Improving Higher Education Standards through Reengineering in West African Universities - A Case study of Nigeria.

STUDIES IN HIGHER EDUCATION

LIST OF AUTHORS

Dr Paul Agu Igwe (corresponding Author)

Senior Lecturer/Programme Leader

Lincoln International Business School

University of Lincoln, Lincoln, Lincolnshire. LN6 7TS

Email: pigwe@lincoln.ac.uk

Dr Dieu Hack-Polay

Associate Professor / Programme Leader

Lincoln International Business School

University of Lincoln, Lincoln, Lincolnshire. LN6 7TS

Email: DHackpolay@lincoln.ac.uk

Dr John Mendy

Senior Lecturer / Programme Leader

Lincoln International Business School

University of Lincoln, Lincoln, Lincolnshire. LN6 7TS

Email: jmendy@lincoln.ac.uk

Prof Ted Fuller

UNESCO Chair on Responsible Foresight for Sustainable Development

Editor-in-Chief, Futures Journal

Lincoln International Business School

University of Lincoln, Lincoln, Lincolnshire. LN6 7TS

Email: tfuller@lincoln.ac.uk

Prof Deborah Lock

Deputy Head of College & Professor of Inclusivity & Innovation in Teaching

Director of Education

Lincoln International Business School

University of Lincoln, Lincoln, Lincolnshire. LN6 7TS

Email: DLock@lincoln.ac.uk

Improving Higher Education Standards through Reengineering in West African Universities - A Case study of Nigeria

Abstract

This article examines the context of higher education (HE), policies and challenges in the West African context. A multi-level framework and analysis of reengineering, leading change in complexity, activity-based view of the University Business Model and Pedagogical Content Knowledge enable the development of deep connections between the macro- and meso-level and -micro challenges of Higher Education System (HES). These include elements of effective leadership, structures and curriculum and learning pedagogies. Drawing on the analyses of interviews from 25 overseas trained senior academics from Nigerian universities, a preliminary refinement of the philosophy of reengineering, re-thinking and revaluing the higher education system (HES) is offered. These have traditionally been addressed in a piecemeal perspective in HE policy and the academic literature; such a traditional approach has not been the systematic rethinking advocated in the philosophy of reengineering.

Introduction

Since the post-colonial era, many African countries have witnessed several educational reforms geared at improving the relevance of education to local socio-economic realities. Most of the policy reforms focus on improving access to education via supply-side policies (Darvas et al. 2017; Masino and Niño-Zarazú 2016; Varghese 2016). Although student enrolment and teacher numbers are important indicators of a functional education system, these do not automatically imply that the teaching and learning is effective or, more importantly, that the student experiences a rewarding educational experience (González-Canché 2018; Serdyukov 2017). The higher education system (HES) on the continent focuses excessively on student admission standards, lecturers' academic qualifications, rigorous examination protocols, degree programme requirements, etc., while missing important policies required for quality education (Fredua-Kwarteng and Ofosu 2018).

Some studies claim that knowledge exchange in the region has been decreasing (Asongu and Tchamyou 2016; British Council 2014; Nwajiuba et al. 2020). According to

UNESCO (2017), higher education (HE) faces difficult challenges, including a rapid increase in the number of students, brain drain, low course quality, difficulties in governance structures, and financial constraints. Therefore, this article explores ways in which Nigerian higher education institutions (HEIs) can re-engineer and – thus re-value – education to achieve improved standards and socio-economic outcomes. There has been much criticism of the Nigerian HE sector which is currently characterised by high levels of strike actions and government inability to meet the demands of the labour union. Comparisons with international standards indicate that the sector lags behind developed countries in terms of the role of universities. A study by Obi, Ekesiobi, Dimnwobi and Mgbemena, (2016) reveals that education spending in Nigeria has been inadequate. The country, with 3% educational expenditure, has underperformed that of other developing nations (like Ghana, Botswana, Kenya and Uganda that spent respectively 20%, 21%, 20% and 15% of their expenditure on education Besides, Nigeria has fallen short of the United Nations recommended spending of 26% of GDP for developing nations) (Obi et al. 2016).

The methodological framework adopted in the current study is based on a systematic approach to the overall sector as advocated in the 'philosophy of reengineering'. This takes into account multiple levels of analysis. First, we adopt a reengineering approach. In his pioneering work, Davies (1997) used 'reengineering approach' which he defined as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvement in critical contemporary measures of performance' (p.173). He described the process as starting with the proverbial 'clean sheet of paper' to reconceptualise the processes and their context. Second, we draw on Parry (1998) theoretical work directed towards leading change in complexity. Third, we adopt 'Activity-based View of the University Business Model' (Miller, McAdam and McAdam 2014) to evaluate the activities of the HEIs. Lastly, we follow the work of Carvalho and Yeoman (2018), to adapt 'Pedagogical Content Knowledge' to examine the 'set design', 'quality and teaching practices'. Specifically, we asked the following questions:

Research Question 1: What should be the contextual and conceptual foundations for reengineering HES in Nigeria?

Research Question 2: What are the macro and micro challenges facing HEIs?

Research Question 3: How can HEIs focus on providing learning rather than schooling and ensure effective knowledge and educational development?

As part of our contribution, we hope to stimulate discussions that will lead to policies directed towards reengineering higher education in the West African region. The argument for university reforms is that it is no longer enough for graduates to have a good degree, but they should also possess adequate knowledge, skills and attributes required to compete and collaborate in a dynamic knowledge economy (Hunkin 2018; Page, Trudgett and Bodkin-Andrews 2018), thus rejecting the unidirectional perspective (Burns 2002). Since West Africa is a large region with eighteen countries, we selected and focused on Nigeria to explore HES, governance and leadership contexts, key issues, policies and challenges.

Reengineering in Higher Education

Hammer & Champy (1995, p. 32), the founders of reengineering, define it as the "fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measure of performance and speed". This perspective remains current for contemporary organisations which are faced with some of the most dramatic changes never witnessed in previous centuries (Bowe, Ball and Gold 2017). Reengineering assumes that past and current processes are inadequate so, while it is important to research why they are inadequate, more emphasis should be given to radical new solutions (Davies 1997). The critics of reengineering argue that there is a significant gap between the rhetorical narrative and practice when speaking of reengineering (Gardner and Willey 2018). Even the founders of reengineering, Hammer and Champy (1995) accept that the misuse of the concept of reengineering could have lethal effects for organisations.

Nonetheless, despite this sharp reservation, there is an overwhelming acceptance that a careful journey into reengineering offers insights and re-invented organisations that are a better fit to deal with the ever-dynamic future (Ahmad, Francis and Zairi 2007). The education system does not escape this requirement for reengineering, and in many respects, should be at the forefront of reengineering (Christensen and Eyring 2011) – not just in terms of theorising reengineering, but implementing it within the system. Reengineering West African HES is particularly a critical endeavour due to the dysfunctionalities according to several studies (British Council 2014; Varghese 2016).

Leading Change in Complexity

Most critiques of the education system have engaged with it on sociological or political grounds without attempting to examine how these approaches are accounted for within

organizational theory (Walsh 2006). Lewin's (1953) 'Change Theory' describes the effectiveness with which organizations can modify their strategies, processes and structures (cited in Hussain et al. 2018). Change management is an important tool in any organisation, as it involves developing change approaches and implementing the transition process (Chow 2014). As Seale and Cross (2016) reveal, scrutiny of these practices in their context should shed light on the social influence processes at work in complex organisational settings. Selecting an appropriate change approach is crucial to achieving sustainable organizational performance (Chow 2014). These contexts are particular importance for understanding the governance and leadership practices in a complex, changing environment such as HES.

Lumby (2019) posits that power is omnipresent and essential to the practice of leadership. The author maintained that a better understanding of this complex phenomenon would be advantageous to leaders and those supporting leaders in higher education. Seale and Cross (2016) applied the notion of reflectivity to understand how deans as academic leaders adapt to and cope with an environment of change and complexity in a reflective modality, that is, how they focus on leadership problems, experiment with solutions and learn from (positive) response consequences in South African HES. These contexts and challenges are similar to the Nigerian HES which we examine in this study.

Activity-based view of the University Business model

The twenty-first century higher education system is shaped by multiple, concurrent and often conflicting forces (Miller, McAdam and McAdam 2014). Further, the values of HEIs are changing to reflect on their evolving mission. Miller et al. (2014) provide a broad description of the changing business models and emerging unit of analysis. The model consists of interdependent activities that can transcend boundaries and is often co-created by various actors (Sam and Dahles 2017) and transitions of the university business model from a traditional model (teaching and research and providing a skilled workforce) to transitional model and the evolving context (as illustrated in Table 1).

[INSERT TABLE 1 HERE]

From the activity-based view of the evolving university model, employability and skills (Álvarez-González, López-Miguens and Caballero 2017) are pivotal to successful higher education delivery as the key elements of the content (Table 1). The UK Teaching Excellence Framework (TEF) and the Higher Education and Research Act throw a spotlight on this. They

specify that employability and skills (Byrne et al. 2016) will remain the core basis that universities will be judged upon (i.e. the graduate outcomes of their students on the local and national economy). Indeed, universities' roles include the provision of various opportunities to develop students' skills through their studies and extra-curricular activities (Butcher 2018; Canton, Govan and Zahn 2018). It is clear that having a range of demonstrable skills improves the chances of graduates securing employment and helps students develop confidence and capabilities (Christie 2016) to overcome many situations in life.

Pedagogical Content Knowledge

The link between the way knowledge is structured and how it is organised for teaching justifies instructional teaching as a more effective way to develop students' learning. The term 'Pedagogical Content Knowledge' (PCK) is used to refer to the context-specific knowledge that teachers activate when reflecting on practice (Krepf et al. 2018). The PCK of the so-called "missing paradigm" emphasizes content knowledge, general knowledge, curriculum knowledge, knowledge of learners and their characteristics, knowledge of educational contexts, and knowledge of educational ends, purposes, and values (Evens, Elen and Depaepe 2015). Carvalho and Yeoman (2018) applied the "theory of entanglement" of the "activity-centred analysis design" (ACAD) framework and the ACAD wireframe that describes the various levels of philosophy and patterns in learning (Table 2). ACAD is emergent learning activity – what people do, their thoughts and feelings – which cannot be predicted in advance and acknowledges that learning is socially, physically and epistemically situated (Carvalho and Yeoman 2018).

[INSERT TABLE 2 HERE]

The university's role (Table 2) includes design, implementation and evaluation of various levels of philosophy and patterns in teaching, engagement in research, scholarship and collaboration with industry and government. Learning has traditionally been described in terms of a change in behaviour or cognitive processes, with a focus on demonstrating a unidirectional transfer of a stable body of knowledge (Carvalho and Yeoman 2018). Such values that underpin universities' roles in learning and teaching, research and engagement with the wider society (Miller et al. 2014).

The Nigerian Higher Educational Policy and Context

Major policy reform and achievement in the Nigerian higher education sector in the last ten years has been increased enrolment rates and the licensing of more private institutions (universities and polytechnics) and federal universities. The inability of government alone to satisfy the growing demand for tertiary education has necessitated the entry of the private sector operators into the Nigerian tertiary education system to solve access and funding problems (Okuwa and Campbell 2017). In the 2018 National budget, education ranked second highest in Nigeria's Federal Government recurrent expenditure with $1.21billion (N435.01 billion) of its USD23.92 billion budget, making education a key sector of focus according to the figures from International Trade Administration (ITA, 2019). The goal of this budget is to set the path of recovery of Nigeria's education sector which has been plagued with inadequate and inefficient management of resources, overstretched services and outdated infrastructure (ITA, 2019).

Apart from the funding inadequacies, there are several other factors affecting HE development. These have been attributed to ineffective governance, political leadership and corruption (Ochulor 2011), poor infrastructure, inadequate teaching facilities and skills mismatch (Nwajiuba et al. 2020; Pitan and Adedeji 2012). Ezinwoke (2019), decried the high level of corruption in public universities across Nigeria, contending that the country's tertiary education system needs an urgent overhaul – thus awakening the reengineering debate. Not only that universities remain poorly funded and the lecturers' union - known by its acronym (Academic Staff Union of Universities (ASUU) - routinely threatens to close down universities in its battles with the government (BBC 2019). According to the British Broadcasting Corporation (BBC) report, ASUU is today widely regarded as the most strike-prone of Nigeria's labour unions, always looking out for its members' interests and pushing the government to increase investment in higher education.

Another dimension of human capital development is an overemphasis on degree qualifications (Nwajiuba et al. 2020). As a result, many young people are over-qualified or hold qualifications more than those required for vacant positions (Green and Zhu 2010) and this is interpreted as a disadvantage (Nielsen, 2011). The overemphasis on degree qualifications has a considerable impact on graduate outcomes (Nwajiuba et al. 2020). The leadership and governance structures in the Nigerian HES is no different from many African countries (Seale and Cross 2016; Varghese 2016). Seale and Cross (2016) reveal that Deans take up their positions without appropriate training and prior executive experience and with no clear understanding of the ambiguity and complexity of their roles (Seale and Cross 2016).

Methodology

The study used interpretative phenomenological analysis, a qualitative approach which explores in detail how participants are making sense of their personal and social world (O'Sullivan, Robson and Winters 2019). This approach is geared at systematically collecting and making sense of non-numerical data (Charmaz 2014). The key strengths of the qualitative method include realism, significance, richness and high face validity (Golicic et al. 2002). However, qualitative research has its weakness such as data saturation (Ritchie and Lewis 2013; Saunders et al. 2017). A purposeful sampling procedure (Palinkas et al. 2015) was used to select 40 senior academics from various universities faculties. This meant that our sample was a convenience sample since we interviewed only the senior academics who were available and expressed their intention to participate in the research. Contact was made through their LinkedIn and ResearchGate profiles.

These academics were trained in the Western education system, undertook their postgraduate study and/ or worked in the Western HES (mainly United Kingdom, Sweden, Denmark, Canada, USA and Germany) before returning to take up academic positions in Nigeria. Having this international experience was an important sample selection criteria because the researchers believed that such academics could use their contrasting experiences of Western and Nigerian educational systems in the interviews. Twenty-eight of the 40 contacted agreed to take part in the research; however, only 25 senior academics from five Nigerian (public and private universities) with experiences ranging from 5–20 years were interviewed. Despite the method of interview, the questions, steps and procedures followed a similar pattern. Overall, 15 face-to-face interviews were conducted and 10 were by WhatsApp video calls.

We adopted semi-structured interviews to facilitate free-flowing conversations (Charmaz 2014), triangulates our findings by conducting a focus group (of seven participants) and collecting field notes. To guide the interviewer, some questions were developed by the research team and were reviewed by senior colleagues familiar with the phenomenon of interest. The interview questions were designed to allow some flexibility in the process of asking and gathering responses. As the interviews progressed, the questions became more focused on core areas of the research interest. The interviews were conducted until theoretical saturation was reached; that is when the concepts were exhausted, hence further data collection and/or analysis are unnecessary (Saunders et al. 2017).

Through a focus group, responses from individual interviews were verified and the possible omission of important elements of HEIs filled. This reflexive approach strengthened

the validity of the findings (Jones and Smith 2017). We observed ethical procedure by seeking and selecting participants who had adequate knowledge in the research subject and were willing to participate voluntarily in the study. The participants were informed of the opportunity to withdraw from the interview at any time. They were promised anonymity and that no personal information would be used in the analysis of the data. Hence, participants were assigned pseudonyms to preserve anonymity. Each interview lasted between 60 minutes and 90 minutes, resulting in over 500 pages of interview transcripts.

Following the focus group, interview transcripts were sent to the participants to validate and confirm their responses (see, e.g. Mero-Jaffe 2011). Each interview was transcribed verbatim from the audio recorder and computed using NVivo. NVivo helped to organise the data for ease of analysis. These responses were systematically analysed using "thematic analysis" (Guest, MacQueen and Namey 2012) to identify dominant contexts of the inquiry and provide an important exploration of the research questions. Following an inductive coding approach (Colman and Rouzies 2019), we studied, organized and analyzed the data simultaneously. We compared patterns observed in the cases and focused on the similarities and differences identified across them. This process enabled coding and recoding, as patterns and themes changed over the analysis (Colman and Rouzies 2019).

Findings

From the transcribed and coded interview data, we identified two dominant themes based on the research questions. These themes are leadership, governance and challenges; and elements of effective teaching, curriculum design and scholarship reform.

Leadership, Governance and Administrative Challenges

Leadership and governance challenges were identified by participants as the factors affecting the development of the HES in Nigeria. Several participants explained that these have plagued the HES into a national educational crisis.

> *The five-year tenure policy for the appointment of Vice-Chancellors gives way to lack of continuity of policies (Rep.17).*

> *Too much influence and control by the government is a big challenge (Rep.22).*

These make the leadership and governance of the universities problematic. Some participants blame the appointment and allocation of power to people who are not qualified or experienced

to hold such positions. During the planning and design of educational policies, there appear to be lack of consultations of the relevant stakeholders;

> *The exclusion of academics in policy-making and the development of a national educational vision leads to a lack of shared vision (Rep.19)*

Some blame the lack of funding as well as corruption and abuse of power by those charged with reforming and governing HEIs. A respondent suggests that;

> *Universities face challenges due to over-bureaucratic reform procedures and unresponsive governance of some government agencies that regulate and supervise universities (Resp.03).*

Some participants explained that the main challenge with the HES has its roots in post-colonial education policies. Some participants argued that the higher education policy is over-dependent on the western model. This signifies that the local context is sometimes ignored;

> *Different government regimes try to copy the westernised system without due consideration of the local challenges of the policy implementation (Rep.20).*

Another problem that emerged during the interviews was that the over-dependence of Nigerian universities on government funding. This discourages universities from seeking new ways and innovation to improve themselves. Some participants explained that there are many other issues related to governance, lack of transparency, lack of stakeholders' involvement, etc.

> *Over -bureaucratic procedures to make changes in the university system due to the slow-reforming of some federal government institutions and agencies (Resp.01).*

> *Too much power is given to a few of the government higher education agencies which make reforms and changes in the universities polices very difficult (Resp.09).*

> *Over-reliance on government funding, lack of stakeholder and private sectors participation leading to a lack of innovations and waste of resources (Resp.05).*

> *Shortage of qualified faculty staff and skilled workers due to 'brain drain' (Resp.04)*

> *There are nepotism, favouritism and tribal sentiments in the appointment of staff and contractors that are not based on merit, experience and capabilities (Resp.24).*

The notions of knowledge, quality teaching, motivations and their impact will depend on the higher education institutional environment. Globally, the discourse around student engagement

and quality teaching is becoming more established. However, in the case of the Nigerian HES, evidence points to the low implementation of quality teaching, engagement and student experience as explained by some participants;

> *Higher demand for university degrees has led to over-recruitment of students beyond staff and facility capacity, thereby compromising teaching quality and learning outcomes as student pass through the HEIs without adequate care and support (Resp.015).*

> *There is little or no provision for pastoral care, counselling and career services leading to poor student commitment, bad attitudes and behaviours (Resp.06)*

There has been much support for activity-based curricula (Miller et al. 2014) and how these could help HEIs maintain high standards in teaching and research that will have an influence on staff and students and develop the future workforce. However, HEIs face numerous challenges that make the achievement of these objectives difficult. Almost all the interviewees identified inadequate funding, trade disputes and union strikes;

> *Incessant strikes, irregular academic calendars, poor staff remuneration, amongst others, have forced many students and academic staff to seek opportunities outside the country, leading to brain drain (Resp.04).*

Another factor is the lack of accountability and transparency in the governance and administrative system which affects the operationalization of the HEIs, as one respondent argued;

> *Even when the funds are made available by the government, corruption and mediocracy in the university system lead to misappropriation of the funds (Resp.011).*

During the Focus group meeting, the participants indicate that these challenges at the macro level are a key cause of low HE standards. Some participants maintained that the national trend in which national policies are increasingly criticised has been the norm for many years without any steps to address the fundamental challenges; even policy advice promulgated by international organisations are often ignored or not followed to a conclusion.

Teaching, Curriculum design and Scholarship

During the interviews, some of the discussions centred on the teaching and learning challenges. Many participants pointed to traditional teaching methods in many universities which are teacher-centred and rarely student-led as one of the big challenges.

> *Lecturers have too much power to decide what to teach and the assessments, sometimes without reference to the curriculum (Rep.011).*

Many respondents explained that the only form of teaching is straight lectures which seemed to feed students with information while learners sit, listen and make notes. This shared concern is voiced by a participant in these terms;

> *"Over-emphasis on theoretical knowledge and face-to-face lecture system such that practical knowledge and self-directed learning are ignored" (Resp.023).*

Recently, Nigeria HES has witnessed an expansion of private and public universities. During the focus group interviews in this research, some participants maintained that while the expansion of the sector is a welcome development, there is serious concern about some private universities;

> *Some of the private universities are in danger of becoming a "diploma warehouse" or "backyard universities (Rep.21).*

> *Many of the private universities are finding it difficult to attract experienced and qualifies academics. It is common to see some faculties with no full-time professors (Rep.14).*

> *Of worry is the quality of students that some universities attract (Rep.18)*

Additionally, during the focus group, participants argued that the large number of young people seeking admission to HEIs makes admission highly competitive in the top federal government universities. Consequently, millions of candidates turned down by federal universities seek alternative institutions. As supply does not match the demand, many universities over-recruit students, with negative consequences for learning. A participant explained;

> *This leads to overcrowding of the classroom and lack of learning spaces (Resp.02).*

> *It is possible to see more than half of the class standing in corridors or hanging by the windows during some lectures (Rep.25).*

> *The current conditions make attendance monitoring impossible and many students take advantage of this. It is possible to see some students complete a course without attending a class, hence, why the decreasing standard of education (Rep. 12).*

Another challenge is the higher demand for university degrees and certificates by Nigerians;

> *Every well-to-do family want their sons and daughters to gain university education at all costs (Rep.07).*

> *Young people pursue higher education as a means for future prosperity. Unfortunately, with the current system, many of them stay without a job for many years (Rep.10).*

This drive and motivations lead to examination malpractices and corruption in the HES. This shared concern is expressed by a respondent;

> *The system contributes to negative behaviours such as 'cash-for-marks' or 'sex-for-marks' among some staff and students who cheat the system" (Resp.016).*

The World Bank (2013) explains that quality is associated with higher education's contributions to society, including economic and social benefits. From the learner perspective, quality focuses on the student experience. As revealed by four participants, the conditions and lack of monitoring lead to unprofessional conduct;

> *One of the flaws of the system is the lack of internal and external moderation system (Resp.013).*

> *Teaching is based on an outdated curriculum that's not regularly reviewed and validated annually (Resp.08).*

> *Technical education, professional skills and workplace learning are overlooked in the curriculum (Resp.01).*

> *Many universities don't have a digital platform, functioning websites, students and staff university email system (Resp.02).*

Universities' roles include teaching, knowledge dissemination and research. Furthermore, learners must be equipped with cognitive and employability skills. In countries where there is a high standard of education, universities develop policies that enable their staff to perform key roles in several scholarly initiatives and research-related projects. Arguably, undertaking quality research is a big challenge for Nigerian academics;

> *Majority of academics are unable to publish in internationally recognised journals, hence they resort to local Nigerian or Indian/Turkish predatory journals (Rep.07).*

To improve the standard of education, some participants were of the view that research excellence is required. However, there are many challenges to this;

> *The problem lies with the limited emphasis on promotion of research activities and lack of funds available to staff who want to engage in research (Rep.11)*

Students benefit if the teaching is research-informed as academics can share and validate their findings with students. Some participants believe that the universities should initiate policies that make promotion and appraisal of staff to be based on the quality of research. Interestingly, some participants stated that some Nigerian universities have moved in this direction. According to a senior academic;

> *Some universities have initiated policies that make publishing in journals listed in Thomson Reuters and Scopus a criterion for staff promotions and appraisals (Rep.18).*

Towards a Conceptual framework for Reengineering and Revaluing HES

In the current study, a multi-level theoretical approach enabled us to combine four theoretical framework – reengineering, Leading Change in Complexity, Activity-based View of the University Business Model and Pedagogical Content Knowledge. The 'Change Theory' describes the effectiveness with which organizations can modify their strategies, processes, and structures (Hussain et al. 2018). This leads to a radical change in leadership and governance. From the qualitative data, it is obvious that deep disconnections exist between the macro- and - meso-level and -microelements of the HES in the Nigerian context. Hence, this study brings together key missing elements to develop a framework (Table 3) for 'reengineering and revaluing the activities of HEIs' to help address the challenges of sustainable education.

These themes that make up the framework were extracted from the qualitative data saturation and were compared to information in the literature on the nature and challenges of HES in Nigeria to determine relationships among them. Theoretically, the elements of our reengineering framework include effective leadership and governance; high-quality structures & curriculum design; and high-quality teaching & learning (presented in Table 3).

[INSERT TABLE 3 HERE]

Discussion

In this study, we focused on examining how to improve HE systems through 'Reengineering'. We argue that the government of Nigeria has been foot-dragging towards effective reforms and has not taken proactive measures to create an enabling environment for effective leadership and governance of the HES (in line with previous work such as Abugre, 2017). Government has also ignored its basic function of providing effective funding and addressing corruption and abuse of power which threaten to further reduce the value of HES in Nigeria (Ochulor 2011; Nwajiuba et al. 2020). The failure of the Nigerian government to conduct a true assessment of the state of HEIs and its inability to address the challenges facing these institutions have made it imperative for many students to seek education opportunities overseas (Ezinwoke 2019).

Lewin's (1953) 'Change Theory' describes effectiveness with which organizations choose to modify their strategies, processes, and structures. Arguably, Nigerian HES has been immersed in an environment where teaching, curriculum design and scholarship standard have been compromised (BBC 2019; Ezinwoke 2019; Fredua-Kwarteng and Ofosu 2018). The high unemployment among university graduates cannot be solved without a substantial transformation of university teaching, learning and assessment pedagogies (Fredua-Kwarteng and Ofosu 2018). The World Bank (2017) warns that the learning crisis in many West African countries is a moral crisis. The loss of human capital owing to these shortcomings threatens development and jeopardizes the future of people and their societies (Burden & Linden 2013). Building capacity, managing capabilities, steering performance and adapting change are the vital components that ensure the effective organisational performance. Also, Miller et al. (2014) highlight the importance of effective leadership and collaboration between HEIs, government and industry to deliver higher education that responds to the needs of contemporary organisations and emerging economies.

In designing university courses, significant emphasis should be placed on teaching activities and strategies that engender the transfer of learning (Fredua-Kwarteng and Ofosu, 2018). The pressures of globalisation and the local challenges of development should inform higher education restructuring and reengineering. Fredua-Kwarteng and Ofosu (2018) maintain that the first step is to make the course content (concepts, learning activities and assignments) relevant to the student's world or community. The second step is to incorporate problem-solving, case studies, simulations and scenarios into teaching and learning activities.

Transfer of learning is about putting into practice what has been learnt in different contexts – not only transferable knowledge and skills but also mindsets cultivated during formal education (Fredua-Kwarteng and Ofosu 2018). This wholesome approach sits within

the spirit of reengineering and challenges traditional assumptions which largely or solely captured student attainment as evidence of quality education. The reform or reengineering discourses in higher education policy (Ahern et al. 2019) have come from several education stakeholders – e.g. industry and public interest, and international voices; however, the power to act rests with the politicians to move higher education forward. These notions are based on the fundamental of university education:

> When delivered well, education promotes employment, earnings, health, and poverty reduction. For societies, it spurs innovation, strengthens institutions, and fosters social cohesion (World Bank 2017, p. xi).

Implications and Limitations

This study has implications for government, policymakers, universities and people who design and deliver the curriculum and teaching and for researchers on higher education issues. A key aspect currently missing from the role of HE is the creation of innovation and embedding of entrepreneurship and knowledge transfer into mission and strategy, developing collaborative relations with industry to facilitate more applied research and technology transfer (Miller et al. 2014). Other areas of remediation and processes to address include;

- The dysfunctional staff and student recruitment process require adequate measures to ensure transparent, credible and open recruitment process.
- Change management in the HES will require scrutiny of the appointment of governing councils of universities, including vice-chancellors who have substantial power in the Nigerian University System.
- Effective budgeting and allocation of resources are significant to improve the standard of infrastructure and facilities.
- Government allocations to the universities as well as universities finding innovative ways to generate internal capital will enable improvement in facilities, hiring of qualified staff and funding of research.

Our findings revealed that some universities have initiated policies that compel academics to observe and apply the higher standard in teaching, learning and research. Some universities have designed internal appraisals rules such as a requirement for staff to publish in Thomson Reuters, Scimago and Scopus listed journals as criteria for staff promotion. These are welcome developments and it is important that all universities follow these initiatives to bring the standards to locally and internationally acceptable levels.

As part of our contributions and recommendations, we have developed a framework (Table 3) that offers several representations and elements that make parts or whole relationships of critical issues associated with high standard and quality of education. Overall, the analysis in this article addresses some missing views in the context of Nigeria and West African HE. However, more research is required to examine the practical application of these ideas through the evaluation of educational design in a specific environment. Such an approach could examine how a leadership and reengineering approach in a case study university could lead to better understanding and outcomes.

Acknowledgements

References

Abugre, J.B. 2017. "Institutional governance and management systems in Sub-Saharan Africa higher education: developments and challenges in a Ghanaian Research University." *Higher Education* 75: 323–339.

Ahern, A., C. Dominguez, C. McNally, J. J. O'Sullivan, and D. Pedrosa, 2019. "A literature review of critical thinking in engineering education". *Studies in Higher Education*. Published online: 08 Mar 2019 https://doi.org/10.1080/03075079.2019.1586325

Ahmad, H., A. Francis, and M. Zairi. 2007. "Business process reengineering: critical success factors in higher education". *Business Process Management Journal* 13 (3): 451-469.

Álvarez-González, P., M. J. López-Miguens, and G. Caballero. 2017. "Perceived employability in university students: developing an integrated model". *Career Development International* 22 (3): 280-299.

Asongu, S.A., and V. S. Tchamyou. 2016. "The impact of entrepreneurship on the knowledge economy in Africa." *Journal of Entrepreneurship in Emerging Economies* 8 (1): 101-131.

Bowe, R., S. J. Ball, and A. Gold, 2017. *Reforming Education and Changing Schools: Case studies in policy sociology.* Routledge ISBN 9781138220751 England and Wales.

British Broadcasting Corporation BBC. 2019. *Letter from Africa: How Nigeria's elite avoid 'bad education'.* Accessed 04/11/2019, Available at, https://www.bbc.co.uk/news/world-africa-46561060

British Council 2014. *Can higher education solve Africa's job crisis? Understanding graduate employability in Sub-Saharan Africa.* Accessed 11/05/2018, Available at, https://www.britishcouncil.org/sites/default/files/graduate_employability_in_ssa_final-web.pdf

Butcher, T. 2018. "Learning everyday entrepreneurial practices through coworking." *Management Learning* 49 (3): 327–345.

Burde, D., and L. Linden. 2013. "The effect of village-based schools: evidence from a randomized controlled trial in Afghanistan." *Am. Econ. J. Appl. Econ.* 5 (3): 27–40.

Burns, R. J. 2002. "Education and social change: a proactive or reactive role?" *International Review of Education* 48 (1/2): 21–43.

Byrne, J., F. Delmar, A. Fayolle, and W. Lamine. 2016. "Training Corporate Entrepreneurs: An Action Learning Approach." *Small Business Economics* 47 (2): 479–506.

Canton, U., M. Govan, and D. Zahn. 2018. "Rethinking academic literacies. A conceptual development based on teaching practice." *Teaching in Higher Education* 23 (6): 668-684.

Carvalho, L., and P. Yeoman. 2018. "Framing learning entanglement in innovative learning spaces: Connecting theory, design and practice." *British Educational Research Journal* 44 (6): 1120-1137.

Charmaz, K. 2014. *Constructing grounded theory*. 2nd Edition. SAGE Publications, London.

Chow, A. 2014. "Leading Change and the Challenges of Managing a Learning Organisation in Hong Kong." *Journal of Management Research* 6 (2): 22-38.

Christensen, C.M, and E. J. Eyring. 2011. *The Innovative University: Changing the DNA of Higher Education from the Inside Out.* San Francisco: Josey Bass.

Christie, F. 2016. "Careers guidance and social mobility in UK higher education: practitioner perspectives." *British Journal of Guidance and Counselling* 44 (1): 72-85.

Colman, H. L., and A. Rouzies. 2019. "Postacquisition Boundary Spanning: A Relational Perspective on Integration. *Journal of Management* 45 (5): 2225–2253.

Davies, B. 1997. "Reengineering and its Application to Education." *School Leadership & Management* 17 (2): 173-185.

Darvas, P., S. Gao, Y. Shen, and B. Bawany. 2017. *Sharing higher education's promise beyond the few in Sub-Saharan Africa (English).* Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/862691509089826066/Sharing-higher-education-s-promise-beyond-the-few-in-Sub-Saharan-Africa

Evens, M., J. Elen, and F. Depaepe. 2015. "Developing Pedagogical Content Knowledge: Lessons Learned from Intervention Studies." *Education Research International,* 2015 (ID790417): 1-23 https://doi.org/10.1155/2015/790417

Ezinwoke, H. 2019. *Nigeria's university system due for overhauling.* Available at, https://www.vanguardngr.com/2019/05/nigerias-university-system-due-for-overhauling-ezinwoke/

Fredua-Kwarteng, E., and S. K. Ofosu. 2018. *Improving the quality of university education in Africa.* https://www.universityworldnews.com/post.php?story=20180306124842675

Gardner, A., and K. Willey. 2018. "Academic identity reconstruction: the transition of engineering academics to engineering education researchers." *Studies in Higher Education* 43 (2): 234-250.

Golicic, S.L., D. F. Davis, T. M. McCarthy, and J. T. Mentzer. 2002. "The impact of e-commerce on supply chain relationships." *International Journal of Physical Distribution and Logistics Management* 32 (10): 851-871.

González Canché, M.S. 2018. "Spatial Econometrics and Network Analysis as Means to Assess the Assumption of Independence in Higher Education Research." *New Direction for Institutional Research* 180:11-38.

Green, F., and Y. Zhu. 2010. "Over-qualification, job dissatisfaction, and increasing dispersion in the returns to graduate education." *Oxford Economic Papers* 62 (4): 740–763.

Guest, G., K. MacQueen, and E. Namey. 2012. *Applied Thematic Analysis.* Sage Publication. London, UK.

Hammer, M., and J. Champy. 1995. *Re-engineering the corporation: a manifesto for business revolution*. Nicholas Brealey Publishing London UK.

Hunkin, E. 2018. "Whose quality? The (Mis)uses of quality reform in early childhood and education policy." *Journal of Education Policy* 33 (4): 443-456.

Hussain, S. T., S. Lei, T. Akram, M. J. Haider, S. H. Hussain, and M. Ali. 2018. "Kurt Lewin's change model: A critical review of the role of leadership and employee involvement in organizational change." *Journal of Innovation and Knowledge* 3: 123–127.

International Trade Administration, ITA. 2019. *U.S. Department of Commerce.* Accessed 20/10/2019, available at: https://www.export.gov/article?id=Nigeria-Education

Jones, J., and J. Smith. 2017. "Ethnography: challenges and opportunities." *Evidence-Based Nursing* 20: 98-100.

Krepf, M., W. Plöger, D. Scholl, and A. Seifert. 2018. "Pedagogical content knowledge of experts and novices – what knowledge do they activate when analysing science lessons?" *Journal of Research in Science Teaching* 55 (1): 44-67.

Lewin, K. 1953. Change Management model: "Understanding the three stages of change." In: Hussain et al. 2018. Kurt Lewin's change model: A critical review of the role of leadership and employee involvement in organizational change. *Journal of Innovation & Knowledge* 3: 123–127.

Lumby, J. 2019. "Leadership and power in higher education. *Studies in Higher Education* 44 (9): 1619-1629. DOI: 10.1080/03075079.2018.1458221

Masino, S., and M. Niño-Zarazú. 2016. "What works to improve the quality of student learning in developing countries?" *International J. of Educational Development* 48: 53-65.

Mero-Jaffe, I. 2011. "Is that what I Said? Interview Transcript Approval by Participants: An Aspect of Ethics in Qualitative Research." *International J. of Qualitative Methods* 231–247.

Miller, K., M. McAdam, and R. McAdam. 2014. "The changing university business model: a stakeholder perspective." *R&D Management* 44 (3): 265-287.

Nielsen, C.P. 2011. "Immigrant over-education: Evidence from Denmark." *Journal of Population Economics* 24 (2): 499–520.

Nwajiuba, C. A., P. A. Igwe, A. Akinsola-Obatolu, A. Icha-Ituma, M. O. Binuomote. 2020. "A Stakeholder Approach: What can be done to improve Higher Education Quality and Graduate Employability?" *Industry and Higher Education,* IHE-19-0078 https://journals.sagepub.com/home/ihe [Accepted: 07-Nov-2019]

Obi, C. U., S. C. Ekesiobi, S. K. Dimnwobi, and E. M. Mgbemena. 2016. "Government Education Spending and Education Outcome in Nigeria." *International Journal of Economics, Finance and Management Sciences* 4 (4): 223-234.

Ochulor, C.L. 2011. "Failure of leadership in Nigeria." *American Journal of Social and Management Sciences* 2 (3): 265-271.

Okuwa O. B., and O. A. Campbell. 2017. *Financing Higher Education in Nigeria.* In: Maringe, F., and E. Ojo (eds). Sustainable Transformation in African Higher Education. Sense Publishers, Rotterdam, UK.

O'Sullivan, K., J. Robson, and N. Winters. 2019. "I feel like I have a disadvantage': how socio-economically disadvantaged students make the decision to study at a prestigious university." *Studies in Higher Education* 44(9): 1676-1690.

Page, S., M. Trudgett, and G. Bodkin-Andrews. 2018. "Creating a degree-focused pedagogical framework to guide Indigenous graduate attribute curriculum development." *Higher Education* 1-15 https://doi.org/10.1007/s10734-018-0324-4

Palinkas, L.A., S. M. Horwitz, C. A. Green, J. P. Wisdom, N. Duan, and K. Hoagwood. 2015. "Purposeful sampling for qualitative data collection and analysis in mixed method implementation research." *Administration and Policy in Mental Health* 42 (5): 533-544.

Parry, K. W. 1998. "Grounded Theory and Social Process: A New Direction for Leadership Research." In Seale, O., and M. Cross. 2016. Leading and managing in complexity: the case of South African deans. *Studies in Higher Education* 41 (8): 1514-1532,

Pitan O.S., and S. O. Adedeji. 2012. "Skills mismatch among university graduates in Nigeria labor market." *US– China Education Review* 2 (1): 90–98.

Ritchie, J., and J. Lewis. 2013. *Qualitative research practice: a guide for social science students and researchers.* 2nd Edition, Sage Publications, London, UK.

Sam, C., and H. Dahles. 2017. Stakeholder involvement in the higher education sector in Cambodia, *Studies in Higher Education* 42 (9): 1764-1784.

Saunders, B., J. Sim, T. Kingstone, S. Baker, J. Waterfield, B. Bartlam, H. Burroughs, and C. Jinks. 2017. Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality and quantity* 52 (4): 1893-1907.

Seale, O. & Cross, M. 2016. "Leading and managing in complexity: the case of South African deans. *Studies in Higher Education* 41 (8) 1514-1532.

Serdyukov, P. 2017. Innovation in education: what works, what doesn't, and what to do about it? *Journal of Research in Innovative Teaching and Learning* 10 (1) 4-33.

UNESCO 2017. *Higher Education in Africa.* Available, http://www.unesco.org/new/en/dakar/education/higher-education/

Varghese, N.V. 2016. *Reforms and changes in governance of higher education in Africa. New trends in Higher Education.* UNESCO. Accessed 08/12/2018, available at: file:///C:/Users/Surfbook/Downloads/246939eng.pdf

Walsh, P. 2006. "Narrowed horizons and the impoverishment of educational discourse: teaching, learning and performing under the new educational bureaucracies." *Journal of Education Policy* 21 (1) 95-117.

World Bank 2013. *Higher Education for Development: An Evaluation of the World Bank Group's Support. Independent Evaluation Group.* Accessed 09/08/2018, available, https://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/highereducation.pdf

World Bank 2017. *World Bank warns of 'learning crisis' in global education. World Development Report calls for greater measurement, action on evidence.* Washington, Accessed: 05/09/2018, Available at: https://www.worldbank.org/en/news/press-release/2017/09/26/world-bank-warns-of-learning-crisis-in-global-education

Table 1. Activity-based View of the University Business Model

Activity-based view	Traditional university business model	Transitional university business model	Evolving university business model (university technology transfer context)
Content	Teaching, research, knowledge dissemination, providing a skilled workforce	Teaching, research, knowledge dissemination, provision of a skilled workforce, entrepreneurship education, developing intellectual property rights.	Teaching, research, knowledge dissemination, providing a skilled workforce, entrepreneurship education, developing intellectual property, spin-outs, licences, new venture creation
Structure (how activities are linked)	Academic registry, admissions, research office, schools for specific faculties	Academic registry, admissions, research office, departments for specific faculties, embedding entrepreneurship and knowledge transfer into mission and strategy, developing collaborative relations with industry and government to facilitate more applied research and technology transfer	Academic registry, admissions, research office, departments for specific faculties, technology transfer offices (TTOs), industry liaison team, technology transfer procedures/mechanisms, incubators, science parks
Governance (who performs the activities)	University (academics, administrative staff, strategic staff members) government, industry	University (academics, administrative staff, strategic staff members, industry liaison staff) government, industry	University (academics/principal investigators, TTO staff, industry liaison staff, administrative staff, strategic staff members), government (regional development agencies, national government), industry

Source: Adapted from Miller, McAdam and McAdam (2014, p.267)

Table 2. The ACAD Wireframe

	Set design	Epistemic design	Social design
High-level philosophy	Learning is….	Learning is …	Learning is …
Macro-global Level I patterns	Buildings and technology	Stakeholder intentions	Organisational forms
Meso-structure Level II	Allocation and use of space	Curriculum	Community
Micro-details Level III	Artefacts, tools and texts	Selection, sequence and pace	Roles and divisions of labour

Source: Adapted from Carvalho and Yeoman (2018, p.1126)

Table 3. Framework for Reengineering and Re-valuing HES

Structural Levels	Bench Mark	Higher Education Values, Actions and Standards
Macro – global Level 1 patterns	Leadership & Governance	Effective Policies, Leadership & Governance requires………
		Redesigning policies & encouraging innovative ideas
		Competent leadership and transparency
		Effective administration, monitoring and control
		Stakeholder integration and capacity building
		Checks and balances in power & influences
		Minimizing trade disputes & union strikes
		Provision of adequate funding for research & scholarship
Meso – structure level II patterns	Infrastructure & Curriculum design	High Quality Infrastructure and Curriculum requires………
		Provision of standard buildings and adequate facilities
		Technology, the Internet, equipped labs & libraries
		Constant Electric Power & Water supply
		Competent staff and continuous professional training
		Maintaining high standards in teaching and research
		Effective curriculum design, implementation & evaluation
		Maintaining International standard but Local in content
Micro – details Level III patterns	Pedagogical teaching & learning	High Quality Teaching and Learning requires………
		Provision of enabling innovative learning spaces
		Problem-based and self-directed learning
		Developing adequate knowledge and skills
		Moderating and evaluating modules & curriculum content
		Changing behaviour and cognitive processes
		Cultivating inclusiveness and transparency
		Maintaining Ethical procedures and values
		Effective feedback, mentoring & learners support
		Undertaking high quality research initiatives
		Maintaining a balance between theory, practical & skills