IMPACT: International Journal of Research in Humanities, Arts and Literature (IMPACT: IJRHAL)
ISSN(E): 2321-8878; ISSN(P): 2347-4564
Vol. 2, Issue 6, Jun 2014, 143-150

FUNCTIONAL EDUCATION: RISING VOCATIONAL SKILLS REQUIREMENTS IN A GLOBAL ECONOMY

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ABSTRACT

The paper observed that the Nigerian education system has failed to equip its products with the necessary tools to live in the modern world and excel in their environment. It noted that the phenomena of automation and globalisation have produced a highly competitive new world order that is accelerating, knowledge-driven and global. For products of Nigerian educational institutions to survive, Nigerian education curricula should be completely overhauled and synchronised with the needs of the business community of the new world order.

KEYWORDS: Skills, Vocation, Economy and Self-Reliance

INTRODUCTION

The role of education as the bedrock of social, economic, political and cultural development can never be overemphasized. All over the world, education is expected to be highly rated in national development plans because it is the most important instrument of change. Accordingly, any fundamental change in intellectual and social outlook has to be proceeded by educational revolution. The fulfilment of this role lies in functional education.

The term 'functional' has been defined (Geddes and Grosset, 2005 and Quirks, 1995) as practical and having useful purposes. Against this backdrop, Ali (2000) averred that functional education will ensure the availability of food for people, creation of jobs, provision of services, etcetera. In the same vein, Nwokolo (1997) posited that:

> *Functional education should be capable of producing Nigerians who can manufacture raw materials, machines and tools needed for local and international markets, invent new designs, discover drugs capable of curing diseases hitherto incurable and transform the nation from a consumption to a manufacturing status.*

To, Idowu (1999), functional education is the total process of bringing up individuals to develop their potentials (cognitive, affective and psychomotor) to the fullest and consequently be able to contribute maximally to the development of the society.

Development is growth or progression from a lower and often undesirable state to a high and preferred one (Adajanju, 2000). It refers to the process of building-up. It means some kind of change in terms of the increase in the capacity to perform some difficult tasks and functions. National development involves the process of modern technology to produce goods more than before. Its pertains to industrial ways of living of the citizenry. Functional education can, therefore, be conceptualised as the transmission, acquisition, creation and adaptation of information, knowledge, skills and values, for the purpose of self-reliance and sustainable development of a nation.

Functional Education (Knowledge versus Skills)

The debate over the relative importance of aims and objectives of education that is more or less skill-oriented (process) or knowledge (content or concept) oriented is long standing. Process-based view of functional education considers 'content' or "concept" as having a second order importance. It (process-based view) emphasises that students should acquire problem-solving skills and scientific attitudes as a priority. Scientific attitudes are attributes scientists have and usually would display when carrying out the process of science. They are (NTI, 2000a): curiosity, open-mindedness, empiricism, scepticism, parsimony and suspended judgement until evidence is available. Science process skills are the various mental and motor processes which the scientist use to arrive at new knowledge. These processes are so vital to science that no knowledge can emerge if they are not put into use. These process skills include (Lewin, 1992): observation, interpretation of data, inference, testing of hypothesis, prediction and classification skills. This view of learning values is an inductive approach, "which is a way of thinking involving reasoning from particular cases to general conclusions" (NTI, 2000b).

> *In contrast to process-based view of science, concept and content-based view of science argue that science is essentially a body of knowledge which consists of the insights scientists have discovered about the physical world. Thus, science students should be required to internalise these concepts first through encounters with specific content and examples (Lewin, 1992).*

The underlying approach to learning here is the deductive method of reasoning which start with a generalisation and leads to a specific conclusion (Nwana, 2000b).

Examination of the aforegoing approaches to learning (inductive and deduction) reveals that, functional education is one which develops a reconciliation or balance between process and content (or concept) based approaches. It (functional education) brings together the relevant content and life skills, as the child metamorphoses into a responsible contributing adult in the society.

Functional Education for Universalistic Values

Science has been seen in functional curricula as subject which promotes inductive-deductive reasoning approach. In the delivery of functional science education, while knowledge and skills are taught, the realm of affective domain is also considered as being important.

Scientific attitudes (just like interest and values) fall within affective domain of teaching. Open mindedness, scepticism, and suspending judgement until adequate evidence is available are special scientific attitudes which stress the importance of changing individual values in traditional societies from the parochial, ego-centric and the concrete to those which involve seeing other peoples point of view, which are universalistic and abstract and not being bound by the experience of the present.

The Nigerian education system is facing monumental challenges – poor quality of schooling from elementary to tertiary levels – arising from the issue of poor quality of teachers (especially at the basic levels), characteristic weak school infrastructures, meagre supplies and equipment, etcetera.

Beyond the afore-stated issue, today, the notion of what constitute a minimum or threshold functional literacy (knowledge, skills and competences) is changing as a result of progress in science and technology, as well as development of "knowledge" society. Indeed, so many young people and adults are currently unable to develop the knowledge, skills and competences needed for today's rapidly changing technologies in the world of work. Two most phenomenal developments in the knowledge society – automation and globalisation – and the consequential changes in the world of work at the global level are raising skill and qualification requirements for job entry, into a more knowledgeable and skilled work force.

Automation

Automation is the use of automatic methods, machinery etcetera, in industries (Geddes and Grosset, 2005). It is the use of machines, control systems and information technologies to optimise productivity in the production and delivery of goods and services. It is also the use of machines to do work that was previously done by people. It means the loss of many factory jobs (Hornby, 2000). It is the use of machines instead of people to do a job (Quirk, 1995).

Today, computers are increasingly able to accomplish a wide range of work-related thinking tasks previously executed by humans. Infact any task that can be digitalised such that the key process can be broken into a set of predictable role is subject to automation. Since it is cheaper and incredibly faster to deploy a computer to follow instructions than engage humans to do so, these jobs are rapidly disappearing.

RISING VOCATIONAL SKILLS REQUIREMENT: IMPLICATION FOR CURRICULUM

As computers take over more and more routine tasks, the nature of work across the entire economy is undergoing rapid transformation. The overall or net trend across the economy as a whole is towards creation of more cognitively demanding job (Jerald, 2009). Therefore, any school curriculum that emphasises following rules, directions or instructions to find solution to a problem, is in effect, preparing students for a job that may not be available by the time the students graduate. That does not mean that following instructions to accomplish a task is unimportant but rather that it is no longer an adequate skill for success in the global job market.

> *Given the overall trend towards higher skill demands, and the transitory nature of many low-skilled service jobs, it makes more sense to prepare all students for post secondary education or training so that they have the chance for higher-skilled and highly-paying work (Jerald, 2009).*

Functionality of Nigerian Education System

The Federal Republic of Nigeria (2004) believes that

> *There is need for functional education for the promotion of a progressive, united Nigeria. To this end, school programmes need to be relevant, practical and comprehensive while interest and ability should determined the individuals direction in education … for the acquisition of appropriate skills and development of mental, physical and social abilities and competences as equipment for the individual to live in and contribute to the development of the society.*

The Problems

In Nigeria, the Universal Basic Education (UBE) scheme, which is free and compulsory has expanded access to secondary and tertiary education, increasing concern for vocational skills development, particularly in the context of teaming youth unemployment. Nigerian youths are said (Dabalen, Oni and Adekola, 2000) to be confronted with poverty, unemployment, urbanisation, lack of capacity and skills needed to move the economy forward as well as lack of necessary productive skills to keep body and soul together. Available information from the National University Commission (NUC, 2004) reiterates the massive unemployment of Nigerian University graduates.

Globalisation

Another major trend shaping skills demand is globalisation - the breaking down of economic, social and intellectual boarders between nations (Jerald, 2009). Advances in transportation and information and communication technology are some of the major factors in globalisation that generate interdependence of economic and cultural activities (Guyford, 1972). Nigerian education system therefore would be functional only to the extent it is able to equip any Nigerian graduate to compete favourably with his foreign counterparts in various fields. Global education is therefore essential for the 21st century students and teachers.

Global education aims at extending the students/teachers awareness of the world in which they live by opening them to the diverse heritage of thoughts, actions and creativity (Ikpe, 2005). It places particular emphasis on the changes in communication and relationship among people throughout the world, highlighting such issues as human conflict, economic systems, human rights and social justices, human communality and diversity, literature and culture, and impact of technological revolution (Hanvey, 2001).

Implication of Automation and Globalization for Education: Rising Skills for Workforce in a Global Economy

Globalisation is impacting on the type of knowledge, skills and values needed to thrive in the global economy of the 21st century, raising skills and education qualification requirements:

- Students who obtain functional education will be at a greater advantage; some post secondary education, vocational/technical training will be essential for an opportunity to support a family.
- The ability to produce, select, adapt, commercialise and use knowledge is critical for sustained economic growth and improved living standards. Knowledge is the most crucial factor in global economic growth, having become the driver of sustained economic development. According to World Bank Report 1998/99, today's most technologically advanced economies are truly knowledge based, creating millions of knowledge-related jobs in an array of disciplines that have emerged overnight (World Bank, 1999).
- The accelerated pace of ICT development has made access to knowledge a crucial requirement for participation in the global economy. It has altered the speed of production, use and distribution of knowledge. A country's capacity to capitalise on the knowledge economy ultimately rests on how quickly it can adjust it's capacity to generate and share knowledge. "Brazil, China, Costa Rica, India, Malaysia and Romania have successfully created with the assistance of relatively effective education systems, information technology (IT) niches that allow them to compete in the global market" (ILO, 2001).

For success in vocational and social life, functional education, in the context of global economy, seeks to equip learners with a broad array of knowledge, skills, competences and values, explained briefly in the table below.

Table 1: Skills Requirement Mirror

Skill	Explanation
Digital Age Literacy	
Functional literacy	Ability to decipher meaning and express ideas in a range of media; this includes the use of images, graphics, video, charts, and graphs of visual literacy
Scientific literacy	Understanding of both the theoretical and applied aspects of science and mathematics
Technological literacy	Competence in the use of information and communication technologies
Information literacy	Ability to find, evaluate and make appropriate use of information; including the use of ICTs
Cultural literacy	Appreciation of the diversity of cultures
Global awareness	Understanding of how nations and communities all over the world are interrelated
Inventive Thinking	
Adaptability	Ability to adapt and manage in a complex, interdependent world
Curiosity	Desire to know
Creativity	Ability to use imagination to create new things
Risk-taking	Ability to take risks
High-order thinking	Creative problem-solving and logical thinking that result in sound judgement
Effective Communication	
Teaming	Ability to work in a team
Collaboration and interpersonal skills	Ability to interact smoothly and work effectively with others
Personal and social responsibility	Be accountable for the way ICTs are used and learn to use ICTs for the good of the public.
Interactive communication	Competence in conveying, transmitting, assessing and understanding information
High productivity	Ability to prioritise, plan and manage problems and projects to achieve the desire result. Ability to apply what they learn in the classroom to real-life contexts to create relevant, high-quality products.

Source: Agbaje (2011)

Thus, highly qualified individuals who develop a broad array of knowledge, skills, competences and values will be at greater advantage in the global labour market.

RECOMMENDATIONS

The phenomena of automation and globalisation have produced a new world order that is global, accelerating, knowledge-driven, agile, flexible and highly competitive. To survive in complex world economy, requires a proactive approach.

- Computer/ICT studies should be made compulsory at all levels of educational structure in Nigeria. Computer/ICT knowledge/management is the driver of global economy. All students therefore need to be computer/ICT literate in their world of work, being a world of global competitiveness. In today's technology-driven world, lack of ICT knowledge limits employment opportunities. Accordingly, all schools should be equipped with internet facilities.
- Vocational/entrepreneurship education should be made compulsory to all senior secondary students. This is because vocational or entrepreneurship education provides the required skills for job creation, poverty eradication and wealth generation.

- The curricula and course content in our technical colleges, polytechnics and universities should be oriented towards current industrial needs and challenges of the modern economy. All students therefore need a curriculum that is rigorous not only in terms of content studied but also in the kinds of skills demanded by the world of work.
- There is need to develop more responsive education and skills policies that include greater diversification and flexibility and that allow for the adaptation of skills supply to rapidly changing needs and ensure that individuals are better equipped to be more resilient and can learn to develop and apply carrier adaptive competences most effectively (UN Task Team, 2012).

CONCLUSIONS

Despite her firm belief in functional and qualitative education, the Federal Republic of Nigeria provides poor quality of education from the basic to the tertiary levels, resulting in increasing concern for vocational skills development, particularly in the context of teaming youth unemployment, extreme poverty, as well as lack of capacity to move her economy forward relative to global economic index.

A number of major trends are impacting the world in ways that have been and will continue to provoke higher skill demand. Computer technology in the work place has led to the automation of many job tasks, resulting in the disappearing of many jobs previously performed by humans. Similarly, the impact of globalisation has drastically reduced the demand for less-skilled labour. Nonetheless, economic experts forecast that highly skilled workers will increasingly compete for more intellectually demanding and higher-paying jobs, which will force the global community to offer not only strong traditional skills but also high levels of creativity and innovation in order to stay competitive. Labour market requires strong intellectual skills as well as the ability of workers to think independently, identify and solve problems on their own, work collaboratively, in addition to learning new knowledge and skills necessary in the global economy.

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