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Strengthening Universities' Education for the Fourth Industrial Revolution through Lifelong and Life-Wide Learning

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Abstract. The concept of new technologies falls within the content of lifelong and life-wide learning. The study investigated the role of lifelong and life-wide learning in strengthening universities' education in Nigeria for the fourth industrial revolution (4ir). Correlation research design was adopted. The sample consisted 1770 students of National Open University of Nigeria from the three study centres in Lagos State Nigeria. Five research questions and two research hypotheses were formulated to guide the study. Data was collected using 'strengthening universities education through lifelong and life-wide learning for the fourth industrial revolution Questionnaire (SUELL4IRQ}. Descriptive statistics of mean and standard deviation were used to answer the research questions while ANOVA and Chi-Square were used to test the hypotheses at 0.05 level of significance. The result obtained from the study showed that; the Nigeria universities education are prepared for the fourth industrial revolution. There was poor perception of the relevance of the universities' curriculum in meeting the needs and aspirations of the students and the nation for the 4ir. Findings further revealed that life-wide learning is suitable and flexible in empowering individual student to acquire all the knowledge and skills needed for the 4ir. The study concluded that lifelong and life-wide learning are the keys that give access to the 4ir. Recommendations were proffered that students should be encouraged to be lifelong and life-wide learners to develop the capabilities needed in ever changing world

Keywords: Lifelong, Life-wide, Universities, Education, Curriculum and Fourth industrial revolution.

1. Introduction

If there is any innovation that has changed the course of human communication in the last three decades in both advanced and developing economies, it is the digital aspect of life or information age. The world today is in a constant state of flux and change. These have brought many changes in human lives. The impacts of the changes could be seen everywhere from the production of goods and services to economic competitiveness and wellbeing of citizens. While some people are ready to face the challenge, equipped with the tools to brave the change and take advantage of its effects, others do not even know a storm is brewing. Some would argue that digital age benefitted the masses and therefore it is something good. However, some would refute by saying that digital age has also had some negative impacts on the masses. There is evidence that Information Communication Technologies (ICTs) has become a global phenomenon and the pace of change is creating opportunities like never seen before.

With the fourth industrial revolution breakthroughs, the world has entered a new chapter of innovation sometimes described as an incoming thunderstorm, a sweeping pattern of change visible in the distance, arriving at a pace that affords little time to prepare. Ushered in by advancement in technologies such as Artificial Intelligence AI, robotics, wireless communication, instrumentation, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials sciences, energy storage, internet of things (IOTs), drones, big data, virtual reality, machine learning, driverless cars, lorries, taxes. All these will soon start to have impact on the individuals and the economy as a whole. The fourth industrial revolution is set to bring radical changes to

the workplace and the world at large. It will yield new products and services, raise standard of living and reduce cost of living, and increase income level globally and also bring loss of jobs through automation. This indicates that automation is certainly going to necessitate the redefinition of most occupations and requisite skills.

A growth mindset is important at this level because the evolution will bring with it a future of uncertainties for those countries who are not prepared for it and opportunities for those countries who are fully prepared for it. Ramakrishna (2018) a leading academic in nanotechnology once said "innovation and technology adoption will decide which countries succeed economically in the longer term. He argued the ideas behind fourth industrial revolution technologies are to make individual to be more productive and effective. According to Ramakrishna (2018), Artificial Intelligence AI, will not mean intelligent automation and machine vision but it will influence cognitive systems and deep learning. Currently, individual use technology but in future, technology will learn about individual and help individual to be more productive.

Supporting Ramakrishna (2018), the World Economic Forum's on the future of jobs report predicts that 75 million jobs worldwide will be displaced by automation by 2022. In the same period, 133 million new jobs will be added to the global economy, but in most cases, the workers who lose their current jobs will not have the necessary qualifications to fill the new positions, one that are already emerging and going largely unfilled (https//www.weforum.org). The revolution glaringly has its root mainly in the production of goods and services. Norman (2011) observed that economic prosperity in an information and knowledge society relies on the creation and exploitation of ideas and the application of technology rather than the transformation of raw materials or the exploitation of cheap labour. This change has necessitated for lifelong and life wide learning.

1.1 Statement of the Problem

Every revolution poses its own challenges of fear of unknown, concerns, expectations, anxiety, worries, uncertainty and doubt. The basic truth of life is that as long as individuals are alive on this planet earth, new ideas, new knowledge, new values, new practices, new skills and attitudes are bound to happen because the world is ever dynamic and new technologies and innovations are discovered and introduced day by day. Given the challenges ahead, universities education need to be overhauled and strengthened for the 4IR. .It is poignant to know that the current university education system in Nigeria seems not prepared for the expected radical changes aided by the new technologies. They seems not to be reacting fast enough to the digital age. It is like the universities education lack the wherewithal to face the challenges of the revolution. The outdated curriculum inherited from the British colonial couple with archaic methods and approaches of 20th century learning in preparing students for a world that no longer exist in the 21st century are still use in teaching and learning process. Beard, Schwieger and Surendran (2008) contended that higher education in developing countries focused on connecting theory and practice, they provide expertise and focused on hard-skill preparedness, the areas for soft skill development, such as team work, initiative analytical thinking and communication, are often left untested for new graduates entering the workplace. In a nutshell, Nigeria universities' education system seems to have lost relevance in a changing world.

Since the current university education in Nigeria seems to be deficient in terms of preparing the students for the revolution, then Nigerians and Africans should think outside the box by navigating and trying the field of life wide and lifelong learning to acquire the necessary and sufficient skills for the fourth industrial revolution. Therefore, this study examined strengthening universities' education for the fourth industrial revolution through lifelong and life wide learning.

1.2 Purpose of the Study

The main purpose of this study is to examine how universities' education can be strengthened through lifelong and life-wide learning. Specifically, the study sought to:

- Examine the extent of Nigeria universities' education system in preparedness for the fourth industrial revolution;
- Find out the relevance of the universities' education curriculum in meeting the needs and aspirations of individual student and the nation to global demands for the fourth industrial revolution;
- Assess the roles of life-long learning in balancing education and life responsibilities;
- Find out the suitability and flexibility of life-wide learning in empowering individuals to acquire all the knowledge and skills required for the fourth industrial revolution; and

- Find out the challenges facing Nigeria university education system in performing its core functions.

1.3 Research Questions

This study attempted to answer the following research questions:

- How prepared is Nigeria universities' education for the fourth industrial revolution?
- Examine the relevance of universities' education curriculum in Nigeria in meeting the needs and aspirations of individual student and the nation to global demand of fourth industrial revolution.
- What roles will life-long learning play in balancing education and life responsibilities?
- To what extent is life-wide learning suitable and flexible in empowering individuals to acquire all the knowledge and skills required for the fourth industrial revolution?
- What are the challenges facing university education system in performing its core functions to meet the fourth industrial revolution?

1.4 Research Hypotheses

For this study, the following null hypotheses were generated and tested:

- Universities education curriculum will not significantly meet the needs and aspirations of the individual student and nations to global demand of fourth industrial revolution.
- The suitability and flexibility of life-wide learning will not have significant influence on empowering individuals to acquire knowledge and skills required for the fourth industrial revolution.

2. Literature Review

The question of preparing the present and the future generation of students for the fourth industrial revolution has been a pressing issue for contemporary higher education in Africa. Coupled with this are the issues of adjustments, accessibility, availability and conservative attitude to the uses of ICTs by both learners and teachers in Africa continent. The fourth industrial revolution presents a set of challenges to university education in Nigeria. The number one challenge is that the revolution has rendered the old university curriculum inherited from the colonial masters outdated, obsolete, incompetent, and ineffective. The present university's curriculum seems not to reflect the need of the nation hence her citizens cannot be over emphasized. We live in a world of changes and educational curriculum should be as dynamic as the society it serves. The colonial curriculum inherited by Nigeria is too theoretical to be able to make meaningful impact on the life of Nigerians while the technological trend is yet to be reflected in the school curriculum. This means students are not taught and developed in the right skills required to prepare them for the evolution and for their future work. Coupled with this, university education system still follows the rigid structure of time periods, methods, grade-level progression found in colonial curriculum. In reality, the world has been reduced into "global village" and university education needs to become more "borderless" in digital age. With the expansion in networking services nationally and globally, physical boundaries ought not to be barriers to education.

The illiterates of 19th and 20th centuries are those who cannot read, write and compute basic numeracy but the 21st century illiterates are those who cannot learn, unlearn and relearn. The goal of any educational system is to provide or develop a balanced individual capable of surviving in his environment and contributing meaningfully towards the survival of that society to which he belongs. The education system should adequately prepare the next generation for the future. Roger-Chao (2017) reiterated that as the conversation about the challenges brought about by the fourth industrial revolution has begun, it is high time for the higher education community to start a much needed conversation and debate about how to reshape the education system into an adaptable, flexible and relevant social environment to ensure that the world's population, both young people and adults, have the means to pursue lifelong learning and acquire the necessary skills and competence to survive and contribute to a rapidly changing society across different industrial revolutions.

Although there are differing views as to what the future of higher education may hold, sincerely, African universities need to think holistically about the kind of education needed for the fourth industrial revolution. Despite the challenges posed, the 21st century has opened up more opportunities for people to venture into areas that were before now classified as no go area. Nzeneri (2010) succinctly viewed that the 21st century is characterized by an upsurge in information communication technologies which

dictates the pace of development and surely we have not stopped talking about technological transfer. The university education should open up more opportunities for both young and adults through lifelong learning and life-wide learning to venture into those no go areas. The learning for the current revolution should educate young and adult people who will become the citizens and workers in the digital age.

Virtually all the developed countries of the world who are already ahead are busy investing in research and innovation to widen the technological gap. What choice do African countries have than to invest in the search for the technologies? University education is established for the production of manpower as higher institutions of learning occupy a pivotal position in every society. The university not only receives products from preceding tiers (primary and secondary). It is usually the final destination for formal teaching and learning process. In Nigeria, universities exist to pursue some primary and secondary roles or functions. The primary function is to train people for acquisition of the degrees while the provision of community services remains the secondary functions. For any nation to be technologically compliance and cope with the technological challenges of 21st century, the university has uncompromising responsibility of producing skilled graduates for the country for productive vibrancy in all areas of life endeavors.

Thus university education in Nigeria is charged with the responsibility of producing and equipping graduates with requisite skills to adapt to rapidly changing economy. The core mission of university education remains the same whatever the evolution may be. One of the goals of university education as stated in National Policy of Education (2014), Section 8, No. 59(d) is to acquire both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society. University education is to ensure quality of learning and teaching process. Specifically, university education according to the policy is to prepare and produce very high level quality manpower for employment by equipping them with requisite skills that will also enable them to adapt to rapidly changing work environment, and also to meet the needs of the society for effective growth and development of every sector of the economy. These goals are however pursued through the following core functions of teaching, research, service to the community, dissemination of existing and new information and a store house of knowledge. Though the business or functions of university education remain unchanged since the times of Aristotle, as it was in the beginning so it is now and ever it shall not continue to be. Given the fourth industrial revolution, a new form of university with new functions should and must emerge. The journey to digital age requires university education system to put a huge amount of effort into research and innovation and drive much innovation competition into Nigeria education system. This can be achieved if only individuals are lifelong and life-wide learners.

There are numerous questions begging for answers in achieving these goals and on how to strengthen university education systems for the fourth industrial revolution. Is university education curriculum adequate to cater for the needs and in preparing the students to face the technological changes of the fourth industrial revolution? How competent and equipped are the universities workforce (academics and non-academics) in equipping the 21st century students with the necessary knowledge and skills that will enable the university graduates to be gainfully employed and economically productive now and in future? Will African nations and Nigeria in particular be a looser in this revolution due to unpreparedness of her university education system? These and other questions are begging for answers and should be a concern to all. There is a saying that "You cannot give what you do not have". How to strengthen Nigeria universities and what role(s) will universities play in the fourth industrial revolution is a big question? These are begging for answers.

In answering these questions, Norman (2018) reiterated the most effective thing education (university education system inclusive) can do to prepare students for learning in the rest of their lives, is to pay greater attention to the information dimension of their learning lives while they are involved in formal study. He reiterated further that the "wicked" challenges confronting teachers, educators, educational institutions and systems all over the world is this: "How do we enable learners to prepare themselves for a life time of learning to deal with what is an increasingly complex, turbulent and often disruptive world. Nigeria universities system should see equipping its students and staff with a broad outlook on the world as its duty. A global perspective suggests that universities must develop the most effective strategies to prepare its self and learners for the next level in the evolution. University education must ensure that both her workforce and products (graduates) are not left behind. Without lifelong and life-wide education, little can be achieved in the fourth industrial revolution.

On this note, the solution to universities education in Nigeria can be found in transforming classrooms into experiential, hands-on-learning approach. This learning can equally be referred to as learning-by-making approach. This is what Jackson (2011) referred to as life-wide learning, this approach helps students build the skills they need to be career ready, developing abilities such as problem solving, team work, creativity and critical thinking. The aim of university education should not be producing graduates with classes that are not relevant in the present and future dispensation but the ability of their products (graduates) to acquire skills, knowledge, competencies and abilities that will make their products (graduates) to be self-employed and competitive in the world of work. In addition to the aforementioned, the curriculum should be designed to expose students to volunteering jobs and ICTs training programmes and self-reliant skills while learning (life-wide). These will make the students to acquire physical and intellectual skills needed for the fourth industrial revolution.

In order to strengthen university education for the fourth industrial revolution, Xing and Marwala (2017) proffered the following solutions found in lifelong learning. According to them, teaching and learning will require higher education to:

- Wearables assisted teaching, learning and training.
- Embrace massive open online courses (MOOCs)
- Cultivating innovative talent and
- Generalize blended leaning.

Xing and Marwala (2017) argued further that the industrial revolution university is interdisciplinary, has virtual classroom and laboratories, virtual libraries and virtual teachers. These are components of life-wide and lifelong learning. This however does not degrade educational experience but augment it.

3. Lifelong and Life-wide Learning in the Fourth Industrial Revolution

Human nature is the same the world over and the notion of learning throughout life is hardly new. It is perhaps, a well acknowledged fact as old as history of education that education can and should be a continuous process from cradle (birth) to grave (death). If this is true, it is essential to create a global learning society which will help to alleviate the challenges of the fourth industrial revolution. One of the most pragmatic approaches to managing the insatiable demand for ICTs, knowledge and skill is lifelong learning. The totality of man is the product of formal, informal and non-formal. The definition of lifelong learning and life-wide learning at this point now becomes imperative to make these discussions intelligent and clearly identify the basic issues that are examined in this discourse.

The concept of learning throughout life or life-long learning is the key that gives access to the fourth industrial revolution. Soni (2012) explained lifelong learning to be acquiring and updating all kinds of abilities, interests, knowledge and qualifications from the pre-school years to post-retirement that will enable adaptation to the knowledge-based society. Jarvis (2010) asserts that learning is knowledge-oriented and lifelong-based because individuals learn from cradle to grave. It is important to continue learning to meet up with the changing world otherwise, the world will pass us by.

The first explicit use and elaboration of the actual term "life-wide learning" was by Jost Reishmann in 1986 to represent the full scope of adult learning and development. Reishmann's view of adult life wide learning was comprehensive and it provides the foundation for contemporary concepts of life-wide learning. Reischmann (2004) recognized the incidental nature of much adult learning; learning that complements the teacher-directed or self-directed intentional learning. According to Reishmann (2004), life wide learning is how compulsory and highly; it can happen – or not, and different people learn different things from the same situations. This type of learning cannot be produced in advance and there is nothing like a prepared curriculum. It only can be identified by looking back. Often, this learning is holistic, it includes not only knowledge, but also reality – handling, emotions, and valuing.

Lending credence to Reischmann (2004), Organization for Economic Cooperation and Development (OECD) (2007:10) explained that learning does not occur just in school. It is both life wide (i.e. it occurs in multiple contexts such as work, at home and in the social lives) and "lifelong" from cradle to grave. In the same vein, The European Union (EU) commissioned a foresight study in 2010. Further of Learning: Preparing for Change. The report of the study was published in 2011 and incorporated the concept of life wide learning into its central learning paradigm. The report stated the overall vision of life wide learning to be that of personalization, collaboration and informalization (informal learning). The central learning paradigm is thus characterized by lifelong and life wide learning and shaped by the ubiquity of Information and Communication Technology (ICT).

Barnett (2010) in distinguishing between lifelong and life wide learning explained lifelong is learning across time and occurs as the term implies, more or less throughout a life time whereas, life wide learning is a series of learning experiences in successive time zones of a life. It consists of formal, non-formal and informal learning. Life wide learning complements, but also differs fundamentally from lifelong learning. Thus, life wide learning is literally learning across an individual's life world at any moment in time, though the places of learning may be profoundly different (Barnett, 2010 & Jackson, 2011). It can be deduced that every learning experience contributes to life wide learning by offering unintended and incidental outcomes regardless of whether the learning occurs in formal, non-formal and informal setting, unintentional, hidden, small scale and incidental learning occurs (Norman, 2011 & Jackson, 2011). Such learning can add to, subtract from or transform teacher-directed or self-directed formal, informal and non-formal learning. It uses a wide variety of support (people, media, object, institutions) educationally prepared as well as natural. Often it uses and continues and reactivates and builds on previous learning (Jackson 2011, Norman 2011, Barnett 2010, Reishmann, 2004 & Skolvert, 2000). From the above, it can be deduced that life wide learning is mainly for personal development. Thus as a university student, one can be learning in real contexts and authentic settings (formal) and also be life-wide. Such experiential learning enables students to achieve certain learning goals that are more difficult to attain through classroom learning alone. It helps students to achieve the aims of whole personal development and enables them to develop soft skills (human skills) such as personal attributes, social skills and communication abilities that support personal relationships and interactions with others. With life wide learning, students can develop capabilities to increase productivity and labour efficiency that are needed in ever changing society. To this end, university education should be framed into four categories or core skills found in lifelong and life-wide learning for the purpose of the fourth industrial revolution. The skills should include workforce readiness, soft skills, technical skills and entrepreneurship skills. These four skills can provide a foundation for lifelong and life-wide learning. In addition to this, emphasis should be on making individuals to be life-long and life-wide learners. It is critical that the stakeholders align efforts to support the development of students in their journey as lifelong and life-wide learners in the fourth industrial revolution.

Conclusively, the university education system and curricula need significant reforms. Incorporating and re-integrating ICTs into the curriculum as well as inculcating on integrating dual education system where students can simultaneously have access to a combination of work hands experience through life wide and lifelong learning. The need to embark on the type of learning that is pursued throughout life is inevitable because it makes learning flexible, diverse and available at different times, places and zones. There is need to embrace learning that gives personal fulfillment, citizenship, social inclusion and capabilities that are needed in our ever-changing world. Both lifelong and life wide learning is self-motivated voluntary, volunteering and beyond the traditional schooling. On this note, lifelong and life wide learning is no doubt a formidable tool in strengthening university education for digital age.

4. Methodology

Correlation research design was adopted for this study. This is because the study was used to determine the relationship between the variables examined without manipulation. Cohen, Manion and Morrison (2009) stated that correlation is used to scan a wide field of issues, population, events and programmes in order to determine, describe and generalize features. The study was carried out in Lagos State Nigeria.

The population of this study consists of all distance learners from the four study centres of National Open University of Nigeria (NOUN) in Lagos State, Nigeria. The total population of the students as at the time of the study was approximately 58,000 (NOUN Monthly bulletin, April 2019). The breakdown of the population in the study centres is as follows; Mushin,13,000, Apapa7,000, MaCathy 6,000,and Lagos 32,000. Three study centres, namely Apapa, MaCathy and Lagos were purposively selected from the four study centres. A total number of 1800 respondents were randomly drawn from the three centres to constitute the study sample.

Furthermore, in each of the centre, stratified random sampling method was adopted in selecting the respondents. In this wise, the students were divided into strata (departments/units) and a simple random sampling technique was used to draw the final sample from each stratum by balloting to ensure that every respondent had an equal chance of being selected. In all, the sample drawn from each stratum was summed up to arrive at the aforementioned sample size of 1800. A self-developed questionnaire tagged "Strengthening Universities' Education

through Lifelong and Life-wide Learning for the Fourth Industrial Revolution Questionnaire (SUELL4IRQ)" was the instrument used for data collection. It was structured on a modified four-point Likert scale. The scaling ranged from 4-1 for Strongly Agree (SA) to Strongly Disagreed (SD) respectively. The instrument consisted of 45 items covering the variables of interest in the study.

The instrument was however validated using the experts' judgement approach from departments of Adult Education and Measurement and evaluation from Faculty of Education, University of Lagos. The instrument was subjected to four experts with their suggestions, the instrument was modified and thereafter, the final version was produced. The instrument was pilot tested for reliability. The responses were collated and correlated using the Cronbach alpha statistical formula for reliability index. The instrument received a weighted Cronbach alpha coefficient of 0.74 and this revealed that the instrument was reliable. Nonetheless, the students used for the pilot test were from Mushin study centre which was not part of the study sample.

The researcher, with the help of six research assistants administered the questionnaire. A total of 1800 questionnaire were administered, but, upon receipt, it was discovered that 1770 were correctly filled and returned representing 98% of the entire questionnaire which was adjudged adequate for rational decision, 1770 now formed the sample size. The data was analyzed using descriptive statistics of mean and standard Deviation while ANOVA and Chi-square statistics was used to test the hypotheses at 0.05 level of significance.

5. Result

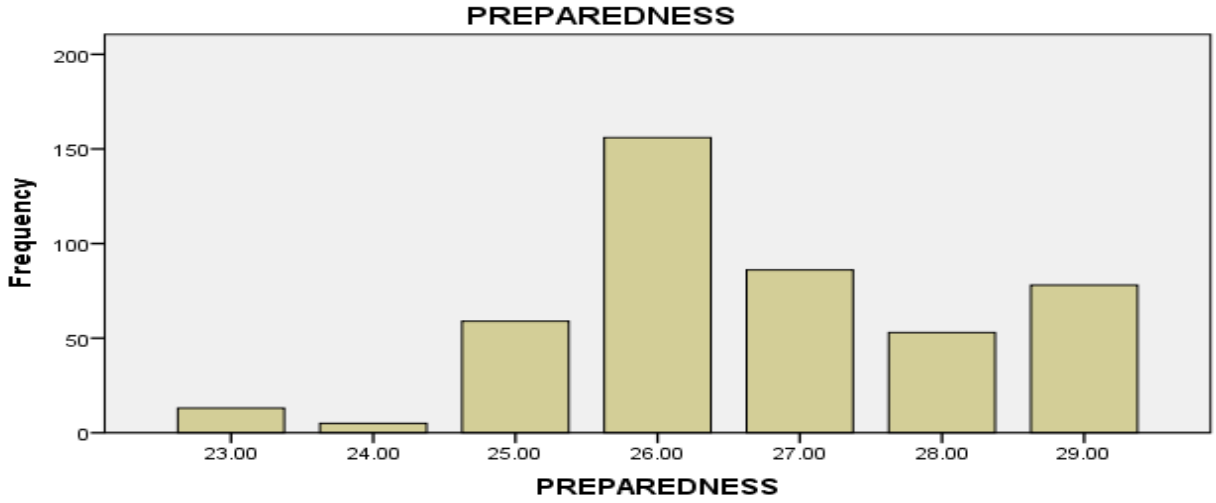
The outcome of the study with respect to the research questions and hypotheses formulated are presented as follow.

Research Question One: To what extent is the Nigeria Universities' education prepared for the fourth industrial revolution?

Table 1: Descriptive Statistics on Nigerian Universities' Education Preparedness for the Fourth Industrial Revolution

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
PREPAREDNESS	1770	10.00	40.00	26.7067	.06933	1.47078
Valid N (listwise)	1770					

Table 1 show that the estimated mean is (10+40)/2 = 25.00 and the calculated mean is 26.7067. The calculated mean is higher than the estimated mean. This implies that the extent at which the Nigeria Universities' education is prepared for the fourth industrial revolution is high.

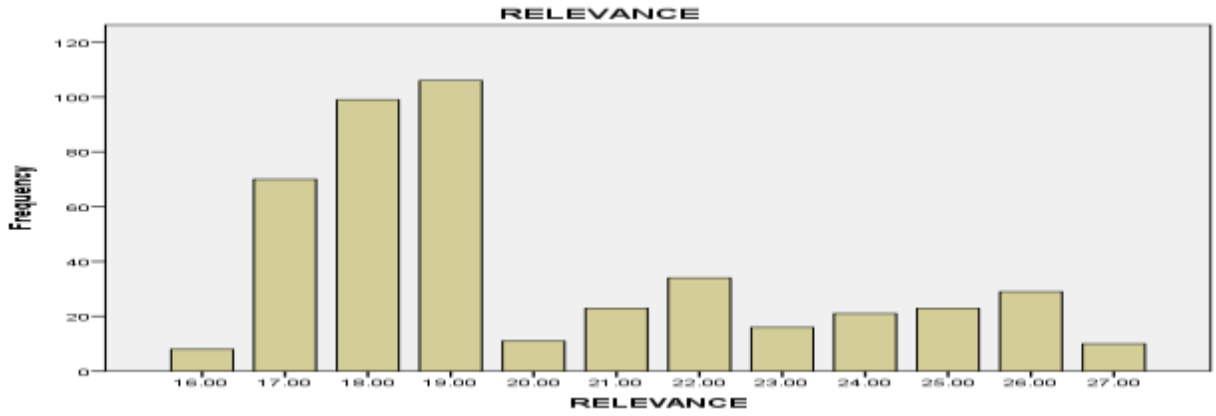


Research Question Two: What is the relevance of universities education curriculum in meeting the needs and aspirations of individual student and the nation to global demand of 4ir?

Table 2: Descriptive Statistics on the Relevance of Universities Education Curriculum in Meeting the Needs and Aspirations of Individual student and the Nation to Global Demand of 4ir

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
RELEVANCE	1770	9.00	36.00	20.0800	.14079	2.98665
Valid N (listwise)	1770					

Table 2 shows that the estimated mean is (9+36)/2 = 22.5 and the calculated mean is 20.0800. The estimated mean is higher than the calculated mean. This implies that the respondents do not have a favorable perception on the relevance of universities education curriculum in meeting their needs and aspirations for the fourth industrial revolution



Research Question Three: To what extent will lifelong learning balance education and life responsibilities?

Table 3: Descriptive Statistics on Lifelong Learning and Life Responsibilities

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
LIFE LONG LEARNING	1770	9.00	36.00	27.3822	.46426	9.84855
Valid N (listwise)	1770					

Table 3 shows that the estimated mean is (9+36)/2 = 22.50 and the calculated mean is 27.3822. The calculated mean is higher than the estimated mean. This implies that the extent at which lifelong learning will balance education and life responsibilities is high.

Research Question Four: To what extent is life-wide learning suitable and flexible in empowering individuals to acquire all the knowledge and skills needed for the fourth industrial revolution?

Table 4: Descriptive Statistics on Life-Wide Learning Suitability and Flexibility in Empowering Individuals to acquire all the Knowledge and Skills needed for the Fourth Industrial Revolution

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
LIFEWIDELEARNING	1770	10.00	40.00	30.5489	.51625	10.95134
Valid N (listwise)	1770					

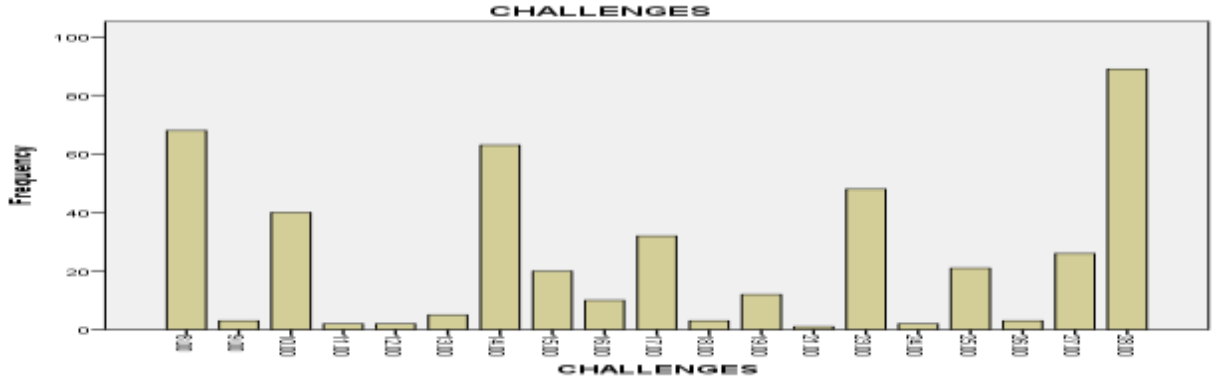
Table 4 shows that estimated mean is (10+40)/2 = 25 and the calculated mean is 30.5489. The calculated mean is greater than the estimated mean. This implies that the extent at which life-wide learning is suitable and flexible in empowering individuals to acquire all the knowledge and skills needed for the fourth industrial revolution is high. The bar chart below further shows the analysis of the respondents' opinion.

Research Question Five: What are the challenges facing universities education system in performing its core functions to meet the fourth industrial revolution?

Table 5: Descriptive Statistics on the challenges facing Universities Education System in Performing its Core Functions to Meet the Fourth Industrial Revolution

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
CHALLENGES	1770	7.00	28.00	18.2667	.34926	7.40884
Valid N (listwise)	1770					

Table 5 shows that the estimated mean is (7+28)/2 = 17.50 and the calculated mean is 18.2667. The calculated mean is greater than the estimated mean. This shows the extent at which the universities education system is challenged in performing its core functions to meet the fourth industrial revolution is high.



Hypotheses

$H_0$1: Universities' education curriculum will not significantly meet the needs and aspirations of individual student for the fourth industrial revolution.

Table 7: Chi-Square Statistics on University Education Curriculum and the Needs and Aspirations of Individuals

Variables	Observed		Expected		X^2 – cal	X^2– tab	Decision
	Agree	Disagree	Agree	disagree			
University Education Curriculum and the Needs and Aspirations	1221	550	885	885	2.456	6.89	Ho1 Accept

df= 1, P<0.05 level of significance.

Table 7 shows that the X^2 – calculated is 2.456 and the X^2 – tabulated is 6.89 at df = 1 and P<0.05 level of significance. The X^2 – calculated is less than the X^2 – tabulated. This implies that the universities' education curriculum will not meet the needs and aspirations of individuals and the nation for the fourth industrial revolution. Thus, accept the null hypothesis.

$H_0$2: The suitability and flexibility of life-wide learning will not have significant influence on empowering individuals to acquire knowledge and skills for the fourth industrial revolution.

Table 7: ANOVA statistics on Life-Wide Learning and Empowering Individuals to Acquire Knowledge and Skills for the Fourth Industrial Revolution

	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	26616.185	2	4436.031	116.048	.000
Within Groups	16934.073	1768	38.226		
Total	43550.258	1770			

Table 7 show that the $F_{(2,450)}$ value is 116.048 at 0.05 level of significance. This implies that there is significant influence of life-wide learning on empowering individuals to acquire knowledge and skills for the fourth industrial revolution. Thus, reject the null hypothesis.

6. Discussion of Findings

The study examined the role of lifelong and life-wide learning in strengthening universities' education in Nigeria. Surprisingly, the result on the first research question revealed the high preparedness of Nigeria universities education for the Fourth industrial revolution. The calculated mean of 26.71 is greater than the estimated mean of 25.00. This finding contradict Ogunsola (2017) who stated that the current system of education in Nigeria lay emphasis on theoretical mode of learning that does not belong to digital age. Ogunsola (2017) reiterated that, the Nigeria educational framework produces ill-fitted people for employment, hence the educational system should be consigned to the dustbin of history. The result was against the notion of Gabriel (2015) who arqued that the Nigeria educational system is in disarray with poor graduates turn out and exclaimed the extent Nigeria has stuck to the old way of doing things when industries and Government around the world are fast changing the way people learn, work, live and stay alive.

The second research question indicated that the Universities education curriculum is not relevant in meeting the needs and aspiration of individual student and the nation to global demand of 4IR. The estimated mean is higher than the calculated mean. This finding corroborated the findings of Beard, Schwieger and Surendran (2008) and Judson (2018) that higher education curriculum in developing countries focused on connecting theory and practice, they provide expertise and focus on hard-skill preparedness, while the areas for soft skill development, such as team work, initiative analytical thinking and communication for the 4IR are often left untested for new graduates entering the workplace

The finding of this study revealed that lifelong learning will balance education and life responsibilities. The finding agrees with Roger-Chao (2017) who arqued that both young people and adults, must have the means of pursuing lifelong learning and acquire the necessary skills and competence to survive and contribute meaningfully in a rapidly changing society.

The result on the second hypothesis indicated that life-wide learning will have significant influence on empowering individuals for the fourth industrial revolution. This result is in consonance with previous research findings of Reischmann (2004), Jackson (2011) and Soni (2012) who, in their separate studies, found that life-wide learning is for holistic development of an individual. Life-wide learning equipped its recipients with the knowledge, attitudes and practical skills needed for the digital world.

7. Conclusion

It is vital that Nigeria has an education system (university) that equips students with knowledge of 21st century skills needed to thrive in transforming world. The journey to digital age requires university education system to put a huge amount of effort into research and innovation and drive much innovation competition into Nigeria education system. This can be achieved if only individuals are lifelong and life-wide learners. The success of Nigeria university education in the fourth industrial revolution depends largely on ability of students and university workforce to keep on learning for the illiterates of 21st century are those who cannot learn, re-learn and unlearn. Hence, lifelong learning and life-wide learning are the keys that give access to the fourth industrial revolution.

8. Recommendations

The following recommendations were made based on the findings of the study:

(i) The National Universities Commission (NUC) should ensure that there is periodic review of curriculum which should incorporate the quantitative and qualitative features of the fourth industrial revolution and aspirations of the society from time to time because revolution prescribes the goals that education follow.

(ii) The arrival of any innovation makes the previous knowledge and skills to become obsolete, thus, there is need for universities management to focus on professional development of its workforce. The universities staff are required to continuously update their competencies in a process of lifelong learning so as to meet up with the changing world.

(iii) Since all things in the global economy speaks ICTs, it then becomes imperative to introduce compulsory general courses on ICTs for all students in various faculties and departments. This may mean additional cost to the universities because government needs to employ ICTs professionals to teach at various levels.

(iv) Students are encouraged to be lifelong and life-wide learners to develop the learning capabilities that are needed in ever changing economy. This can be achieved through experiential learning.

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