



TRANSFORMING INTO A KNOWLEDGE-BASED SOCIETY: EXAMINING THE ROLES OF HIGHER EDUCATION INSTITUTIONS

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More than ever, the Nigerian construction industry requires construction professionals who are responsive to economic, technical, social and environmental change and can fit into the world of work. Apart from possessing the requisite non-academic skills, construction graduates need to be abreast with the dynamics of the construction industry to contribute meaningfully to its activities. Thus, the roles of Higher Education Institutions (HEIs) have become more critical in skill creation and impartation as students of today are to be adequately prepared to take up industry responsibilities in various roles. In building a knowledge-based society, the level of construction pedagogy in HEIs is key in the economic development of any nation. This paper identifies the various roles HEIs play in improving the level of construction pedagogy delivered to future construction professionals. An extant review of literatures was conducted from databases such as Springer, Scopus, ASC conference proceedings amongst others. Findings from this study revealed that that government alone cannot provide the resources needed to provide qualitative higher education, and advocates for other sources of dealing with these challenges. Hence, the findings of this paper provide a basis for HEIs in Nigeria to get involved in improved teaching, training and research as these actions are key in contributing to the success of the construction industry as well as transforming Nigeria into a knowledge-based society.

Keywords: Graduates, Knowledge-based societies, Construction industry, Nigeria.

1 INTRODUCTION

HEIs of today are responsible for preparing undergraduate and graduate students to become competent construction professionals who will handle emerging industry problems. Its importance in equipping the future industry workforce with the right skills and competencies has earmarked it as a catalyst for economic growth (Hamdan *et al.* 2011). Its critical functions in the areas of innovation, research and development further makes it a key driver in fostering construction education. These various roles of HEIs have placed it at the core of a knowledge-based society as it thrives on research and knowledge generation to meet societal needs. Hansen and Lehmann (2006) states that the activities of HEIs are key for economic prosperity among countries globally whether developed or not. In achieving its stated functions, HEIs of today are gradually shifting roles from being conventional into more dynamic roles. Their activities in fostering construction education institute them as human capital providers instead of just education providers as they are pivotal in providing competent workforce for the construction industry. Dacre Pool and Sewell (2007) opine that HEIs while focusing on meeting the needs of

the construction industry need to educate students in a way that the gap between industry expectations and the actual potentials of students should be minimized.

In recent times, HEIs have been criticized by construction industry employers for not adequately preparing construction graduates well enough to solve arising industry problems (De la Harpe *et al.* 2000). This criticism stems from the fact that present day construction industry employers are seeking graduates who are proactive and possess a variety of non-academic skills which would enable them meet their emerging needs. Tomlinson (2012) also states that HEIs of today are primarily concerned with the theoretical aspect of their teaching curricula and fall short in enhancing their curricula with ‘real-work activities’ which complements lecture room experience. The current competitive construction industry requires graduates who not only possess sound academic knowledge, but also possess a wide range of portable non-academic skills to be able to fit in after graduation (Liyanage and Poon 2003, Azami *et al.* 2009). Employers of construction industries today require entry-level graduates with technical skills, communication skills, problem-solving skills, teamwork skills, critical thinking skills, technological skills amongst others to solve emerging industry needs (Pitan and Adedeji 2012). Hence, HEIs play a key role in strengthening and fostering construction education to meet the needs of the present-day construction industry.

Furthermore, employers of the construction industry today have opted for lean staffing, due to the current economic meltdown, which amplifies the demand for quality and better prepared graduates rather than quantity. Thus, graduates are required to be more flexible, creative, innovative and skilled to be ‘employable’. It is against this backdrop that this paper examines the various roles HEIs play in preparing graduates and transforming the nation into a knowledge-based society. In achieving this aim, this paper reviews literature from various sources including journals, conference papers and government reports to highlight the importance of HEIs in developing employability skills among students in transforming Nigeria into a knowledge-based society. With the aid of search engines such as GoogleScholar, as well as databases including Springer, Taylor and Francis online, Scopus and ASCE (American Society of Civil Engineers), related literatures were key in this literature review. Therefore, the aim of this paper is to examine those key roles HEIs play in ensuring a knowledge-based society and suggest policies that could improve the current roles of HEIs in achieving its roles.

2 LITERATURE REVIEW

2.1 The Concept of a Knowledge-Based Society

Generally, knowledge is the foundation of the renaissance of all countries around the world. Stehr (1994) states that the source of economic growth of countries and value-added activities in building a nation increasingly relies on the importance of a knowledgeable workforce. According to Cooke and Leydesdorff (2006), a knowledge-based society refers to one that focuses on the production and management of useful knowledge for its key activities. In the definition by the Organization for Economic Co-operation and Development (OECD), a nation with a knowledge-based economy is one where “the production, diffusion and use of technology and information are key to economic activity and sustainable growth” (OECD 1999). Such an economy is dependent on the various abilities and creative thinking skills of the nation’s workforce in proffering relevant solutions to arising problems in their society. This definition shows that a ‘knowledge society’ and a ‘knowledge-based economy’ are mutually interactive and positively correlated (Mohamed 2014).

In understanding a knowledge-based society, it is key to note that knowledge plays a key role in raising efficiencies, enhancing economic growth, and increased employment activities. This is

because, a knowledge-based society requires an adequately skilled workforce that can run the highly dynamic industry trends effectively. Graduates with the required skills and competencies are required to get jobs in various capacities in the construction industry and even related sectors of the economy. Thus, Fernandez (2001), suggests that a knowledge-based society thrives on regular investments in HEIs to develop a highly skilled workforce to improve the quality of life. Some countries around the world relates a knowledge-based society to higher education and research (Powell and Snellman 2004). This means that a knowledge-based society thrives on the human capitals from HEIs as the major source of revitalization and innovative ideas. Thus, nations are to invest in research and development (RandD), and higher education and training to adequately prepare the next generation of construction industry professionals.

2.2 Benefits of Higher Education in Nigeria

Apart from equipping students, HEIs provide opportunities and space to encourage research in various academic fields to broaden the body of knowledge as well as address societal issues. This is an indication that education goes beyond skills acquisition for students but also a veritable tool for national development and further transforming Nigeria into a knowledge-based society. This usefulness of education has triggered the interests of students, parents, voluntary agencies and even the government to invest continually in ensuring that its roles are achieved. The following are identified as the several roles played by higher education in transforming and consolidating Nigeria as a knowledge-based society:

- Economically, HEIs are pivotal in preparing students for the construction industry by enhancing their skills, attitudes, knowledge and abilities and there exists the growing expectations on it to perform its functions. An influx of educated and skilled workforce provides the society with human capital and this increases the stock of knowledge and ensures its desired diffusion. Through an influx of competent graduates into the job market, the level of creativity, productivity and innovativeness are heightened, thereby boosting the nation's economy (Harbison 1971, Hamdan 2011).
- Politically, citizens of the country are also enlightened when educated. Through political education in HEIs, national unity can be achieved which is one of the function of tertiary education in the country according to (FME 2004). Though in present day Nigeria, the politically educated seems to be problematic. However, political education informs citizens better to play key roles in the society.
- Socially, higher education provides students with occupational effectiveness, self-belief, self-reliance and confidence. It improves the attitude and motivation level of students which can lead to innovations and technological changes (FME 2004).
- Technologically, higher education plays a key role in producing advances in science and technology by developing researchers and scientists through updated technological knowledge provided in its curricula. These action programs of HEIs can help improve the nation's quality of life and help boost the economy.
- Intellectually, higher education contributes to the intellectual development of the society, through informed social commentary and public engagement around ideas.

3 RESEARCH METHODOLOGY

This paper is mainly a critical and comprehensive review of a range of literature sources which addresses the various roles HEIs play in the transforming a nation into a knowledge-based society. This approach employed a desk review of available empirical and conceptual literatures on the benefits of higher education in Nigeria. Desk research is basically the sourcing of data from existing resources such as academic publications, the press, internet sources and statistical publications. This process is then followed by cross-referencing and eventual collection of relevant data (Management Study Guide 2013). The paper also looks at some possible policies that Nigeria could develop or consolidate in transitioning into a knowledge-based society. The analysis of the literature review in this paper is presented as answers to questions, which may arise as to what roles HEIs play in ensuring a knowledge-based society.

4 HOW CAN NIGERIA ACHIEVE THIS?

The higher education sectors around the country have taken different approaches in the way they develop the required employability skills among their students. Most of the HEIs around the country have provided educators with relevant qualifications in a bid to improve knowledge generation and skills impartation among students. Fieldwork, industry-based learning, cooperative education, work placements and internships, commonly called Students Industrial Work Experience Scheme (SIWES) and Student Work Experience Program (SWEP) are all methods HEIs have used to equip students with knowledge of workplace practices. Apart from enriching the contents of HEI curricula, the following suggestions are key in transforming Nigeria into a knowledge-based society. They include:

- Formulation of educational policies that could allow learning in HEIs more meaningful, pragmatic and more effective. For example, technicians, craftsmen, renowned local artisans and other related professionals could be contracted by HEIs to teach students which could improve their technical knowledge and understanding of their disciplines. They could also be allowed to take the students to sites, seminar sessions, workshops and workplace as these visits improves their 'on the job' learning and job skills. The HEI educators can also improve the self-confidence and emotional stability in their students through comments on students, methods of assessment and effective pedagogical skills.
- The Nigerian Universities Commission (NUC) should continually ensure that HEI curriculum content and practice are periodically reviewed with comparative studies. Periodic curricula reviews should be done to be updated with the various standards and benchmarks obtainable all over the world. Another benefit of periodic reviews of HEIs curricula is to make them relevant to existing gaps and responsive to the ever-changing societal needs.
- Adequate funding from the Federal Government (FG) to assist in the construction of adequate infrastructures in HEIs. This includes workshops, research laboratories, modern lecture rooms, hostels, libraries amongst others. These facilities help in the smooth running of academic activities as well as improved learning experience. As recommended by the United Nations Educational and Scientific and Cultural Organization (UNESCO), any nation that spends less than 26 percent of its entire budget on education does not desire economic development.

- Ensuring that honesty and transparency prevails in academic activities and totally devoid of political influences in HEIs. For example, staff promotion should be based on merit and dedication and not because of political leanings.
- Reflecting the promotion of employability skills and attributes in their mission and vision statements, teaching strategies and course frame works. It should also be integrated into HEIs' strategic and faculty/departmental level planning.
- Encouraging more collaboration with the Nigerian construction industry. Involvement of industry employers in the design and delivery of specific courses have a positive influence on the students and improve their rapport with prospective employers. In view of this, HEIs and their various departments need to maintain ongoing communication with the industry, especially in areas of curricula development by periodic invitation of industry professionals to speak to students about employment opportunities and requirements for job success.

5 LESSONS LEARNT, IMPLICATIONS, AND CONCLUSIONS

It is evident that most developing countries are increasingly transitioning from traditional resource-based economies into knowledge-based societies and Nigeria is not exempted. In traditional resource-based economies, capital and natural resources form the core of economic development. However, knowledge-based societies are built upon knowledge as the foundation where science, technology, and innovation are its pillars (Wolfe 2005). In transforming a nation into a knowledge-based society, HEIs have become key sources of knowledge and play a critical role in the pursuit of economic growth. From the reviewed literature, HEIs are a key facet that plays a pivotal role in a knowledge-based society. In our present day, the roles of the HEIs goes beyond just teaching and conducting primary research. It further incorporates the high demand for science, technology, and innovations as the foundations of a knowledge-based society. They also provide the required technical support and specialized expertise for on-going firm-based research and development activities (Wolfe and Bramwell 2008, OECD 1996). According to Godin (2004), HEIs engage in those activities to align their ambitions to lead nationally and be recognized internationally with the global agenda of their respective countries in a bid to establish a sustainable economy. These activities increasingly place them as 'innovators' and 'major agents of economic growth'. Wolfe and Bramwell (2008) views HEIs as 'knowledge factories' for an economy with potentially untapped human capitals of commercialized knowledge waiting to be taken by the construction industry and other sectors of the economy.

In this regard, Nigeria should make tremendous efforts in transitioning into a knowledge-based society from its dependency on oil. There is the need for HEIs to invest in the promotion of technology, science and innovation to keep up with the dynamic economic environment. The country should make conscious efforts in protecting its Intellectual Property (IP) by ensuring that they are retained and not exported in partnerships with other international universities or businesses. The government should not only create policies requiring universities to incorporate innovation into their curricula, but also monitor the implementation process closely to ensure adherence. Also, research grants and subsidies should be made available especially to the new HEIs to improve their contribution to the society. By protecting the knowledge commercialization and transfer process through governing policies and regulations, Nigeria can experience a seamless transition into a knowledge-based society.

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