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Promoting Graduate Employability Through Information And Communication Technology (ICT) For 21st Century Jobs

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***Abstract*—The rate of youth unemployment in Nigeria today has assumed a worrisome dimension to the general populace. It seems all efforts geared towards solving the problem had defied solution. Several studies and researches in this regard has postulated varying degree of findings and recommendations. However, it seems the importance of ICT Skills in resolving youth unemployment rate has largely been underrated. This might not be unconnected with the low level of emphasis on ICT Skills in the school curriculum in Nigeria. Consequently, this paper based its arguments on existing literature, emphasizing the importance of ICT, and makes recommendation for its inclusion into school curriculum.**

Keywords—ICT, employability Skills, Graduate, 21st Century

I. INTRODUCTION

Employability aptitudes can be characterized as an arrangement of accomplishments, understandings and individual qualities that make people more inclined to pick up work and to be effective in their picked profession (Andrew, and Higson, 2008). In an inexorably globalized and aggressive economy, there is a need to guarantee that graduates have what it takes, learning, and dispositions to be work prepared for now as well as, work ready for tomorrow (Denomy and Perry). Data from the Graduate Destination Survey (2012) show that 75% of ICT students get a job once they complete their degree. Although employment outcomes are influenced by external market conditions, students, employers, and other stakeholders expect universities to help students maximize their potentials to find suitable work that will maximize their employability.

Employability is accomplished by building up understudies' specialized and nonexclusive aptitudes. The advancement of specialized abilities is troublesome in the registering part where it has been contended that the ICT essentials have changed so much and keep on changing quickly Bello, Shu'aibu, Bin Saud, and Buntat, (2013). From the viewpoint of understudies, managers, governments and different partners, it is the obligation of colleges to furnish understudies with ICT expertise to augment their employability. This empowers them to discover reasonable work and exceed expectations in the working environment. It is normally a mix of specialized and nonexclusive abilities that make graduates employable. (Watts, 2006)

characterizes employability as an arrangement of accomplishments, which incorporate aptitudes, understandings, and individual traits. It is these accomplishments that make graduates more inclined to pick up work and afterward be effective in their picked vocation. Business result, be that as it may, alludes to a measure of the quantity of graduates that really secure all day occupations, which notwithstanding an understudy's employability is frequently affected by outside economic situations. In the reach of ICT, there is an apparent hole between

what bosses might want to see in ICT graduates and what aptitudes the graduates really had.

A. Nigeria Educational System

The educational system in Nigeria needs serious attention. Student achievement results are mediocre in international comparisons. Too many students drop out of school before completing higher institutions. Many begins primary school or secondary school poorly and many of those who graduated are not seen by employers as ready for the world of work. In addition, there are significant inequalities in the students from socially disadvantaged backgrounds, and those developed from the social background. Students developed from the less privileged area are more likely to receive low-quality instruction, have less productivity and less likely to graduate from the higher institution. These results stem from a disconnected system, among different education levels, between education institutions and communities and between education and social institutions(Daihiru Sale Mohammed and Sarimah Ismail). These poor education results undermine Nigeria competitiveness, reproduce and increase social inequality and overall diminish the capacities of people to have good health, incomes, to engage with their communities. This worsening situation demands urgent educational improvement.

Alongside current problems, employers, civic and social leaders increasingly see that the educational system needs to develop a new set of 21st-century skills for students. Without new efforts to help students gain the competencies that prepare them to meet the demands of democracy, competitiveness, and life, the schools will be increasingly irrelevant. These competencies include critical thinking, collaboration, communication skills, and creativity. Other important skills include life skills, capacity for lifelong learning, technological and financial literacy, global awareness, and skills for effective civic engagement.

The concept of education as it was initiated before was that communities and governments should establish, fund, and support schools. This led to the development of “public education systems” at relatively low cost. The concept of “universal” education and the idea that its delivery should be highly decentralized and community-based were established. After World War II, as a result of the inclusion of education as one of the Universal Human Rights in the Universal Declaration, much of the world saw governments around the world commit to education and literacy as a key part of the economic and social transformation. Denomy & Perry,(2014) quoted Professor Reimers that the cognitive, interpersonal and intrapersonal skills that are essential for engaged citizenship, work and life in the21st century. He explained how comparative study of efforts to align schools with the development of 21st-century skills can support and accelerate the necessary innovation to help schools become more relevant to meet with 21st-century skills.

B. A global gap and a citizenship gap

Several panelists mentioned that the Nigeria educational system is not teaching or training students to participate in democracy, and is not equipping students to be part of this global world. Many other countries are doing a far better job in preparing their students for the world of work (Cai).

Some General 21st Century Skills for Students.

- **Critical thinking and problem-solving**
  Businesses don’t feel that many students enter the workforce with skills related to non-routine thinking and solving complex problems. From the perspective of employers, these are key skills for high-skilled, high-paid jobs.
- **Creativity and innovation**. Employers want individuals who think outside of the box and develop new solutions to complex problems. While such skills are extremely important,

they can be hard to measure.

- **Collaboration**. The workforce of the future will be diverse and globally distributed. Individuals must be able to collaborate.
- **Question formulation**. Ideal employees can formulate and ask appropriate questions, which show higher-order thinking. Some schools have begun adopting pedagogy that includes working with students to develop skills to formulate questions.
- **Global awareness**. In the past, students have been somewhat isolated. Going forward, employers want students with a sense of global awareness.
- **Communication skills**. Thinking and problem solving are critical, but solid oral and written communication skills are also essential, and often lacking today.
- **Technology skills**. All students need to be comfortable with, and able to use technology. Every student in the 21st century needs to be able to critically think, solve problem, collaborate, communicate, innovate, be globally aware, and be technically literate, schools have to set students up with skills and capacities to allow them to figure things out on their own.

C. The Learning Sciences Argument

When learning scientists first went into classrooms, they discovered that most schools were not teaching the deep knowledge that underlies knowledge work (Sawyer, 2006). In the 1980s, cognitive scientists had discovered that children retain material better, and are able to generalize it to a broader range of contexts, when they learn deep knowledge rather than surface knowledge, and when they learn how to use that knowledge in real-world social and practical settings. Thus, learning scientists began to argue that standard model schools were not aligned with the knowledge economy. A set of key findings has emerged from learning sciences research: the importance of learning deeper conceptual understanding, rather than superficial facts and procedures, the importance of learning connected and coherent knowledge, rather than knowledge compartmentalized into distinct subjects and courses, the importance of learning authentic knowledge in its context of use, rather than decontextualized classroom exercises and the importance of learning collaboratively, rather than in isolation. Traditional models of schooling which are not in line with these key findings and, so run this argument, are thus not well suited to our knowledge economies and societies. Therefore, learning scientists are calling for a change of today's schools. A radical change with a strong focus on learning has not only been called for by learning scientists but also by some very near to policy-making at different times in the Schooling for Tomorrow program(Jackson).

D. Employability Skills

This can be defined as a set of achievements, understandings and personal attributes that make individuals more likely to gain employment and to be successful in their chosen career (Naanda). The Core Skills for work Developmental Framework were grouped into three clusters according to (Hamilton et al.) as:

• Navigating the world of work, including being able to manage career and work life and navigate rights and protocols at work;

• Interacting with others, encompassing communication, listening and interpersonal skills;

• Getting the work done, incorporating the ability to plan and organise, make decisions, identify and solve problems and create and innovate.

Another straightforward, practical model, the Career EDGE model, developed by Pool & Sewell (2007) enables employability to be understood by students, parents and careers advisers includes the following five key components of employability:

i. Career development and learning;
ii. work and life experience;

iii. degree subject knowledge;

iv. understanding and skills;

v. generic skills and emotional intelligence.

More recently, Fullan and Scott (2014) define core learning outcomes as the six C's of deep learning, that will give graduates the *PLUS* factor which will allow them to manage the complex realities of the workplace. These core skills which involve academic and personal qualities and capabilities, include: *Character* such as grit, tenancies and perseverance;

global Citizenship - considering global issues based on deep understanding of diverse values; *Collaboration* - working in teams with strong interpersonal skills; spoken, written and digital *Communication skills*; *Creativity* - having an entrepreneurial eye for economic and social opportunities and *Critical thinking* - being able to evaluate knowledge and apply it in the real world.

In the ICT profession, the Skills Framework for the Information Age (SFIA), a framework for describing and managing the skills needed by IT professionals, was developed by people experienced in the management of skills in IT. SFIA has become a de facto standard around the world, with over 2,500 corporate users in 195 countries.

SFIA maps out 96 professional IT skills, organised in the following six categories - strategy and architecture; business change; solution development and implementation; service management; procurement and management support; and client interface. It also defines seven levels of attainment - follow; assist; apply; enable; ensure and advise; initiate and influence; and set strategy, inspire and mobilise, each of which is described in generic, non-technical terms. Each skill has an overall definition, and an "at-level" definition for each of the levels at which it can be recognised. "IT professional capability comes from a combination of professional skills, behavioural skills and knowledge. Experience and qualifications validate and support that basic capability.

E. Overview of Literature on Graduate Skills

The analysis of the literature on graduate skills revealed that stakeholder collaboration is an important area that needs to be tackled in order to improve the issue of graduate employability. Tran (2013) argued that the out-dated and irrelevant curriculum in the higher education system has led to ill-preparation of university graduates. Teaching methods and the absence of better career guidance in universities have caused great debate over employability, as graduates do not satisfy the needs of employers. (Tran) proposes that all stakeholders, including universities, graduates, employers and educational policy makers, should work together to make an effort to create mutual understanding, to collaborate and to enhance the development of graduate employability. In a similar study, (Gibbs, Steel, and Kuiper) examines how well the expectations of employers match the perceptions of near-graduate students about the computing skills necessary for the workplace. They claim that the lack of communication between employers and prospective employees would make it hard for employers to find graduates with the required level of computing skill. This literature review also found that employees stress more on graduate skills in the selection process and give less attention to degrees. Finch, Hamilton, Baldwin, and Zehner (2013) conducted a study to identify factors that influence the employability of university graduates. They identified 17 employability factors clustered into five higher order composite categories. They found that employers place the highest importance on soft-skills and the lowest importance on academic reputation

F. The Gap

It has been proposed that the employability skills obtained at universities may not meet the employers requirements (Wilton, 2011;, Riebe and Jackson, 2013). Numerous businesses are not happy with the abilities graduates convey to the work environment (Holmes and Holmes, 2015). Research attempted for the Council for Industry and Higher

Education by Archer and Davison in 2008 clarifies that just about 33% of businesses have issues with graduates' generic employability skills such as working in a team, communication, problem solving and self-management.

A quarter of them are also disappointed with graduates' attitude to work, while close to half of the employers are looking for business awareness and foreign language skills. Their report highlights the findings from a pilot survey of 233 employers and shows that there is a need for action by universities, employers, students and government to address both the reality and perception of the skills deficit in our graduates (Archer & Davison, 2008). This is a reality felt by both students and employers, and should be the impetus for policy makers and the Higher Education sector to address this gap.

(Finch, Hamilton, Baldwin,(2013), perceives that there is a need to build a more grounded connection between education and employability, driven by a comprehension of the factors that influence an undergraduate fruitful change into the world of work. (Delgado, Picking, and Grout) also argue that employment outcomes can be enhanced by educational approaches which integrate generic skills related to employability into the curriculum. This study aims to develop a closer alignment between what employability skills ICT employers want, and what employability skills ICT academics need to develop in their students. The first step is to develop a contemporary understanding of the skills employers are looking for.

Some of the attributes the employers liked to see are flexibility and a willingness to take up whatever role needs to be undertaken at that time in the business. They want employees who are comfortable being thrown in the deep end, where they have to quickly adapt to new environments and learn new things. Some companies have six month rotations through various parts of their organisation, so that staff is given the opportunity to identify areas of interest, and employers are able to observe where the employee would make the best contribution. They are looking for someone who is enthusiastic and willing to contribute.

G. Conclusion

Students, employers and other stakeholders expect universities to help students maximise their potential to find suitable work, that is, to maximise their employability. In order to do this, it is necessary to work in partnership with industry and professional bodies and to understand the changing market conditions for graduates in their discipline. Students can best improve their generic skills when they and their teachers fully understand ICT employers' needs and expectations.

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