Impact of Digital Technology and the Need for Periodical Review of Educational Curriculum in Nigeria Tertiary Institutions

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Abstract - Effective curriculum is a key determining factor to the growth of the education system in any meaningful societies or nations. It is worthy of note that technology keeps evolving which prompts the need for concurrent review of the curriculum. Presently, there are still outdated topics that ought to have been phased out from the curriculum, it is alarming that some tertiary institutions are still using the old curriculum while those that have adopted the new curriculum have not fully implemented the full content due to the lack of adequate equipment or unavailability of trained personnel. This paper assessed the present state of the Nigerian curriculum, and for better output performance, there should be a recurrent review of the curriculum at most every three years to keep abreast of modern technology. Hence, it was recommended that there should be a recurrent review of the curriculum to meet the trend of economic needs of the nation, training and retraining of lecturers, establishing and equipping all laboratories with modern equipment. Most importantly, those from industries should be part of the team for the formulation of the curriculum to produce competent and qualified graduates.

Keywords: Curriculum review, Education sector, Nigeria education, tertiary institutions.
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INTRODUCTION

The emerging trends of digital technology have transformed the education sector globally, this prompts the need for concurrent review of Educational Curriculum in Tertiary Institutions in any meaningful societies or nations. The focus of the educational system globally is to develop a curriculum to meet the present and future challenges of globalisation and the knowledge economy (Craddock, 2017; Dike, 2014). However, the outbreak of COVID-19 has contributed immensely to the adoption of unplanned digital learning by many countries of the world (Adelakun et al., 2020). It is worthy of note that change is the only aphorism that is permanent in life. Consequently, the advancement in technology has made most difficult tasks seamlessly easy and more efficient (Harris et al., 2016; IOM, 2014).

EEF (2019) defines technology as the use of computer and technology-based smart devices to enhance learning within schools. However, digital technology has changed how people communicate, study, and work (Azih and Ejeka, 2015; SRS, 2015), which has transformed the education system from a passive and reactive state to an interactive and dynamic state (Raja and Nagasubramani, 2018). This prompts the need for digital competence for quality assurance and effective delivery (Akram et al., 2021). According to Olofsson et al., (2020), digital competence is divided into four key areas which are: understanding the impact of digitalisation on society, usage and understanding of digital tools and media,

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development of a critical and responsible approach, and to improves problem-solving techniques for easy translation of the ideas into action.

Despite recent evolution in the use of digital technology, it is alarming that some tertiary institutions in Nigeria are still using the old curriculum which is based on analogue techniques and outdated topics while those that have adopted the new curriculum have not fully implemented its full content due to lack of adequate equipment or unavailability of trained personnel (Unueshotse, 2017; Ukata et al., 2017; Abbas et al., 2018). However, Government interest in curriculum development can be dated back to 1882 when the Education Act for Board of Education was established to regulate the development of education at all levels in British West African Countries (Emeh et al., 2011). Consequently, the curriculum is regarded as the heart of any teaching or learning institution (Kranthi, 2017), and can be defined as education policy or set of sequence instructions designed for a specific group of learners to achieve the desired goal within a specific period of time, which straddles the societies from the literate, pre-literate to the illiterate (Alade, 2011; Dhlomo and Mawere, 2020).

Craddock (2017) stated that the number of recognised universities between 1980 and 2017 has grown from 16 to 152. As of April 2021, Nigeria has a total number of three hundred and forty-seven (347) degree-diploma awarding institutions, which comprises 195 universities consisting of (44 Federal universities, 52 State universities, and 99 Private universities). Similarly, with 147 Polytechnics consisting of (38 Federal polytechnics, 48 State Polytechnics, and 61 Private Polytechnics, and the numbers will keep increasing very year (Adelakun, 2021). This led to an increase in the number of graduates on yearly basis and contributed negatively to the rate of unemployment in Nigeria. Consequently, the educational curriculum should be reviewed periodically according to socio-economic conditions of the country to aline the students with; employment potentials, abilities to solve problems, improve their decision-making techniques, planning, communication, and presentation skills (Adelakun and Omolola, 2020; Dyjur and Kalu, 2018).

Fundamental Steps to Curriculum Development

The development of an effective curriculum involves a cyclical fundamental step that should be reviewed concurrently. This shows the relationships and interaction of the five key phases of the curriculum development process, each of the key steps are addressed as follows:

i. *Needs Identification:* The need identification phase is a vital step that lays the foundation for the curriculum development process by which meeting student needs leads to improvement of student learning, which is also known as the discovery phase. This phase identifies key issues/problems/needs and trends that will support the needs assessment. For effective and comprehensive curriculum development the appropriate needs of the target audience must be known and met.

ii. *Planning:* The planning phase is the stage where the reference of terms is defined. It is at this phase the members of the curriculum development team will be constituted to cut across different sectors such as Professional bodies, statutory bodies, academic planning, researcher, administrative officer among others.
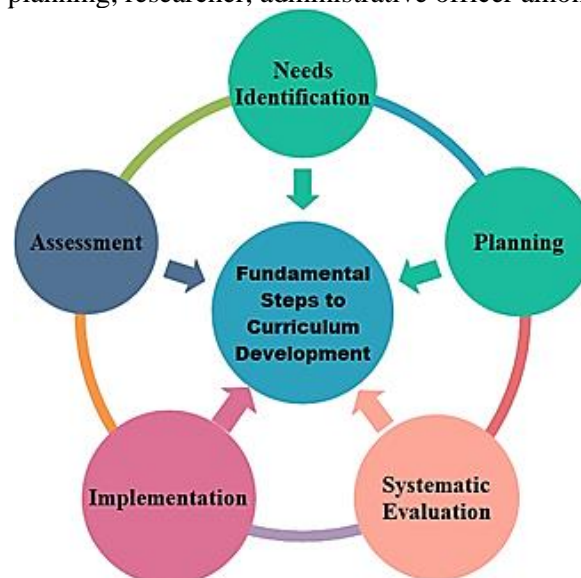

Figure 1: Fundamental Steps to Curriculum Development

i. *Systematic Evaluation:* This phase deals with the continuous quality assessment based on feedback from key stakeholders and verification of compliance with both internal and external standards and success criteria.
ii. *Implementation:* This phase can only achieve its goals when the curriculum committee continues to oversee the implementation, updating, and evaluation of the curriculum, by creating workshops/seminars and training for staff to be able to teach newly developed courses with adequate support for effective performance and quality assurance.
iii. *Assessment:* The curriculum development phase ends and then begins again with a careful assessment of the developed curriculum to ascertain or evaluate if it reflects culture, keeps abreast with digital technology, makes learning consistent, and the impact on socio-economic values to the society.

METHODOLOGY

An online survey was conducted among lecturers of tertiary institutions in Nigeria using descriptive statistic aimed at investigating the impact of digital technology on Nigeria's education curriculum as applicable to various field of studies, and a total of two hundred and twenty responses was gathered from the online survey.
The study aimed to answer the following research questions.
1. Is the curriculum of your department updated in the last five years?
2. Is there a need for a review of the present curriculum?
3. Was the new curriculum fully implemented?
4. Do the lecturers possess the required knowledge to utilize the new curriculum?
5. Was the new curriculum well-structured to meet up with the trend of digital technology?
Which was further classified into two research groups.

Table 1: Research Group A

Research Question	Less than 5 Years	Between 5 to 10 years	Above 10 years
When was the curriculum of your department reviewed last?	58	110	52

Table 2: Research Group B

Research Question	Yes	No
Is there a need for review to the present curriculum?	174	46
Was the new curriculum fully implemented?	130	90
Do the lecturers possess the require skills to utilise the new curriculum?	142	78
Was the new curriculum well-structured to meet up with the trend of digital technology?	188	32

RESULTS AND DISCUSSION

This paper has used an online survey distributed to different lecturers/academia platforms to investigate lecturers view about the present state of Nigeria curriculum as applicable to the different fields of studies in their respective tertiary institutions, and it was observed from the survey conducted that curriculum review durations varies from one department to the other. Table 1 shows that fifty-eight (58) out of the two hundred and twenty (220) respondents said that the curriculum of their departments was last updated less than five (5) years ago, a total of 110 respondents stated that their curriculum was last updated between 5 – 10 years, while 52 out of the 220 respondents stated that their curriculum was updated more than 10 years ago. It can be deduced from Table 1 that majority of the lecturers in tertiary institutions stated that the curriculum of their departments is not reviewed periodically as expected, this shows that some graduates taught will the old curriculum will not be equipped with the appropriate technology needed for the labour market.

Similarly, Table 2 shows that a larger number of lecturers clamoured for the review of the present curriculum, and appreciable numbers of lecturers complained that the available curriculum is not fully implemented, while from those that said the curriculum of their department is updated within the last 5 years agreed that the new curriculum was well structured.
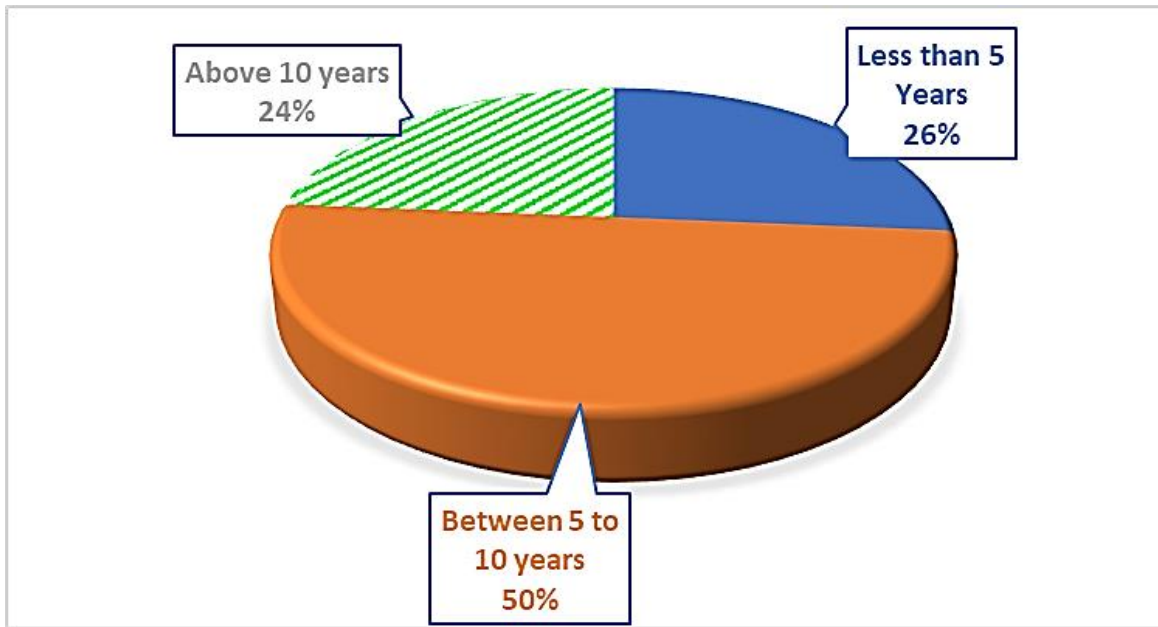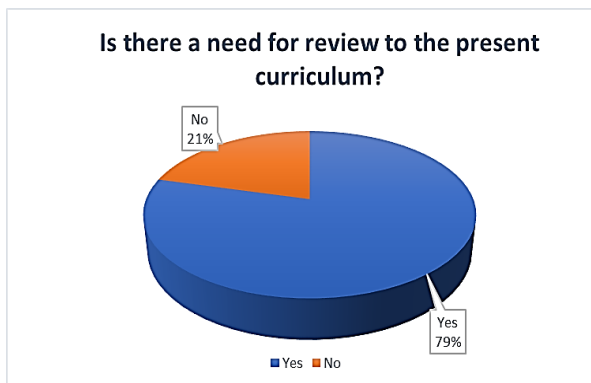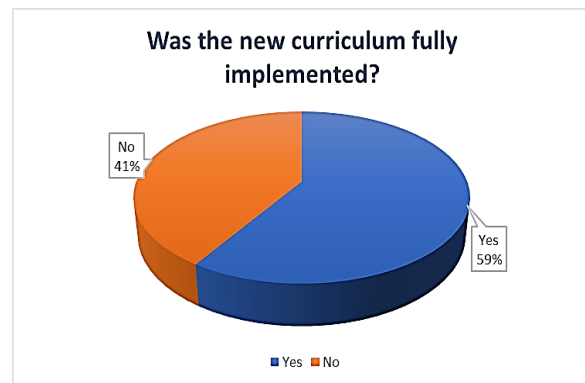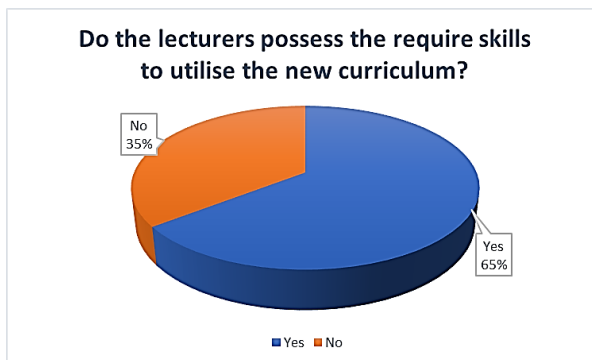

Figure 2: Percentage of Respondents View to Research Question A
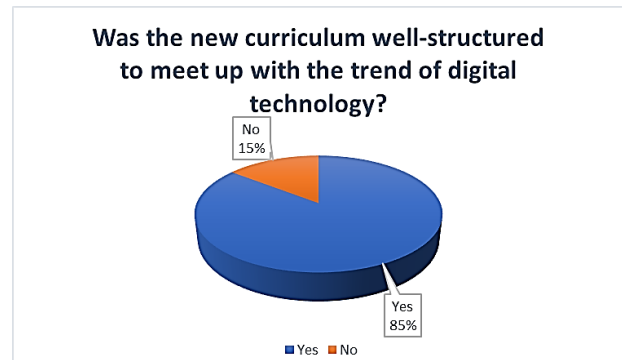

(3a)

(3b)

(3c)

(3d)

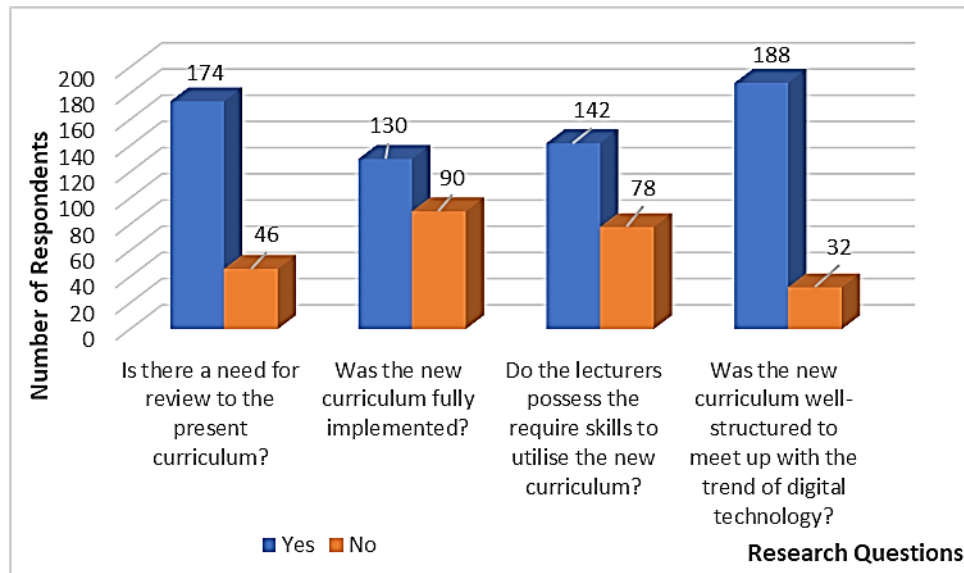Figure 3: Percentage of Respondents View to Research Question B

Figure 4: Chart Showing the Respondents View to Research Question B

However, Figure 2 displayed the percentage of respondents views to research question A, 50% of the respondents complained that the curriculum of their department was updated between 5 to 10 years, and 24% of the respondents complained that the curriculum of their departments was last updated more than a decade ago which is detrimental to the quality of output and service delivery, while only 26% of the respondents stated that the curriculum of their departments was updated less than 5 years ago, but it is worthy of note that the time frame between the old and new curriculum review is longer than expected. Similarly, figure 3 displayed the percentage of respondents' views to research question B, where 79% of respondents clamoured for the review of the present curriculum, and 41% of the respondents complained that the curriculum available is not fully implemented, this will affect a larger percentage of the students taught will outdated curriculum, also 65% of the respondents agreed that the lecturers possesses the required skills to implement the new curriculum and 35% of the respondents disagreed with it, and suggested training and re-training for the personnel for effective delivery, while 85% of the respondents with updated curriculum stated that the curriculum of their departments was well structured to meet up with digital technology and only 15% with updated curriculum complained that the curriculum did not match up with the latest trend in digital technology.

Figure 4 displayed the chart of respondents view with the exact numbers of respondents view to each research question as shown in Table 2, it was observed that 174 out of the 220 responses clamoured for the review of the present curriculum, 90 out of the 220 responses complained that the curriculum available is not fully implemented which can be from one or more of the following reasons such as sophisticated equipment/tools, lack of technical personnel to implement the contents of the curriculum, and 142 out of the 220 agreed that lecturers possesses the required skills to utilise the new curriculum, while a larger number of respondents of about 188 out of the 220 with updated curriculum stated that the new curriculum was well structured to meet up with the trend of digital technology.

CONCLUSION

It is evident that a periodical review of the educational curriculum in tertiary institutions in Nigeria is essential irrespective of field/department of study due to the evolving digital technology and also to keep abreast of the emerging technology. Consequently, digital technology is the heartthrob of development and progress, but can be hindered if the following factors are not well addressed: lack of technical personnel to implement the contents of the curriculum, training and retraining of lecturers, establishing and equipping all laboratories with modern equipment, which will equip the students with appropriate technical employability skills after graduation. Most importantly, there should be a synergy between Academia-Industrial personnel in the curriculum formulation for effective and robust curriculum development, and also there should be monitoring and sanction for anyone tertiary institutions deviating from the minimum standard of laboratories, equipment, and facilities and staffing.

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