learning (ODFL). The idea was adopted by only two institutions in Africa: The Rift Valley Teacher Training Institute, Kenya and Zambian Technical and Vocational Teachers College. The experiences of these two TVET institutions provide insights and lessons for institutional change from an African perspective. The benefits that both institutions have gained come from training and supporting the early adopters to become champions, the use of cascading training to diffuse knowledge and skills, the strong will to win and lead shown by the institutional leaders and the support of the national governments.

These benefits include an increase in student numbers and a reduction in dropouts and failures, an increase in activities promoting gender equity, expanded access to TVET through the development of new non-formal courses for informal sector learners, and an increasing number of teachers using OER and other educational media in their classroom-based and off-campus programmes. Furthermore, their adoption of policies and strategies to guide the implementation of their plans for more equitable and flexible means of provision provide a critical advantage in framing the transformation process. In addition, their experiences, and those of the other INVEST Africa programmes, demonstrate the importance of debate — not only about the delivery vehicles but also about the policies, strategies and practices needed to make TVET more relevant by opening up new ways of teaching the so-called 21st-century pedagogies that enable critical thinking, enquiry-based learning, collaborative learning and other life skills and vocational skills development that will prepare 152 African youth for living and working in an increasingly complex and uncertain world. (COI and UNESCO 2017, p.144-150)

Conclusion

Information and communication technology has been seen as a veritable tool for promoting skills development in all walks of life among young adults, and promotion of skills acquisition and development should be considered as business for all. The advancement in ICT today offers everyone varieties of ways to promote vocational work through computers, Internet, social media platforms, social networking platforms, web and mobile applications and so on. It is therefore, imperative for all, especially the government, educational institutions, corporate organisations, individuals and adult education stakeholders to learn from the above examples observed in other countries in order to achieve a more advanced skills development programme in Nigeria.

References

Adedokun, M.O. (2018). Literacy: A vital instrument regional and community development. In: *Literacy for Sustainable Development*, (Eds) Abubakar, A. Ojokheta, K.O., Adesina, A.O., Ibadan: Crafted and Bound Wordworks.

Aderinoye, Rashid A. (1997) "Real Literacy Materials (RLM) and Learner Generated Materials (LGM); Exploring the Virtues of a new Literacy Deal". Paper presented at a British Council Sponsored International Seminar in Ibadan. March 2nd- 6th.

Aderinoye, R.A., K.O. Ojokheta and A. A. Olojede (2007). Integrating mobile learning into Nomadic education programmes in Nigeria: Issues and perspectives. *Canada International Review of Research in Open and Distance Learning*, 8(2).

Aderinoye, R. A. (2018). Literacy and Sustainable National Development: A Tripod of Intervention. A University of Ibadan Inaugural Lecture 5 July, 2018 pp. 4-8

Akintayo, M.O. (2015). Knowledge-based economy: Trends and implications. In: *Literacy for Sustainable Development*. (Eds) Abubakar, A. Ojokheta, K.O., Adesina, A.O., Ibadan: Crafted and Bound Wordworks.

Andrews, A. (2001). *Why competency-based talent management?* Lexonis Limited.

Beardwell, I. & Holden, I. (2011). *Human Resource Management: A Contemporary Approach*. Third edition. Essex: Pearson Education Limited.

Banjoko, N. (2018). Digital Intelligence: Creating an enabling Environment of Empowerment for Teaching and Learning. Paper presented at International Conference on Literacy, January 2018 at Unibadan. *http://online.comedu/difining multiple-literacies*.

Beardwell. I. & Holden,,I. (2011). *Human resource management: A contemporary approach*. Third edition. Essex: Pearson Education Limited.

Carroll, C. (2013). Germany's dual vocational training system. Young Germany. Retrieved 22 May 2016 from www.young-germany.de/topic/study/courses-degrees/germanys-dual-vocational-education-system, 18 July.

Daniel, J., Alluri, K. & Mallet, J. (2008). Tertiary TVET: Pathways for pioneers. Guest Address at the University of Vocational Technology (UNIVOTEC), Sri Lanka, 1 October 2008. Retrieved 22 May 2016 from http://oasis.col.org/bitstream/handle/11599/1003/2008_Daniel_Tertiary-TVET_Transcript.pdf?sequence=1&isAllowed=y

EFA Global Monitoring Report (2006). *Literacy for Life*. Paris: UNESCO.

Egunyomi, D.A. (2007). Recurrent and continuing education options for attainments of EFA goal: The 21st century Nigeria experience. *Journal of Literacy and Adult Education*, 4(1).

Fasokun, T. O. (2005). The Role of Education in Poverty Eradication. M. Boucouvalas and R. Aderinoye (Eds.) *Education for Millennium Development*, Ibadań Spectrum, Vol. II.

Graff, H.J. (1987). *The Legacies of literacy: Continuities and contradictions in Western culture and society*. Bloomington and Indianapolis: Indiana University Press.

Green, F. (2011). *What is Skill? An Inter-Disciplinary Synthesis* published by the Centre for Learning and Life Chances in Knowledge Economics and Social Sciences. Available at: http://www.llakes.ac.uk/sites/llakes.ac.uk/files/Green%20-%20What%20Skill%20- %20final.pdf

Haladu, A.A. (2008). Adult basic education and challenges for the realization of the Millennium Development Goals (MDGs). M. Boucouvalas and R. Aderinoye (Eds.) *Education for Millennium Development*, Ibadan Spectrum. Vol.II.

Hartwig, B. D. (2007). e-Apprenticeship: Establishing viability of modern technology in traditional practice. *E-Journal of Instructional Science*

International Labour Organization. (2015). Five facts about informal economy in Africa. Retrieved 19 August 2016 from www.ilo.org/addisababa/whatsnew/WCMS_377286/lang—en/index.htm

Laoye, A.A. (1999). The Experience of University Village Association (UNIVA) in Income Generating Activities and Women Literacy Participation in Oyo state Nigeria 1989- 1997. Ph.D Thesis of the University of Ibadan.

Majasan, J.A. (1989). Achievement in Service and Excellence: The Story of 40 Years of Adult Education at the University of Ibadan, Department of Education.

Nafiseh, R. & Fereshte D. (2015).The Role of Human Resources Management on Enhancing the Skills of Faculty Members. *Journal of the Academy of Medical Sciences of Bosnia and Herzegovina*.

OECD (2014), Measuring Innovation in Education: A New Perspective, OECD Publishing, Paris, available at: http://dx.doi.org/10.1787/9789264215696-en (accessed August 30, 2016)

Omolewa, M. (1981). *Adult Education practice in Nigeria*. Ibadan: Evans Brothers (Nigeria Publishers) Limited.

Omolewa, M. (2001). *The Challenges of Education in Nigeria*. Ibadan: Ibadan University Press.

Ospina, A.V. (2013). Climate Change Adaptation and Developing Countries Livelihood: The Role of ICTs. Ph.D Dissertation Publishing 2013-10997301.The University of Manchester (United Kingdom), ProQuest.

Pitan, O. S. and Adedeji, S. O. (2012). Skills mismatch among University Graduates in the Nigeria labour market, *US-China Education Review* 1, 90-98 retrieved on 5-01-2016 from http://files.eric.ed.gov/fulltext/ED530695.pdf

Natheeswari K. (2018). Information Communication Technology in Education. *Journal of Applied and Advanced Research*, Department of Value Education, Tamilnadu Teachers Education University. Research Publishers, India ISSN 2519-9412.

Street, B.V. (1984). *Literacy in theory and practice*. Cambridge, New York Rochelle, Melbourne and Sydney: Cambridge University Press.

UNESCO and COL (2017). Using ICTs and Blended Learning in Transforming TVET Published by United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris, France, and Commonwealth of Learning (COL), Burnaby, Canada. UNESCO ISBN 978-92-3-100212-0 COL ISBN 978-1-894975-85-8

UNESCO, (2014). Information and communication technology (ICT) in education in Asia: A comparative analysis of ICT integration and e-readiness in schools across Asia. Montreal: UNESCO. Institute for Statistics. Retrieved April 18, 2017 from htt://www.uis.unesco.org/Communication/Documents/ICT-asia-en.pdf

UNESCO and UIL. (2016). *Recommendation on Adult Learning and Education*. Hamburg: UIL.

Witterton, J. (2006). *Typology of Knowledge, skills and competences: clarification of the concept and prototype*. Cedefop Reference series; 64: Luxembourg: Office for Official Publications of the European Communities, Italy.