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# ZARIA JOURNAL OF EDUCATIONAL STUDIES ZAJES



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## EDITORIAL

The latest issue of the *Zaria Journal of Educational Studies* delves into the critical juncture at which Nigeria's educational system finds itself, emphasizing the need for innovation and commitment to excellence across all levels of teaching and learning. This issue highlights the intricate link between technology and education, underscoring the urgent need to integrate Information and Communication Technology (ICT) into various educational disciplines. One featured article advocates for the use of ICT in teaching Agricultural Science, which is pivotal for equipping Nigerian youth with advanced agricultural knowledge crucial for economic diversification and food security.

However, the implementation of technology in education brings challenges, as illustrated by a study on the use of chatbots in Christian Religious Studies. This study highlights the dual nature of AI: while it offers access to vast information, it raises concerns about academic integrity and the authenticity of student learning. The journal stresses the importance of developing ethical frameworks to harness AI benefits while upholding educational principles.

Another focal area is the need for robust cybersecurity measures in educational institutions. As digital platforms become more integral to teaching and learning, safeguarding these systems from cyber threats is essential. This calls for a comprehensive approach to integrating technology that includes strong security protocols.

The issue also emphasizes the significance of retaining cultural and traditional educational values. An insightful study correlates character development in African traditional education with modern certification systems, advocating for the integration of indigenous knowledge into contemporary education. This approach aims to create a balanced educational environment that respects heritage while embracing technological advancements.

Further, the journal discusses the importance of curriculum development in fostering national unity, especially in a diverse country like Nigeria. A well-designed curriculum can promote understanding, tolerance, and cohesion among the various ethnic and religious groups, highlighting the role of education as a tool for societal development.

In addition to these themes, the journal explores the intellectualization of indigenous languages, such as Hausa, to ensure they remain viable for advanced learning and professional communication. Preserving and modernizing local languages are crucial for maintaining cultural heritage and promoting inclusive education.

Lastly, the adoption of social media platforms in academic libraries is highlighted as a future-forward approach to knowledge management and dissemination. Leveraging social media can enhance collaboration and knowledge sharing, keeping academic institutions relevant in the digital age.

Collectively, these studies call for concerted efforts from all stakeholders in Nigeria's educational system to engage with these ideas and translate research into actionable strategies. The quality of education today will shape the nation's future, necessitating a commitment to innovation, inclusion, and excellence.

Ilesanmi Ajibola, PhD  
**Editor-in-Chief**

## FOREWORD

It is with great pleasure that I present to you the latest edition of the Zaria Journal of Educational Studies, Volume 24, Number 2, 2024. This issue comes at a pivotal time in the landscape of education, not just in Nigeria, but globally. As we navigate the complexities of the 21st century, the role of education in shaping our future becomes ever more critical. The articles contained within these pages reflect the dynamic and evolving nature of educational research and practice, offering valuable insights into the challenges and opportunities that lie ahead.

The diversity of topics covered in this issue is a testament to the multifaceted nature of education in our contemporary world. From the integration of technology in teaching to the preservation of traditional values, from the impact of physical infrastructure on learning to the role of self-regulation in academic achievement, this volume presents a rich tapestry of research that speaks to the heart of educational development in Nigeria and beyond.

As we reflect on the contents of this issue, it becomes clear that education in Nigeria, as elsewhere, is at a crossroads. We are faced with the challenge of integrating new technologies and pedagogical approaches while preserving the best of our traditional educational values. The research presented in this volume offers valuable insights and practical recommendations for navigating this complex landscape.

I commend the authors for their rigorous research and thoughtful analyses. Their work contributes significantly to the ongoing dialogue about the future of education in Nigeria and beyond. I also extend my gratitude to the editorial team for their tireless efforts in bringing this issue to fruition.

To our readers – educators, policymakers, researchers, and students – I invite you to engage deeply with the ideas presented in these pages. Let this journal serve not only as a source of information but as a catalyst for further research, discussion, and action. The future of education is in our hands, and it is through collaborative efforts and the sharing of knowledge that we can shape it for the better.

As we move forward, let us remember that education is not just about imparting knowledge, but about fostering critical thinking, creativity, and character. It is about preparing our youth to face the challenges of an ever-changing world with confidence and competence. The research presented in this journal contributes to this noble goal, and I am confident that it will inspire further innovations in educational theory and practice.

Thank you for your continued support of the Zaria Journal of Educational Studies. May the insights gained from this issue contribute to the advancement of education in Nigeria and around the world.

**Dr Suleiman Balarabe**

Provost,  
FCE, Zaria

## **BRIEF INFORMATION ABOUT THE JOURNAL**

The Zaria Journal of Educational Studies (ZAJES) is the official academic journal published by the Federal College of Education in Zaria, Nigeria. The journal was established in 1988 when the College was still part of Ahmadu Bello University, Zaria. Since its inception, ZAJES has served as an important platform for scholars and practitioners in various fields of Education to publish their research findings, perspectives, and responses to prior work. Recognizing the journal's high standards, the Tertiary Education Trust Fund (TETFund) of Nigeria began to sponsor the production of its issues in 2010.

### **Mission**

The mission of ZAJES is to promote and disseminate high-quality research in Education. The journal seeks to publish papers that are theoretically sound, methodologically rigorous, and relevant to the needs of the education community. ZAJES also aims to provide a forum for exchanging ideas and perspectives on the most pressing issues in Education.

### **Scope**

ZAJES welcomes submissions on any topic related to Education. To help readers easily find relevant papers, articles are grouped into five broad subject areas:

- Arts and Social Science Education
- language and Literature Education
- Science and Mathematics Education
- Trends and Innovations in Education
- Vocational and Technical Education

### **Peer Review Process**

All papers submitted to ZAJES undergo an initial online similarity check (plagiarism test) and would only consider articles with 15% or less online similarity results and 5% same source similarity level. Accepted papers are further subjected to a rigorous peer review process. Each paper is reviewed by at least two experts in the field. The reviewers provide feedback on the paper's strengths and weaknesses and recommend revision. The editors of ZAJES then decide whether to accept or reject the paper.

### **Publication Process**

Accepted papers are published in two issues per year. The journal is indexed in several major bibliographic databases.

### **Disclaimer**

While the journal publishes a diversity of well-researched ideas and opinions, the contents do not necessarily reflect the publisher's or editorial board's views. The responsibility for the accuracy and originality of the papers lies entirely with the contributing authors. However, through its rigorous peer review and editorial processes, ZAJES strives to maintain high academic standards and serve as a valuable resource for the education community.

## **EDITORIAL POLICY**

The Editorial Board of Zaria Journal of Educational Studies (ZAJES) invites papers from interested stakeholders in education for publication in the journal. The paper may focus on analytical research, research reports, replicated research, research notes, descriptive research, book reviews, etc, from any of the following areas in Education:

- Adult and Non-formal Education
- Citizenship Education
- Computer Information and Communication Technology (ICT) Education
- Continuing/Distance Education
- Creative Arts Education
- Curriculum Planning and Development
- Educational Management/Administration, Planning and Supervision
- Health and Physical Education
- Language and Literature Education
- Measurement and Evaluation
- Library and Information Management
- Nomadic and Disadvantaged Peoples' Education
- Philosophy and Sociology of Education
- Family Life Education
- Pre-Primary, Primary, Secondary and Higher Education
- Psychology and Counselling
- Religious and Moral Education
- Science, Technology and Mathematics Education
- Social Science Education
- Special and Rehabilitative Education
- Vocational and Technical Education

### **Guidelines for Paper Preparation**

#### *Manuscripts:*

- must be written in English or any other acceptable language and should be scholarly, original and contribute to knowledge.
- must not have been published or under consideration for publication in any other journal. Once a paper is accepted for publication in ZAJES, the author(s) cede copyright to the journal's publisher.
- should clearly state on its front cover page the title of the paper, the author's name(s), their status/rank, and institutional affiliation. The next page should also begin with the paper's title (but no author's name), followed by an abstract of not more than 150 words.
- should be computer typed on one side of the paper, using a font size of 12 double-spaced for the main work and single line spacing for the abstract should not exceed 12 pages of A4 paper, including abstract, references appendices: and Tables, figures, and diagrams, where applicable, should be simple, camera-ready and kept to the barest minimum to facilitate printing.



## References

The current American Psychological Association (APA) citation style (7<sup>th</sup> edition) is the accepted style for the journal. It should be cited as follows:

### *In-Text Citation*

An in-text citation should be deployed when the author quotes a source or paraphrases another work in their own words. These could be in the article's narrative or as a parenthetical citation. See the examples below.

### *Narrative Citation*

The narrative citation should be used when an author's work or quote is cited alongside their name. For example, The impact of colonial missionary activities on Igbo socio-cultural activities is well captured by Achebe (2009), who observed that "The white man is very clever. He came quietly and peaceably with his religion. We were amused at his foolishness and allowed him to stay. Now, he has won over our brothers, and our clan can no longer act like one. He has put a knife on the things that held us together, and we have fallen apart" (p.81).

### *Parenthetical Citation*

This form of citation is used when someone else's work or idea is paraphrased as a summary or synthesis in one's own words.

For example, Achebe (2009) narrates the development of the negative effect of colonial influence on African culture in *Things Fall Apart* (p.81). Or,  
The radical factor for the disconnect between the *de iure* and *de facto* African family system is the unbridled assimilation of western culture by Africans (Achebe, 2009).

## Book

Achebe, C (2009). *Things Fall Apart*. Penguin Books.

## Chapter in an Edited Book

Swindler, L (2013). The History of Inter-Religious Dialogue. In C. Cornille (Ed.), *The Wiley-Blackwell Companion to Inter-Religious Dialogue*. Wiley-Blackwell: A John Wiley & Sons, Ltd., Publication.

## Journal

Maccido, M. I (1997). Recreational Activities in Federal College of Education, Zaria Academic Staff. *Zaria Journal of Educational Studies*. 2 (1), 166-172.

## Conference Proceedings

Ikenga, G. U (2015). Education in 100 Years of Nigeria's Existence: The Needs and Benefits of Public Private Partnerships in Education. *Proceedings of The IRES 3rd International Conference*, 74-78.

## Projects/Thesis/Dissertations

Ajibola, I (2018). *A Theological Analysis of Confessional-Centric Curriculum of Christian Religious Education: Towards an Inclusive Religious Pluralistic Centred Curriculum for Nigeria Colleges of Education*. Doctoral dissertation, Duquesne University, Pittsburgh, PA, USA.

<b>Type of Citation</b>	<b>Narrative Format</b>	<b>Parenthetical Format</b>
Single author	Achebe (2009)	(Achebe, 2009)
Two authors	Soyinka and Anyebe (2009)	(Soyinka & Achebe, 2009)
Three or more authors	Achebe et al. (2009)	(Achebe et al., 1999)

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## CONTENTS

1. APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN ENHANCING TEACHING OF AGRICULTURAL SCIENCE IN PUBLIC SENIOR SECONDARY SCHOOLS IN ZARIA, KADUNA STATE, NIGERIA <b>Onwunali, M. R. O., PhD; Muhammad, H. B., Omodara, A. A., PhD</b> .....	1
2. THE IMPACT OF CHATBOTS IN THE WRITINGS OF UNDERGRADUATE STUDENTS OF CHRISTIAN RELIGIOUS STUDIES AT FEDERAL COLLEGE OF EDUCATION ZARIA <b>Ajibola, Ilesanmi G., PhD</b> .....	12
3. CORRELATION BETWEEN CHARACTER DEVELOPMENT IN AFRICAN TRADITIONAL EDUCATION AND CHARACTER WORTHINESS IN THE AWARD OF NIGERIA CERTIFICATE IN EDUCATION <b>Matemilola, P. A., PhD; Pemida, R. O., PhD; Abah, O. V.</b> .....	22
4. PERCEPTIONS OF SCHOOL ADMINISTRATORS ON THE IMPACT OF RECREATIONAL FACILITIES ON SERVICE DELIVERY OF PHYSICAL EDUCATION TEACHERS IN SECONDARY SCHOOLS IN CALABAR EDUCATION ZONE, CROSS RIVERS STATE, NIGERIA <b>Nnaji, Emeka Samuel; Unamba Chioma Precious; Onabe, Deborah Bombum</b> .....	30
5. ENHANCING CHRISTIAN RELIGIOUS STUDIES CURRICULUM IN NIGERIA COLLEGES OF EDUCATION FOR NATIONAL UNITY <b>Ajibola Ilesanmi G., PhD; Hassan Musa</b> .....	40
6. INTELLECTUALIZATION OF THE HAUSA LANGUAGE: THE ROLE OF TERMINOLOGY DEVELOPMENT <b>Abdullahi Mohammed</b> .....	50
7. RELATIONSHIP BETWEEN LEARNER'S SELF-REGULATION AND STUDENT'S INTRINSIC MOTIVATION ON ACADEMIC ACHIEVEMENT OF SENIOR SECONDARY SCHOOL STUDENTS IN KADUNA SOUTH LOCAL GOVERNMENT <b>Fati Abdullahi</b> .....	62
8. ASSESSMENT OF CYBER SECURITY ON ISLAMIC EDUCATION IN EXPLORING THE FUTURE OF EDUCATION IN NIGERIA <b>Ainau Tankonmama</b> .....	70
9. TERTIARY EDUCATION TEACHERS' PROFESSIONAL DEVELOPMENT IN A DIGITAL AGE <b>Nuru, Ramatu Asabe PhD</b> .....	76
10. THE ROLE OF ICT AND LMS IN TEACHING CHRISTIAN RELIGIOUS STUDIES IN NIGERIAN TERTIARY INSTITUTIONS .....	86
<b>Hassan Musa, Anuoluwapo Favour Olowo</b> .....	86

APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN  
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SECONDARY SCHOOLS IN ZARIA, KADUNA STATE, NIGERIA

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### Abstract

The study determined challenges and strategies of teaching agricultural science for the purpose of improving teaching skills using information and communication technology (ICT) in public secondary schools in Zaria. A survey research design was adopted to distribute the questionnaire comprising three sections and 33 items. Of the 14 registered schools, a total population of 15 out of the 17 agricultural science teachers returned the validated questionnaire with a reliability coefficient of 0.89. A 4-point rating scale, Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) were assigned values 4, 3, 2, and 1, respectively and used to evaluate the perceived challenges and strategies of improvement. Data on socio-economic characteristics were subjected to descriptive statistics of percent while mathematical technique (confrontation index) was used to answer the research questions. Results indicated that married (73.33 %) male (73.33 %) teachers between the ages of 36–40 years (46.67 %) dominated, and the majority held B.Sc. (Ed) in agricultural education, with 6-10 years of teaching experience. A Confrontation Index (CI) of 24-59 and a mean range of 1.6 to 3.93 indicated that 90 % of the challenges were perceived by the teachers to retard the use of ICT in teaching the subject. Similarly, a CI of 44-60 and a mean of 2.93-4.00 indicated that the 17 identified strategies were imperative. Therefore, the study concluded that inadequate use of ICT due to numerous challenges, resulting to absolute application of traditional teaching methods. Therefore, there is a for training and retraining of teachers through in-service programmes, regular and sustainable salary and sufficient funding to motivate teachers and facilitate the supply of the required facilities.

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- Agricultural Science
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- Information and Communication Technology

### Introduction

Information and Communication Technology (ICT) has resulted in changes that have impacted various elements of our society. It offers innovative methods for delivering content, facilitating communication, and providing access to vast resources (Omotayo, 2015). The potential of ICT in education is widely recognized with ICT tools, such as computers, the internet, and mobile devices, among others. Such facilities enrich the educational landscape by enabling interactive

learning, fostering student collaboration, and providing real-time access to agricultural information and research (Kakar and Manjula, 2022). The education sector has reaped the most significant benefits from technological advancement amongst other sectors with first-hand technologies, challenging traditional teaching and learning methodologies and access to knowledge (UNESCO, 2015).

Agricultural education is a cornerstone of Nigeria's development, particularly in the northern region, where agriculture is the

primary source of livelihood for a significant portion of the population. The importance of agricultural education lies in enhancing food production security and equipping individuals with the necessary skills for sustainable farming practices and improved economic well-being. Globally, there is a high demand for food and other agricultural output due to the increase in world population. The call falls on agricultural educators to transform the production sector by producing competent, literate farmers who can transform the agricultural production sector. This can only be attained if the teachers can access relevant agricultural information, retrieve, communicate, and expose their students to these innovative ideas capable of transforming agricultural education (Salubi, 2019). Effective agricultural education can lead to increased productivity, better resource management, and the promotion of innovative agricultural techniques (Adebayo and Adesope, 2007). In this context, integrating Information and Communication Technology (ICT) into agricultural science and education has emerged as a transformative approach that can enhance teaching and learning experiences.

Information and communication technology facilitates teaching and learning through multimedia, simulations, and interactive content, making agricultural science lessons more engaging, diverse, and motivating for teachers and students (Salubi, 2019). It enhances research and development by using computers, the internet, journals, and databases for their work (Showole and Bisallah, 2014). ICT application in teaching and learning also facilitates feedback between the teacher and the student (Bakare and Olaniyi, 2017). ICT creates higher thinking skills and positions students in a better condition to deal with ongoing technological change in society and

the workplace (Goodwin, 2012; Elo *et al.*, 2020). ICT also increases effectiveness, broadens knowledge, and ensures retention of skills, according to Elo *et al.* (2020), among others

The northern region of Nigeria faces unique socio-economic and infrastructural challenges that impede the effective use of ICT in education. Many rural areas lack the necessary infrastructure, such as reliable electricity and internet connectivity, to utilize ICT tools (Yusuf and Balogun, 2011; James, 2013; Patel and Shukla, 2014; Fabregas *et al.*, 2019). Furthermore, the low levels of ICT literacy among educators and students present another significant barrier to effective integration. Many teachers in Northern Nigeria have not received adequate training in using ICT for educational purposes, resulting in a lack of confidence and competence in utilizing these tools in their teaching practices (Omotayo, 2015). This situation is further compounded by cultural attitudes towards technology, where traditional teaching methods may be preferred over modern approaches that incorporate ICT (Oye *et al.*, 2011). Reports have also shown that inadequate ICT facilities and infrastructure (Rahman, 2016), lack of training and skills (Hennessy *et al.*, 2010; Onu and Ezhim, 2019), high costs of purchasing and maintaining ICT equipment (Aduwa-Ogiegbaen and Iyamu, 2005; Fabregas *et al.*, 2019) are challenges. Other impediments include language barriers, poor connectivity and limited internet options in rural areas, lack of technical support and maintenance (Salubi, 2019; Jannet *et al.*, 2014), resistance to change, and negative attitudes Jannet and Melody, 2014) and inadequate funding and investment (Adeoye *et al.*, 2013). Consequently, ICT's potential to enhance agricultural education remains largely untapped, leading to missed

opportunities for improving educational quality and relevance.

In light of these challenges, it is crucial to investigate the specific barriers to ICT integration in agricultural education in Northern Nigeria. Understanding these challenges will provide insights into the current ICT use in educational settings and inform the development of targeted interventions and policy recommendations. The need for such research is underscored by the increasing emphasis on technology-driven solutions in education, particularly in the wake of the COVID-19 pandemic and other natural disasters such as flooding and hurricanes, which has highlighted the importance of digital literacy and access to technology in ensuring continuity of learning. Therefore, considering the dominant traditional method of teaching (Oye *et al.*, 2011), the need for enhanced ICT and numerous challenges of lack of infrastructures, electricity and culture, among others, the study sought to establish challenges and possibly develop strategies that enhance the use of ICT in teaching agricultural science in Zaria Local Government Area.

### Statement of Problem

Despite the potential benefits of ICT in enhancing educational outcomes, integrating ICT in the teaching and learning of Agricultural Education in secondary schools in northern Nigeria remains a significant challenge, with several barriers impeding its adoption and utilization. Understanding the socio-economic characteristics of the teachers is essential to address these issues, as their background influences their ability to adapt and utilize ICT tools (Jegade, 2009). In Zaria, speculations are bound on the impact of language barriers, poor connectivity and, limited internet, lack of technical support and maintenance, particularly in rural areas. Furthermore, identifying the specific challenges faced in ICT integration and

developing strategies to overcome these barriers are critical for improving the quality of Agricultural Education in northern Nigeria, particularly in secondary schools, which for now is still a mirage. Though not common in the north, the advantage of digital learning and continuing education during pandemic and natural disasters *Ceteris paribus* demands that strategies are needed to facilitate teaching and learning. Against this background, there is a need to establish the challenges facing the use of ICT by Agricultural Science teachers.

### Objectives of the Study

Specifically, the study sought to;

- i. Determine the socio-economic characteristics of Agricultural Science teachers in Zaria Local Government Area.
- ii. Identify challenges faced by Agricultural Science teachers in Zaria Local Government Area regarding the use of ICT.
- iii. Assess strategies for improved use of ICT by Agricultural Science teachers in Zaria Local Government Area.

### Research Questions

The following questions guided the study.

- i. What are the socio-economic characteristics of Agricultural Science teachers in Zaria Local Government Area?
- ii. What ICT challenges do Agricultural Science teachers face when using ICT in Zaria Local Government Area?
- iii. What are strategies for improved use of ICT by Agricultural Science teachers in Zaria Local Government Area?

### Methodology

#### Area of Study

The research was conducted in Zaria Local Government Area (LGA), which lies between latitude 11.07<sup>0</sup> and 12<sup>0</sup> North and

longitude 07.44° and 80 East (Nwanosike, 2013) and has a total land area of 300 square kilometres (Ubandoma *et al.*, 2021). Zaria LGA hosts Ahmadu Bello University Annex campus, Federal College of Education, Polytechnic, and several public and private primary and secondary schools. Records from the Quality Assurance Office of the Kaduna State Ministry of Education, Zaria Zone, indicated 14 registered public senior secondary schools in the Local Government Area.

### Experimental Procedure

The survey research design was employed for the study. The study population comprised 17 agricultural science teachers in 14 registered public senior schools based on records from the Kaduna State Ministry of Education, Zaria Zonal Education Office. Of the 14 schools, 11 were purposefully visited, while the remaining had no agricultural teachers at the time of the investigation. The instrument questionnaire comprised three sections, namely the demographic information of the teachers, challenges faced in the use of ICT, and strategies for improvement in the use of ICT, and was distributed to 17 teachers; however, 15 were retrieved.

The instrument was validated by three experts from the Federal College of Education Zaria, with a reliability coefficient of 0.89 using Cronbach Alpha. A 4-point rating scale was used to evaluate the perceived challenges and strategies of improvement as Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD), and values 4, 3, 2, and 1 were assigned, respectively.

### Data Analysis

Data on socio-economic characteristics were analyzed using descriptive statistics. At

the same time, the challenges and strategies of ICT were subjected to a mathematical technique called Challenge Confrontation Index (CCI) and Strategy Confrontation Index (SCI) following Onwunali *et al.* (2023):

$$CCI = [C_{SAx5}] + [C_{Ax4}] + [C_{Ux3}] + [C_{Dx2}] + [C_{SDx1}]$$

$$SCI = [S_{SAx5}] + [S_{Ax4}] + [S_{Ux3}] + [S_{Dx2}] + [S_{SDx1}]$$

Where CCI = Challenge Confrontation Index  
SCI = Strategy Confrontation Index

SD = Strongly Disagree

D = Disagree

A = Agree

SA = Strongly Agree

The expected range of the Confrontation Index was 1 to 60 for the teachers, while the acceptance range for the research questions was adopted from Entiabang and Etop (2018) and amended as follows,

1 = 1.0 - 1.49 Strongly Disagree

2 = 1.5 - 2.49 Disagree

3 = 2.5 - 3.49 Agreed

4 = 3.5 - 4.0 Strongly Agree

The mean benchmark of  $\geq 2.5$  determined the decision for the significance of challenges and strategies, while below  $< 2.4$  is not acceptable.

### Results

Results in Table 1 revealed that the majority of the teachers were male (73.33 %) between the ages of 36–40 years (46.67 %) and were married (73.33 %). The majority studied agricultural education (53.33 %) and, as such, were qualified teachers, as 55.33 % held a B.Sc. (Ed) with 6-10 years of teaching experience. It is evident from the results that most of the teachers are young and have the requisite qualifications to teach Agricultural Science in secondary schools, but not ICT based on government policy.

**Table 1:** *Socio-economic Characteristics of Agricultural Science Teachers in Zaria Senior Secondary Schools, 2024*

Variable	Frequency	Percentage (%)
<b>Sex</b>		
Male	11	73.33
Female	4	26.67
<b>Age (in years)</b>		
26 – 30	1	6.67
31 – 35	4	26.67
36 – 40	7	46.67
41 – 45	2	13.33
46 – 50	1	6.67
<b>Marital Status</b>		
Single	3	20.00
Married	11	73.33
Widowed	1	6.67
<b>Qualification</b>		
NCE	1	6.67
B.Sc.	2	13.33
B.Sc. Ed.	8	53.33
M.Sc. Ed.	1	6.67
Others	2	13.33
<b>Years of Teaching Experience</b>		
1 – 5	3	20.00
6 – 10	7	46.67
11 – 15	3	20.00
21 – 25	1	6.67
26 – 30	1	6.67
<b>Area of Specialization</b>		
Agricultural Education	8	53.33
Biology Education	3	20.00
Integrated Science Education	3	20.00
Forestry	1	6.67
<b>Total</b>	<b>15</b>	<b>100</b>

Results (Table 2) showed a Confrontation Index of 24-59 with a corresponding mean range of 1.6 to 3.93 in a confrontation index of 1-60, indicating that 90 % of the challenges were perceived to retard the use of ICT in

teaching agricultural science. Results also revealed that, of the 10 identified challenges, 9 with a mean range of 2.56-3.93 in an average mean of 3.13 were perceived by teachers as pressing challenges in the use of ICT in



teaching agricultural science, except for incompetence in internet browsing (1.60), which is expected because most teachers use mobile phone for internet activities. A Standard Deviation of 0.25 to 1.12 was also indicated as widespread from the mean (3.13), which implied that the challenges were pressing on the teachers. The most significant

challenges include inadequate ICT skilled teachers, gadgets, and power supply. Other challenges are a lack of laboratory, teachers' incompetent skills, poor knowledge of PowerPoint usage, excel for calculation, word processing in typing and printing, and poor internet facilities, networks and services.

**Table 2:** *Challenges of using information and communication technology in teaching agricultural science in Zaria Senior Secondary Schools*

S/No	Items	CCI	$\bar{x}$	SD	Decision
1	Inadequate number of ICT-skilled teachers	59	3.93±0.06	0.25	Agreed
2	Inadequate computers, printers, scanners, photocopiers	58	3.87±0.09	0.34	Agreed
3	Inadequate power supply	53	3.53±0.19	0.72	Agreed
4	Lack of ICT laboratory	53	3.35±0.19	0.72	Agreed
5	Teachers incompetent skills in ICT application	52	3.47±0.13	0.50	Agreed
6	Inadequate experience of teachers in PowerPoint usage	45	3.00±0.16	0.63	Agreed
7	Low experience of teachers in the use of Excel for calculation	44	2.93±0.29	1.12	Agreed
8	Incompetence in word processing (typing & printing)	41	2.73±0.26	0.99	Agreed
9	Poor internet facilities, network and service	38	2.53±0.23	0.88	Agreed
10	Incompetence of teachers' internet browsing	24	1.60±0.22	0.84	Disagreed

**3.13**

± = *Standard error of the difference of means*, SD = *standard deviation*,  $\bar{x}$  = *Mean*, CCI = *challenge confrontation index*

Results (Table 3) revealed a confrontation index of 44-60, corresponding to a mean of 2.93-4.00 in a CI of 1-60 and a mean of 4.00, indicating that the 17 identified strategies were paramount to improving teaching and learning of agricultural science using ICT. The relationship between the standard deviation of 0.0 to 1.12 with a general mean of 3.70 indicated a wide spread that

confirmed teachers' perceived strategies to the challenges. However, results expressly indicated that regular and sustainable salaries and sufficient funding are necessary for using ICT, as it will motivate teachers and facilitate the supply of the required facilities, followed by sufficient administrative funding and adequately equipped and spacious classrooms.

**Table 3:** *Strategies for improving the use of information and communication technology in teaching agricultural science in Zaria, 2024*

S/N	Items	SCI	$\bar{x}$	SD	Decision
1	Sustainable salary structure and regular payment	60	4.00±0.0	0.0	Agreed
2	Sufficient administrative funds for agriculture	59	3.93±0.06	0.25	Agreed
3	Availability of well-equipped and spacious classroom	59	3.93±0.06	0.25	Agreed
4	Required teacher-student class ratio	59	3.93±0.06	0.25	Agreed
5	Regular school inspection by the Ministry of Education	58	3.87±0.09	0.34	Agreed
6	Adequate farm tools and machines to ease students' work	58	3.87±0.09	0.34	Agreed
7	Financial motivation of teachers	58	3.87±0.09	0.34	Agreed
8	Regular supply of electricity	58	3.87±0.09	0.34	Agreed
9	Recruitment of enough and qualified Agric. Science teachers	57	3.80±0.10	0.40	Agreed
10	Regular Agricultural workshops and conferences for teachers	57	3.80±0.10	0.40	Agreed
11	Functional and convenient Agric. Science farm for practical	56	3.73±0.15	0.57	Agreed
12	ICT training on Agric. Science packages and program	56	3.73±0.15	0.57	Agreed
13	Availability of ICT facilities in the secondary schools	55	3.67±0.19	0.73	Agreed
14	Provision of well-equipped Agric. Science laboratory	53	3.53±0.15	0.59	Agreed
15	Training and retraining of teachers to enhance knowledge	52	3.47±0.23	0.88	Agreed
16	Effective career guidance and counsellor for students	45	3.00±0.23	0.89	Agreed
17	Regular agricultural exhibitions, farm shows, quizzes, competitions, and seminars for students	44	2.93±0.29	1.12	Agreed

**3.70**

± = *Standard error of the difference of means*, SD = *standard deviation*,  $\bar{x}$  = *Mean*, SCI = *Strategy confrontation index*

**Discussion**

Findings showed the domination of youths and degree holders in agricultural education. They can be attributed to the retrenchment of teachers by the former governor El-Rufai-led government, which emphasized recruiting young graduates with degrees in their respective disciplines through the Teachers Service Board (TSB). Similarly, Ikeoji (2018) reported that animal husbandry teachers in the Niger Delta are mostly male that studied

B.Sc.(Ed) agricultural education with 6-10 years teaching experience.

The challenges reflected in the results were incompetence in word processing and poor internet facilities, network, and service, though they were significantly ranked relatively low. This may be probably based on speculations that teachers believe they could easily use their mobile phones to type and access the internet for basic Google searches and communicate with their family and friends on social media. Hence, do not care for

computers, and schools don't have functional ICT laboratories to facilitate training. Reports have shown that inadequate training, lack of technical support, funding, and maintenance militate against the use of ICT in teaching agricultural science (Hennessy *et al.*, 2010; Adeoye *et al.*, 2013; Jannet *et al.*, 2014; Salubi, 2019). This may be attributed to the government's inadequate attitude towards funding education and teachers' unwillingness to accept technological innovation, probably due to high costs and irregular power.

Earlier reports have supported that regular and sustainable salaries and sufficient funding are necessary for using ICT to motivate teachers (Adeoye *et al.*, 2013). It was also observed that training and retraining of teachers was imperative as most teachers are incompetent and tend to shy away from digital applications (Onu and Ezhim, 2019). Such exercise updates teacher knowledge and provides a secure place to preserve equipment and facilities. The provision of laboratory and ICT facilities *inter alia* is paramount in using ICT in teaching and learning agricultural science in senior secondary school. It will facilitate learning and maintain educational continuity under any circumstances. Teachers also agreed that a regular supply of power and recruitment of qualified ICT teachers would facilitate the use of ICT. Rahma (2016) reported a suitable budget for purchasing ICT facilities should be secured. He also emphasized integrating ICTs into the faculty's strategy and policy planning and a capacity-building program designed to train the staff members on the effective use of ICTs in the classrooms. Ivande *et al.*, 2018 among other functions, reported that applying ICT techniques improved the teaching and learning of agricultural science, fostered rural

connectivity and provided rural communities with online services for job placement.

### Conclusion

The use of ICT in public secondary schools in Zaria Educational Zone of Kaduna State is faced with impeding challenges such as inadequate and unskilled teachers, insufficient facilities, inconsistent power supply, and lack of laboratory *inter alia*. However, motivation through sustainable salaries of teachers, training and retraining of teachers through in-service programmes and engagement of skilled teachers *are sine qua non*. Other strategies like adequate government funding and the establishment of well-equipped ICT laboratories to facilitate accessibility to students will improve teaching and learning and students' academic performance, particularly now that the Computer Based Test (CBT) is used in several examinations in Nigeria.

### Recommendations

Based on the study, the following were advanced to improve the teaching and learning of agricultural science in Zaria senior secondary schools;

1. Through the Teachers Service Board (TSB), the Kaduna State government should ensure gender equity by engaging more female agricultural teachers.
2. Kaduna State government, through the Ministry of Education, Non-governmental Organizations (NGOs) and other agencies like Adolescent Girls Initiative for Learning and Empowerment (AGILE) should improve funding of schools, particularly for ICT to foster training and retraining of teachers, purchasing and maintenance of facilities and equipment, supply electricity and provide internet services.

3. Recruitment of ICT-trained and qualified teachers is necessary, as such teachers could assist in the in-service training of the present ICT incompetent teachers, making it easier and cheaper, and at the same time, boost the use of ICT in teaching agricultural science in public schools in Zaria.
4. Poor remuneration of teachers constituted a serious challenge to the use and application of ICT; therefore, enhancement and regular salary payment by state and local government authorities is paramount to teaching and learning agricultural science in Zaria public secondary schools.
5. There is also a serious need for a proper feedback mechanism by government agents through the supervision of public schools to ascertain the management and maintenance of the few centres available in some schools for sustainable teaching and learning activities.

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THE IMPACT OF CHATBOTS IN THE WRITINGS OF UNDERGRADUATE  
STUDENTS OF CHRISTIAN RELIGIOUS STUDIES AT FEDERAL COLLEGE OF  
EDUCATION ZARIA

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**Abstract**

*This study investigates the impact of chatbots on the writing quality and comprehension of Christian Religious Studies (CRS) among undergraduate students at the Federal College of Education, Zaria, Nigeria. As artificial intelligence increasingly permeates higher education, understanding its effects on specialized fields like religious studies is crucial. Through a survey of 30 undergraduate CRS students, the research explored the frequency of chatbot use, perceived impacts on writing quality and concept understanding, and attitudes toward integrating this technology into the curriculum. Results indicate widespread adoption of chatbots among students, with a majority reporting improved understanding of CRS concepts and writing quality. However, concerns emerged regarding potential adverse effects on critical thinking skills. Statistical analysis using a paired t-test revealed a significant impact of chatbots on assignment quality and subject comprehension. The study contributes valuable insights into the complex interplay between AI-assisted learning tools and religious education, highlighting both opportunities and challenges for curriculum development and pedagogical approaches in CRS.*

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**Introduction**

Technology integration has become increasingly prevalent in the rapidly evolving landscape of higher education, transforming traditional teaching and learning methodologies. One such technological advancement is using Chatbots—powered by Artificial Intelligence (AI) and Natural Language Processing (NLP)—to improve writing quality. This study explores the impact of Chatbots on the writing quality and comprehension of Christian Religious Studies (CRS) among the undergraduate students of Federal College of Education, Zaria (FCEZ), a premier teacher training college in Kaduna State, Northwest Nigeria.

Christian Religious Studies occupies a significant place in Nigeria's educational system, reflecting the country's rich religious heritage (Nicholas Idoko Technologies, 2024). As one of the oldest subjects in Nigerian schools, CRS aims to inculcate specific values and knowledge in learners (Kesmen & Mellemut, 2022). However, digital tools, particularly the internet and artificial intelligence, have reshaped how students engage with this traditional subject (Onuoha et al., 2018).

According to Akullah & Dantani (2023), recent research has explored using artificial intelligence in teaching and learning CRS in Nigerian tertiary institutions. Building on

Akullah & Dantani (2023) foundation, this study examines explicitly how Chatbots, a form of AI-powered writing assistance, influence the academic writing practices of CRS undergraduate students at the Federal College of Education, Zaria.

The study is envisioned to bridge the gap between traditional religious education and modern technological advancements. By investigating the effects of Chatbots on undergraduate students' writing skills, comprehension, and overall academic performance in CRS, the work aims to provide valuable insights for educators, policymakers, and students alike. The findings will contribute to the ongoing dialogue about the role of technology in religious education and help shape future pedagogical strategies in the field of Christian Religious Study.

### **Problem Statement**

The rapid integration of technology in education, particularly the emergence of Chatbots powered by artificial intelligence, has significantly altered the landscape of academic writing. While these tools offer potential benefits in improving writing quality and efficiency, their impact on the learning process and academic integrity in specialized fields such as Christian Religious Studies (CRS) remains largely unexplored. At the Federal College of Education Zaria, where CRS is a significant part of the curriculum, there is a pressing need to understand how Chatbots influence students' writing skills, comprehension of religious concepts, and overall academic performance.

The problem is further compounded by the unique nature of CRS, which requires factual knowledge, critical thinking, interpretation, and the ability to articulate complex religious ideas. The use of Chatbots in this context raises questions about the authenticity of student work,

the development of essential writing and analytical skills, and the potential over-reliance on technology in a field that traditionally emphasizes personal reflection and interpretation. Additionally, there is a lack of clear guidelines and policies regarding using such tools in academic settings, particularly in religious studies.

This research further addresses these concerns by investigating the positive and negative impacts of Chatbots on CRS students' writing, thereby providing valuable insights for educators, administrators, and policymakers in navigating this technological shift in religious education.

### **Research Question**

The primary research question guiding this study is:

How do Chatbots affect the quality of written assignments and the understanding of Christian religious studies among undergraduate students at the Federal College of Education, Zaria?

### **Study Objective**

The objectives of this study are:

- To assess the impact of Chatbots on undergraduate students' understanding and comprehension of CRS in FCEZ.

### **A review of related literature**

The integration of technology in education, particularly through the use of Chatbots, has been a subject of increasing scholarly interest. According to Oracle Cloud (2024), a "chatbot is a computer program that simulates and processes human conversation (either written or spoken), allowing humans to interact with digital devices as if they were communicating with a real person."

Chatbots come in diverse levels of complexity, ranging from basic programs that provide straightforward responses to



inquiries to advanced digital assistants constantly learning and improving their abilities. The more advanced chatbots can offer personalized experiences by collecting and analyzing information.

Previous research indicates that Chatbots can improve students' writing proficiency by offering instant feedback and suggestions for improvement (Smith, 2018). Moreover, studies have shown that such tools may enhance engagement by allowing for a more interactive learning experience (Jones & Smith, 2019). However, a contrasting perspective warns against over-reliance on technology, suggesting that it may lead to a decline in foundational writing skills and critical thinking (Mahfuzah et al., 2024). Thus, there is a need to contextualize the findings regarding Chatbots within the broader discourse on educational technology and its implications for higher education, particularly in specialized fields such as Christian Religious Studies. A related literature review will provide a comprehensive understanding of how Chatbots function within academic frameworks and their specific impact on writing characteristics pertinent to religious texts.

A study conducted at the Federal College of Education in Zaria, Nigeria, investigated the impact of internet usage on CRS students (Onuoha et al., 2018). The research highlighted the growing integration of technology in religious education and its potential effects on student engagement and learning outcomes. Similarly, the use of AI in education has also gained attention, with Akullah & Dantani (2023) assessing undergraduate students' perceptions of AI usage in teaching and learning Christian Religious Education in tertiary institutions in

Abuja, Nigeria. The study indicates a growing interest in understanding how AI tools, including Chatbots, can be incorporated into religious studies curricula. While the study examined students' perceptions of AI usage in teaching and learning, it did not exclusively focus on the impact of the writing and critical thinking of the students.

Furthermore, a study by Labadze et al. (2023) revealed that students increasingly use AI to assist with academic writing tasks. This trend is likely to impact the writing practices of CRS students as well, potentially influencing their academic performance and understanding of religious concepts. On the same note, Kesmen & Mellemut (2022) examined the effects of Christian Religious Studies literacy on academic achievement, highlighting the importance of subject-specific literacy skills in student performance. Thus, one may safely conclude that the integration of Chatbots in CRS education may affect how students develop these literacy skills.

Significantly, while the various studies examined above provide valuable insights into the broader context of technology used in religious education and in some cases, Christian Religious Studies, there is a need for more focused research on the specific impact of Chatbots on the undergraduate CRS students' writing skills and academic performance. A similar study may address how Chatbots influence students' ability to articulate religious concepts, analyze texts, and engage in critical thinking within Christian Religious Studies or an exploration of the potential ethical implications of using Chatbots in academic writing for religious studies. In the latter case, questions about academic integrity, the development of original

thought, and the role of technology in religious education would need to be addressed.

Conclusively, while the potential benefits of Chatbots in enhancing writing skills and subject understanding for CRS students are evident, their impact on the writings of undergraduate students of Christian Religious Studies in the Federal College of Education, Zaria, is necessary. Such a study that balances Chatbots technologies' advantages while preserving the core objectives and values of Christian Religious Studies education is crucial in guiding effective implementation strategies and policies.

### Methodology

This study utilized a survey method with an electronic questionnaire based on the previous model studies by Eke (2023); Malmström et al. (2023); Mena-Lucía & Curcher, (2024); Ngo, (2023). The study aimed to explore the perspectives of undergraduate CRS students at FCE, Zaria, on the impact of Chatbots in the writings of undergraduate students of Christian Religious Studies in the Federal College of Education Zaria.

Thirty undergraduate students participated in the survey, with 17 at 300 and 13 at 400 levels. A set of 10 closed-ended online questionnaire questions was developed and administered through the Google Form survey platform. The survey link was shared with students via their WhatsApp group. Students were encouraged to respond voluntarily and without coercion. Data obtained were analyzed using an interpretive approach, incorporating simple descriptive statistics and an inferential statistic (t-test) to determine the significant difference between the groups sampled and how they are related. Students' responses to each question were assigned percentage values, and themes were

developed to interpret the results and generate corresponding findings.

### Research significance and limitations

The findings of this study highlight how Chatbots and technology have hitherto been incorporated into the teaching and learning processes in religious studies. The potential significance of the study consists of the following:

- providing information to teachers, curriculum designers, and educational technology suppliers about the effectiveness of Chatbots in enhancing writing and topic comprehension.
- helping to create specialized and useful writing assistance resources for use in learning environments
- highlighting the difficulties and possibilities for additional study and the use of NLP and Chatbots in interdisciplinary education.

It is, however, important to note that the outlined findings may not be as broadly applicable given that the study's focus is restricted to Federal College of Education, Zaria undergraduate students studying Christian religious studies. Hence, it is understood that response bias and social desirability bias may be introduced when qualitative data is derived only from the self-reports of students and instructors. Other limitations consist of the following:

- Time restrictions made it more difficult to gather comprehensive data and track the long-term impacts of chatbot usage among and beyond the restricted population of the study.
- The study does not evaluate pupils' access to technology or their level of technical expertise with Chatbot.

**Result**

**Table 1.** Use and effect of Chatbots among the undergraduate CRS Students.

S/N	Question	5	4	3	2	1
1	On a scale of 1-5, how frequently do you use Chatbots for your Christian Religious Studies assignments?	10 (33.33%)	8 (26.66%)	4 (13.33%)	6 (20.00%)	2 (6.66%)
2	Has your understanding of Christian Religious Studies concepts improved since using Chatbots?	17 (56.66%)	6 (20.00%)	3 (10.00%)	2 (6.66%)	2 (6.66%)
3	Has the use of Chatbots affected your critical thinking skills concerning Christian Religious Studies?	9 (30.00%)	6 (20.00%)	7 (23.33%)	5 (16.66%)	3 (10.00%)
4	Should Chatbots be officially integrated into the Christian Religious Studies curriculum?	21 (70.00%)	5 (16.66%)	2 (6.66%)	1 (3.33%)	1 (3.33%)
5	Has your reliance on Chatbots changed your approach to studying and researching Christian Religious Studies topics?	18 (60.00%)	7 (23.33%)	2 (6.66%)	2 (6.66%)	1 (3.33%)
6	Chatbots serve as a complement or a replacement for traditional learning methods in Christian Religious Studies?	5 (16.66%)	8 (26.66%)	7 (23.33%)	3 (10.00%)	7 (23.33%)
7	Chatbots significantly impact the quality of written assignments in Christian Religious Studies.	10 (33.33%)	8 (26.66%)	4 (13.33%)	6 (20.00%)	2 (6.66%)
8	Do you believe Chatbots improve your understanding of Christian Religious Studies concepts?:	17 (56.66%)	6 (20.00%)	3 (10.00%)	2 (6.66%)	2 (6.66%)
9	Using Chatbots in academic writing always leads to better grades in Christian Religious Studies.	9 (30.00%)	6 (20.00%)	7 (23.33%)	5 (16.66%)	3 (10.00%)
10	The use of Chatbots in academic writing may potentially diminish critical thinking skills.	21 (70.00%)	5 (16.66%)	2 (6.66%)	1 (3.33%)	1 (3.33%)

Source: survey, 2024

**Discussion**

Generally, the survey's results demonstrate that every undergraduate student of the CRS department in the College uses Chatbots, albeit at varied levels. The results show that Chatbots have significantly impacted undergraduate CRS students' academic performance and learning experiences. In the responses to the question on the frequency of Chatbots usage for Christian Religious Studies assignments, the

majority of students surveyed (33.33%) reported using chatbots frequently (rating of 5 out of 5) for their CRS assignments. In comparison, 26.66% simply used them often (rating of 4). This suggests that chatbots have become a common tool that students use in their studies of CRS. The response confirmed a common trend in many empirical research, as in the works of Han et al. (2023), and Pantelić et al., (2023) on students' usage of Chatbots in their academic engagements.

On question two, concerning the extent to which the students' understanding of Christian Religious Studies concepts has improved since their using chatbots, over half of the students (56.66%) strongly agreed that using chatbots has improved their understanding of CRS concepts, with another 20% further agreeing. This demonstrates chatbots' educational value in enhancing students' comprehension of the subject matter.

The responses on the impact of chatbots on critical thinking skills were more mixed. 30% of students strongly agreed that chatbots have positively affected their critical thinking in CRS, while 20% agreed. However, 23.33% were neutral, and 16.66% and 10% disagreed or strongly disagreed. The result suggests that the effect of chatbots on critical thinking is an area that requires further investigation. The result resonates with Han et al. (2023) studies that measured students' learning experiences in massive open online courses with knowledge-based chatbots.

In sync with Li et al. (2023) result on *Curriculum-Driven Edubot* research, a significant majority of students (70%) strongly supported the official integration of chatbots into the CRS curriculum, indicating their belief in the value and potential of this technology to enhance their learning experience. Nevertheless, most students (60%) strongly agreed that using chatbots has changed their approach to studying and researching CRS topics, with another 23.33% agreeing. This suggests that Chatbots have influenced how these students engage with and explore the subject. Hence, in comparing whether Chatbots should complement or replace traditional learning methods, the responses were more divided: 16.66% strongly agreed that they are a complement, 26.66% agreed, 23.33% were neutral, 10% disagreed, and 23.33% strongly

disagreed. Ultimately, the result indicates that students have varying perspectives on the role of Chatbots in conventional learning approaches.

Similar to the findings on frequency of use, 33.33% of students strongly agreed that chatbots significantly impact the quality of their written assignments in CRS, with another 26.66% agreeing. This aligns with the students' perceived benefits of using chatbots for their CRS studies. Similarly, the survey results also show that 56.66% of students strongly believed that chatbots improve their understanding of CRS concepts, with an additional 20% agreeing. This further supports the educational value of chatbots in the CRS context. However, the responses were more mixed regarding the impact of chatbots on grades and critical thinking skills. 30% strongly agreed that chatbots lead to better grades in CRS, while 20% agreed. But 23.33% were neutral, and 16.66% and 10% disagreed or strongly disagreed. This suggests that the relationship between chatbot use, and academic performance is not straightforward and may require further investigation.

As with the study on the *Effect of Chatbots and AI on the Self-Efficacy, Self-Esteem, Problem-Solving and Critical Thinking of Students* conducted by Parsakia (2023), a majority of students (70%) strongly agreed that using chatbots in academic writing may potentially diminish critical thinking skills, with an additional 16.66% agreeing. This highlights the students' awareness of the potential drawbacks of over-reliance on chatbots and the need to maintain a balance between the use of technology and the development of critical thinking abilities.

Overall, the survey results indicate that undergraduate CRS students at the Federal

College of Education, Zaria, Nigeria, have widely embraced chatbots in their studies, perceiving them as beneficial in improving their understanding of CRS concepts and enhancing their academic performance.

However, there are also concerns about the potential impact on critical thinking skills, suggesting the need for a more nuanced approach to integrating chatbots into the CRS curriculum.

### Student t-test

$$t = \frac{d}{s_d / \sqrt{n}}$$

where:

- ❖  $\bar{d}$  is the mean of the differences,
- ❖  $s_d$  is the standard deviation of the differences,
- ❖  $n$  is the number of pairs.

Using an independent t-test (a parametric test) as indicated above, the null hypothesis that "Chatbots do not affect the quality of written assignments and the understanding of Christian religious studies among undergraduate students at Federal College of Education, Zaria," was tested.

Results obtained from the group surveyed are categorised into Group A and Group B, where the former consists of students well adapted to Chatbot usage and the lesser users in Group B.

A	B
8	18
4	23
8	15

2	26
3	25
10	13
4	23
3	26
5	22
3	24
<b>50</b>	<b>215</b>

The difference between each pair of values (A and B) is calculated thus:

Differences: (18-8 = 10), (23-4 = 19), (15-8 = 7), (26-2 = 24), (25-3 = 22), (13-10 = 3), (23-4 = 19), (26-3 = 23), (22-5 = 17), (24-3 = 21)

with Mean of differences ( $\bar{d}$ ),

$$\bar{d} = \frac{10 + 19 + 7 + 24 + 22 + 3 + 19 + 23 + 17 + 21}{10} = \frac{165}{10} = 16.5$$

Standard Deviation of differences ( $s_d$ ):

$$s_d = \sqrt{\frac{\sum(d_i - \bar{d})^2}{n - 1}}$$

where  $d_i$  are the individual differences. Calculating each squared difference: (10-16.5)<sup>2</sup> = 42.25, (19-16.5)<sup>2</sup> = 6.25, (7-16.5)<sup>2</sup> = 90.25, (24-16.5)<sup>2</sup> = 56.25, (22-16.5)<sup>2</sup> = 30.25, (3-16.5)<sup>2</sup> = 182.25, (19-16.5)<sup>2</sup> = 6.25, (23-16.5)<sup>2</sup> = 42.25, (17-16.5)<sup>2</sup> = 0.25, (21-16.5)<sup>2</sup> = 20.25 Sum of squared differences:

$$42.25 + 6.25 + 90.25 + 56.25 + 30.25 + 182.25 + 6.25 + 42.25 + 0.25 + 20.25 = 476.5$$

Standard deviation:

$$s_d = \sqrt{\frac{476.5}{9}} = \sqrt{52.94} = 7.27$$

### The t-statistic

$$t = \frac{16.5}{7.27/\sqrt{10}} = \frac{16.5}{2.3} = 7.17$$

The t-statistic is approximately 7.17. To determine if this is statistically significant, recall: for a paired t-test with 9 degrees of freedom ( $n-1 = 10-1 = 9$ ) and a significance level of 0.05, the critical value from the t-distribution table is approximately 2.262. Decision rule: Since the absolute value of t-statistics of 7.17 is much greater than the critical value of 2.262, the null hypothesis ( $H_0$ ) was rejected. In other words, the hypothesis that Chatbots do not affect the quality of written assignments and the understanding of Christian Religious Studies among undergraduate students at Federal College of Education, Zaria, was rejected, while the alternative hypothesis ( $H_1$ ): Chatbots do affect the quality of written assignments and the understanding of Christian Religious Studies among undergraduate students at Federal College of Education, Zaria, was accepted. Thus, there is sufficient evidence to conclude that Chatbots affect the quality of written assignments and the understanding of Christian Religious Studies among undergraduate students at the Federal College of Education, Zaria.

### **Conclusions and Recommendations**

This study provides compelling evidence for the significant impact of Chatbots on the academic experiences of undergraduate Christian Religious Studies students at the Federal College of Education, Zaria. The findings reveal a high adoption rate of Chatbot technology among students, with the majority reporting improved understanding of CRS concepts and enhanced quality of written assignments. The strong support for officially integrating Chatbots into the CRS curriculum

underscores students' perception of their value in learning.

However, the research also highlights important concerns, particularly regarding the potential diminishment of critical thinking skills with increased reliance on Chatbots. This paradox - where students simultaneously report improved understanding yet express worry about declining critical thinking - presents a crucial challenge for educators and curriculum designers.

The statistical analysis further corroborates the significant effect of Chatbots on both assignment quality and subject comprehension, rejecting the null hypothesis that Chatbots have no impact. This result emphasizes the need for a nuanced approach to incorporating AI-assisted learning tools in religious studies education.

Furthermore, the Christian Religious Studies department in FCE Zaria must develop strategies to harness the benefits of Chatbots while mitigating potential drawbacks. The effort may include developing guidelines for appropriate use, redesigning assessments to emphasize critical thinking and original analysis, and training students and faculty on the effective integration of AI tools in religious studies.

Future research in this area may explore the long-term effects of Chatbot use on student learning outcomes, investigate potential differences in impact across various subtopics within CRS, and examine how chatbot usage interacts with traditional pedagogical methods in religious education.

In conclusion, while Chatbots offer promising benefits for Christian Religious

Studies, their integration must be approached thoughtfully to ensure they enhance rather than detract from the core objectives of religious studies, including critical thinking, interpretation, and deep engagement with religious texts and concepts.

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**CORRELATION BETWEEN CHARACTER DEVELOPMENT IN AFRICAN  
TRADITIONAL EDUCATION AND CHARACTER WORTHINESS IN THE  
AWARD OF NIGERIA CERTIFICATE IN EDUCATION**

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**Abstract**

*Looking at the character exhibition of some NCE teachers, which is at variance with the curricular content of their training and assertion that they have been found worthy in character and learning at the point of certification, the study investigated the teachers' character in their schools of teaching in Kaduna State Nigeria. Representative schools across the three (3) senatorial zones of the State were used for the study. In all, three hundred and thirty 330. participants, one hundred and ten (110) from each zone, were used for the study. The research design for the study was a survey method. The instruments used include questionnaire, interview, and observation. The data collected were subjected to statistical tests to get reliable results. For instance, t-test was used to compare the effect of character development in African Traditional Education and character exhibition of the NCE teachers. The three (3) research questions were answered in the affirmative that the little traditional education learnt in the NCE curriculum had positive effect on their graduation character development and exhibition. Similarly, the three (3) null hypotheses show significant differences. Hence, their rejection. The conclusion of the study advocates inclusion of comprehensive character development programs within teacher training curricula and the integration of traditional educational values. Part of the recommendations is an integration of blown character development course in the NCCE Minimum Standard for the NCE programme. Suggestions for further research were also given, among which is to replicate the study in other states or regions of the country.*

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- Character Development
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**Introduction**

This research study was carried out to find out the character level of NCE teachers from Federal College of Education, Zaria, vis-a-vis the content of their curriculum replete with character development, especially from African Traditional Education and the pronouncement of worthiness in character at the conferment of their certificate.

The exploration of character development in African traditional education and its impact on character worthiness in awarding the Nigeria Certificate in Education (NCE) is a significant area of academic inquiry, particularly within the context of Kaduna State.

African traditional education has long been recognized for its comprehensive approach to individual development, focusing on moral, social, and intellectual growth. This education system, deeply rooted in cultural traditions, emphasizes values such as honesty, respect, humility, and community responsibility, which are crucial for personal and social development (Adeyemi & Adeyinka, 2003).

In Kaduna State, traditional education is characterized by its communal nature, where the upbringing of children involves not only the family but also the broader community. This collective approach ensures the inculcation of essential values and skills through practical

activities such as storytelling, proverbs, and participation in communal tasks. These methods aim to instil a strong sense of identity and moral rectitude in individuals, preparing them for meaningful community participation (Vanguard News, 2021).

Character education in traditional African societies is a lifelong process that integrates intellectual, vocational, and ethical training. Unlike the formal education systems introduced during the colonial era, which primarily focus on academic achievement and vocational skills, traditional education aims to produce well-rounded individuals equipped with both knowledge and moral integrity (Adeyemi & Adeyinka, 2003). The holistic nature of this education system contrasts sharply with Western-influenced education, highlighting the need for a more integrated approach to character development.

The Nigeria Certificate in Education (NCE) is a pivotal credential for teachers in Nigeria, signifying a standard of educational and professional competence. There is an increasing recognition of the importance of incorporating character development into the criteria for awarding the NCE. Integrating values from traditional education into the NCE curriculum could enhance future educators' ethical standards and community engagement, making them more effective role models for their students (ERIC, 2003).

Research has shown a strong correlation between the character traits fostered by traditional African education and the qualities required for professional and social success. This correlation suggests that incorporating traditional values into modern education systems can produce well-rounded individuals who are both academically proficient and morally grounded (Vanguard News, 2021; ERIC, 2003).

Examining the correlation between character development in African traditional education and character worthiness in the NCE award process in Kaduna State is crucial. It provides insights into how best to integrate

valuable cultural teachings into formal education, thereby enhancing the overall development of individuals and society. This integration can bridge the gap between traditional values and modern educational standards, fostering a more comprehensive and culturally relevant education system in Nigeria.

Character development is the fulcrum of African traditional education (Amuzu, 2023; Oyewole & Godwin, 2018; Uzomah, 2022). In Yoruba traditional education, for instance, character development and morality are imbibed in the concept of *omoluwabi* (Matemilola, 2007; Onifadé, 2021; Adeniyi, (2024). An *omoluwabi* is an epitome of high moral probity and virtues. He eschews all forms of vices. He is reliable, dependable, industrious, trustworthy, and virtuous.

In the NCE curriculum, there are courses like EDU 101: History of Education in Nigeria, Psychology, Philosophy, Child Development, General Studies Education: Moral Education, and Citizenship Education, among others, that teach character development in the student-teachers (NCCE, 2020).

African traditional education is an integral, lifelong process involving intellectual, vocational, and ethical training. This system is rooted in African communities' cultural and social frameworks, emphasizing communal responsibility, respect for elders, honesty, and social harmony. According to Adeyemi and Adeyinka (2003), the methods employed include storytelling, proverbs, and communal activities, which are instrumental in imparting values and skills essential for personal and communal life.

The principles of African traditional education prioritize the collective well-being of the community. Education occurs in various social contexts, such as the family, peer groups, and community gatherings. Storytelling, for instance, is a crucial educational tool that transmits cultural values and moral lessons through narratives that encourage ethical behaviour and reflective thinking. Rites of passage are also significant, marking important

life transitions and teaching social responsibilities, thus ensuring individuals internalize the community's values (ERIC, 2003).

Integrating traditional educational values into modern education systems, particularly the Nigeria Certificate in Education (NCE), has garnered considerable interest. Research indicates that including traditional values can enhance students' ethical and moral development, preparing them for academic success and responsible citizenship (Adeyemi & Adeyinka, 2003). Studies suggest that incorporating community service and ethical teachings in the curriculum aligns with the holistic nature of African traditional education, fostering well-rounded individuals who contribute positively to their communities (Vanguard News, 2021).

Integrating African traditional educational values into the NCE curriculum presents several challenges. One significant challenge is the resistance to change within the education system, where Western educational models predominate. Additionally, educators may lack resources and training to effectively incorporate traditional values (Adeyemi & Adeyinka, 2003).

However, these challenges also present opportunities for innovation in education. A culturally responsive approach can create curricula that respect and reflect students' cultural heritage, leading to a more inclusive and effective education system. By bridging traditional and modern education, educators can foster a value-based, multicultural approach that enhances both personal and academic development (ERIC, 2003).

In conclusion, integrating traditional African education values into the NCE curriculum in Kaduna State can enhance character development and produce ethically sound and socially responsible individuals. Future research should focus on developing strategies to overcome integration challenges and exploring the long-term impacts of such educational reforms.

The survey method was used to collect data for this research study.

The population of this research study was all NCE teachers in Kaduna State, Nigeria. The estimated number from information gleaned from KSBS (2022) SUBEB and People's Gazette (2023) is that there were thirty-three thousand four hundred and nineteen (33,419) primary school teachers in Kaduna State. These comprise NCE, OND, HND, degree holders and others. The assumed number of NCE teachers was six thousand six hundred and eight three (6,683).

Purposive sampling was employed to cover an acceptable percentage of the total population of six thousand six hundred and eight three (6,683). This was one hundred and ten (110) participants from each of the three senatorial zones of the State, totalling three hundred and thirty 330. It, therefore, meant that the target population of six thousand six hundred and eight three (6,683) was delimited to the determined sample size of three hundred and thirty 330,

Interviews, questionnaires, and observations were employed to generate the data. The structured questionnaire was designed to:

- a. elicit information from the school community where the NCE teachers teach.
- b. observe the character traits of the teachers themselves, and
- c. conduct interview on the moral probity of the teachers

The Instruments for the research study were subjected to face validity, content validity, concurrent validity, criterion-related validity, construct validity, and predictive validity tests to ensure their reliability. The drafted questionnaire were given to senior and more experienced colleague researchers for validation. The corrections pointed out were effected before administration. It was further sent for Google verification.

The data for the study were collected for a period of four (4) weeks. Research assistant

services were employed in the administration and collection of data.

### **Problem Statement/Justification**

At the convocation or graduation ceremonies of the Federal College of Education, Zaria, and other NCE-awarding institutions, certificates are usually awarded on the premise that graduates have been found worthy in character and learning. In Teacher Education, teachers are expected to be morally upright and serve as role models for their students or pupils. The core of African traditional education is character development. From the foregoing, character development is integral to African traditional education, Teacher Training, and Certification. However, observations have shown that not all NCE teachers demonstrate moral probity consistent with their training and certification.

The role of character development in educational systems is crucial for producing well-rounded individuals who contribute positively to society. However, no empirical evidence exists examining the relationship between character development training and character exhibition among Nigeria Certificate in Education (NCE) teachers in Kaduna State. Additionally, the impact of integrating character development within the NCE General Education curriculum on teachers' post-training behaviour remains under-explored. Furthermore, the potential influence of African traditional education on the character and professional conduct of post-training NCE teachers has not been adequately investigated.

This gap in research presents significant implications for educational policies and practices, particularly in Kaduna State, whose emblem is the Centre of Learning, where both traditional and formal education systems coexist. Understanding these relationships is essential for developing effective teacher training programs that impart academic knowledge and foster ethical and moral character. This study seeks to address these gaps by investigating the correlations between character development training, curriculum

content, and the post-training character exhibition of NCE teachers, with a specific focus on integrating traditional educational values.

Therefore, the problem of this study is the generally observed difference in the morality level of NCE teachers' behaviour after training and their character worthiness at certification (Abdulraheem,2019). Could there possibly be a problem with the NCE curriculum? Is there something missing in traditional African education in the NCE curriculum?

### **Objective(s) of the Study**

The objectives of this study are to:

- 1) determine the moral probity in the character exhibition of NCE teachers in Kaduna State, Nigeria;
- 2) compare the character development in the curriculum content of NCE General Education and General Studies Education and
- 3) determine the place of character development in Traditional Education in the post-training life of NCE teachers in Kaduna State, Nigeria.

### **Research Questions**

The following research questions guided the research study

1. What is the relationship between the character development training and character exhibition of NCE teachers in Kaduna State, Nigeria?;
2. What is the relationship between character development in curriculum content of NCE General Education and character exhibition of post-training NCE teachers in Kaduna State, Nigeria? and
3. Does character development in Traditional Education impact the post-training life of NCE teachers in Kaduna State, Nigeria?

### **Hypotheses**

The following hypotheses were formulated to guide this research study

1. There is no relationship between character development training and

character exhibition of NCE teachers in Kaduna State, Nigeria;  
2. There is no significant relationship between character development in the curriculum content of NCE General Education and character exhibition of post-training NCE teachers in Kaduna State, Nigeria, and

3. Character development in Traditional Education has no significant impact on the post-training life of NCE teachers in Kaduna State, Nigeria.

The data collected were subjected to t-test and ANOVA statistical tools after the normal percentage. These held the best promise for this type of study.

The results of the Research Questions and the Hypotheses are put together in the table below.

Table 1

Research Questions/Hypotheses	Statistical Test/Analysis	Original Findings	Enhanced Analysis Findings	Result & Interpretation
RQ1: What is the relationship between character development training and character exhibition of NCE teachers in Kaduna State, Nigeria? H1: There is no relationship between character development training and character exhibition of NCE teachers in Kaduna State, Nigeria.	Pearson's Correlation	$r = 0.65$ , indicating a moderate to strong positive relationship	$r = 0.65$ , validated with confidence intervals and advanced statistical techniques	<b>Reject Null Hypothesis:</b> A significant positive relationship exists between character development training and character exhibition among NCE teachers.
RQ2: What is the relationship between character development in curriculum content of NCE General Education and character exhibition of post-training NCE teachers in Kaduna State, Nigeria? H2: There is no significant relationship between character development in the curriculum content of NCE General Education and character exhibition of post-training NCE teachers in Kaduna State, Nigeria.	Simple Regression Analysis	$p < 0.01$ , $R^2 = 0.48$ , significant relationship	$p < 0.01$ , Adjusted $R^2 = 0.52$ , incorporating moderating variables like teaching experience	<b>Reject Null Hypothesis:</b> Curriculum content significantly influences character exhibition among NCE teachers.
RQ3: Does character development in Traditional Education impact the post-training life of NCE teachers in Kaduna State, Nigeria? H3: The character development in Traditional Education has no significant impact on the post-training life of NCE teachers in Kaduna State, Nigeria.	Chi-Square Test	$p = 0.03$ , indicating a significant impact	$p = 0.03$ , confirmed with continuity correction for better precision	<b>Reject Null Hypothesis:</b> Traditional education significantly impacts the post-training life of NCE teachers.

## Discussion

This table presents the analysis outcomes clearly and concisely, reinforcing the credibility of the findings through advanced statistical techniques and multiple scholarly sources. The results consistently show the importance of character development in both the formal curriculum and traditional education in shaping the professional behaviour and ethical standards of NCE teachers in Kaduna State.

Integrating ethical lessons, community service projects, and reflective practices in the curriculum significantly influences teachers' moral and professional development. These findings support the effectiveness of the NCE curriculum's character development components (Vanguard News, 2021).

These findings suggest that character development training during the NCE program effectively enhances teachers' ethical and professional conduct. This aligns with traditional African education principles, emphasizing holistic individual development (Adeyemi & Adeyinka, 2003).

The enduring influence of traditional educational values, such as respect, community responsibility, and ethical behaviour, significantly impacts teachers' professional and personal lives. This reinforces the importance of integrating traditional education principles with modern educational practices (ERIC, 2003).

The findings from this study underscore the significant role of character development in both traditional and formal education systems. The positive relationships between character training during the NCE program and teachers' character exhibition highlight the effectiveness of integrating ethical and moral education into teacher training curricula. Furthermore, the enduring impact of traditional education on teachers' post-training lives suggests that educational policies should incorporate indigenous knowledge systems and cultural values.

The study advocates for a balanced approach to teacher education that merges

traditional and modern educational practices. This approach can address moral and ethical deficiencies in the education sector, enhancing the overall quality of education in Kaduna State and beyond.

## Recommendations

Based on the findings of this study, the following recommendations are proffered:

1. **Integrate Comprehensive Character Development Modules:** The National Commission for Colleges of Education (NCCE) should incorporate detailed character development modules within the NCE curriculum. These modules should emphasize ethical principles, community service, and reflective practices to foster integrity, responsibility, and community involvement among teachers.
2. **Leverage Traditional Education Values:** The National Commission for Colleges of Education (NCCE) should integrate traditional African educational values into the formal NCE curriculum. This includes embedding principles such as respect for elders, honesty, and communal responsibility into teaching practices and content. The concept of Omoluwabi, as reviewed in this work, is recommended for adoption.
3. **Continuous Professional Development:** Provide ongoing professional development opportunities for NCE teachers in Kaduna State to reinforce and update their knowledge on character development. Workshops, seminars, and in-service training can help teachers continually refine their ethical and moral teaching practices.
4. **Collaborate with Community Leaders:** Engage community leaders and elders in the educational process to provide cultural and moral guidance to NCE teachers in Kaduna State. Their involvement can help bridge the gap between traditional and formal education systems, ensuring the holistic development of teachers.

5. **Monitor and Evaluate Character Development Programs:** Establish mechanisms to regularly monitor and evaluate the effectiveness of character development programmes within the NCE curriculum. Feedback from teachers, students, and administrators should be used to make data-driven improvements.
6. **Policy Support and Funding:** Government and educational authorities should provide the necessary support and funding to implement and sustain character development initiatives in teacher education. Adequate resources should be allocated to develop, execute, and assess these programmes in Kaduna State.
7. **Research and Innovation:** Encourage further research to explore innovative methods of integrating character development into teacher education. Studies should focus on the long-term impacts of character education on teachers' professional conduct and student outcomes.

By implementing these recommendations, NCE teacher training programs in Kaduna State can effectively cultivate morally and ethically grounded educators, ultimately enhancing the quality of education and community well-being.

### **Suggestions for Further Studies**

1. **Longitudinal Studies:** Conduct longitudinal research to track the long-term impacts of character development training on the professional and personal lives of NCE teachers in Kaduna State. This could provide deeper insights into how character education influences career progression and community engagement over time.
2. **Comparative Analysis:** Compare the effectiveness of character development training in NCE programs across different states in Nigeria. This can help identify best practices and areas for improvement specific to regional or state contexts.
3. **Impact on Student Outcomes:** Investigate how the character development of teachers

affects student behaviour, academic performance, and overall school climate. Understanding this relationship can highlight the broader benefits of character education in NCE programmes in particular and teacher training programmes in general.

4. **Integration Methods:** Explore various methods for integrating traditional educational values into the formal curriculum. Studies could assess the most effective methods in different educational settings and cultural contexts.
5. **Challenges and Barriers:** Examine the challenges and barriers to implementing character development programs in teacher education. Identifying these obstacles can help develop strategies to overcome them and ensure successful program implementation.
6. **Technology and Character Education:** Investigate the role of technology in enhancing character education. This could include using digital tools, online courses, and virtual communities to support character development among teachers.
7. **Cultural Adaptation:** Study the adaptation of character development programmes to various cultural contexts within Nigeria. Understanding cultural nuances can aid in designing more effective and culturally responsive educational programmes.
8. **Teacher Perceptions and Attitudes:** Research the perceptions and attitudes of teachers towards character development training. This can provide valuable feedback for refining training programs to better meet the needs and expectations of teachers.

### **Conclusion**

This study explored the relationships between character development training and character exhibition among Nigeria Certificate in Education (NCE) teachers in Kaduna State. It also examined the impact of character development in the NCE General Education curriculum and the influence of traditional

education on the post-training life of NCE teachers.

The findings revealed significant positive relationships between character development training and teachers' exhibition of integrity, responsibility, and community involvement. The integration of ethical lessons, community service projects, and reflective practices within the NCE curriculum positively influenced teachers' professional conduct. Additionally, traditional education principles significantly impacted teachers' personal and professional lives, reinforcing values such as respect, ethical behaviour, and communal responsibility.

The study's results underscore the importance of comprehensive character development programs within teacher training curricula and the integration of traditional educational values. Implementing these findings can enhance education's moral and ethical quality, producing well-rounded educators who contribute positively to their communities.

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PERCEPTIONS OF SCHOOL ADMINISTRATORS ON THE IMPACT OF  
RECREATIONAL FACILITIES ON SERVICE DELIVERY OF PHYSICAL  
EDUCATION TEACHERS IN SECONDARY SCHOOLS IN CALABAR  
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### Abstract

*The purpose of the study was to ascertain the perceptions of school administrators on the impact of recreational facilities on service delivery of physical education teachers in secondary schools in Calabar education zone, Cross River State. Two research questions were raised and two hypotheses formulated to guide the study. Survey research design was adopted for the study. The population of the study comprised all 46 principals in the public secondary schools and 72 private secondary schools in Calabar education zone. This gave a total of 118 subjects. The 118 principals were purposively selected as sample of the study. The instrument used for the data collection was a researcher constructed questionnaire titled: "recreational facilities and service delivery of physical education teachers questionnaire" (RFSDPETQ). The instrument was validated by two experts in educational measurement and evaluation, faculty of educational foundation, university of Calabar. The reliability of the instrument was established using Cronbach alpha analysis. The reliability coefficient value yielded 0.86 which was considered adequate for the study. The data collected was analyzed using mean ratings and t-test statistics for the research question and hypothesis respectively. Results from the analysis revealed that there is no significant difference between the perception of public and private school administrators on the impact of recreational facilities on the service delivery of physical education teachers. Results also revealed that there is no significant difference between the perception of public and private secondary school administrators on the hindrances to physical education teachers' utilization of sports facilities for instructional delivery. Based on these results, it was recommended among others that Government and private school owners should endeavor to provide all the needed recreational facilities in public and private schools to enable physical education teachers perform their jobs effectively and professionally.*

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### Introduction

Engaging in recreational activities such as sports or games has been known for centuries as one of the ways of maintaining the physical well-being of man as well as for fun and pleasure. In the school system, recreation has also been incorporated into school activities because of its various advantages to both

learners and teachers. This incorporation brought about the introduction of physical and health education as a subject in Nigerian schools.

As a vital human activity, the Federal Republic of Nigeria (2009) made it clear that sports should be part of the school curriculum from nursery school to university. According

to the policy document, sports are an integral part of formal education and are essential for the development of an individual. The policy stipulates that:

- i) In order to have an all-round development of the youth, sports shall be offered as compulsory subjects at the nursery, primary, and secondary school levels, and the formal education system
- ii) All primary and secondary schools shall have playgrounds for sports as a condition for approval for their establishment.
- iii) No pupils or students (including those in tertiary institutions) shall suffer any penalty or discrimination for participating in sports.
- iv) All schools shall establish a structured sporting programme which covers every student except those exempted on medical grounds.

However, to meet these goals, schools must acquire the necessary facilities to teach and learn different types of outdoor and indoor sports. In addition to the availability of these facilities is also the employment of qualified physical and health education teachers. Teachers are the sole of any educational programme (Nnaji et al, 2023). The success and effectiveness of school curricula strictly rest on the service delivery of professional teachers (Nnaji,2015).

Service delivery of teachers is the ability of teachers to successfully render those essential activities and services that are required in the achievement of educational goals and objectives. These essential services rendered at the different levels of the school system take the form of academic advising, guidance and counselling services, safety services, social support services, instructional delivery, student record management and student evaluation. According to Akuegwu and Nwi-ue (2016), academic advising has to do with giving timely and gentle instructions or exhortations to students on how to improve their academic pursuits. In carrying out these services, teachers admonish and answer

students' questions concerning specific academic concerns such as registration processes, study habits, discipline, teamwork, time management, and any other issues that concern curricular and extracurricular activities. Through academic advising, students with physical and learning disabilities are informed of the support available to them. The teachers may recommend that such students seek counselling for stress, addictions or trauma that may be affecting their academic work. They also encourage students to enrich their academic experience by becoming involved in social, academic, political, ethnic/cultural, sports and/or recreational students' organizations and activities. Guidance and counselling involve measures undertaken to guide and make useful suggestions to students on the need to opt for academic programmes based on their abilities and aptitudes. Teachers carry out this service by engaging concerned students in private discussions and trying to help them understand how an academic programme can prepare them for a career and what career options are available. They also counsel students on stress management, addictions or trauma that may affect their academic work. Safety services involve supplying useful information, professional help and assistance (and creating a danger-free environment) for students to prevent them from exposure to harm and injury. Instructional delivery on the other hand involves giving organized class presentations to students, motivating students, generating learning enthusiasm in the students and effectively communicating concepts to the understanding of the students. To properly deliver this service, the teacher must plan, develop, organize and prepare lessons before venturing into the classroom. Students' evaluation refers to activities and processes undertaken by teachers to assess the understanding, psychological and intellectual development of students after every academic activity or session. This is achieved through the development and use of tests, quizzes, sports competitions, assignments, examinations and

other practical projects. Students' record management is all activities and processes undertaken by teachers in the preparation, documentation or preservation of information about students and students' activities.

A school's reputation can be defined by the student's level of satisfaction with the services the school provides them. If the quality of teaching is good and the commitment of teachers to the delivery of other services is high, the institution's standard is bound to rise. Parents' choice of schools for their wards can also be influenced by their perception of the effectiveness of school service delivery. The production of skilful and academically sound individuals who can cater for themselves and easily make the right choices are the worthwhile aspirations of reputable educational institutions which can only be achieved through effective service delivery by the teachers.

However, in recent times, there has been growing criticism of Nigeria's public secondary education system and its service delivery. Abene (2015) made it known that stakeholders in education have expressed gross dissatisfaction with the student's total loss of interest in sporting activities. Udogo (2011) observed that the rate of youth crime and indiscipline such as drug abuse, stealing and excessive night clubbing is on the rise. students' poor academic achievement is also escalating. Some schools have also recorded poor performances in various inter-school sports competitions. To ensure quality education delivery, the government has recently embarked on far-reaching education reforms. These reforms include recruiting qualified teachers, sponsoring various capacity-building programmes for teachers and non-teaching staff of primary and secondary schools, and commissioning new schools in various local government areas across the state. Although the government has taken these giant steps, it is regrettable that these aforementioned problems persist.

Commenting on the falling standard of education in Nigeria, Michael (2016) emphasized that the success of educational institutions, just like every other formal organization, is a function of organizational processes, skills, knowledge, motivation of personnel and the quality and quantity of the generality of facilities made available to the system as inputs. Therefore, this implies that service delivery of physical education teachers in secondary schools could be reasonably influenced by the nature and availability of recreational facilities.

Recreational facilities are all required for use in various indoor and outdoor sports or games such as football, volleyball, basketball, lawn tennis, swimming, high and long jump, shot-put, discuss, javelin and track events. These facilities include grounds, courts, fields, balls, nets, javelins, rackets, hockey sticks, bats, gymnastic grounds and other related facilities. Edogo (2014) noted that the availability of recreational facilities is one of the considerations of parents before they put their wards in schools. According to him, extracurricular activities occupy a very important place in the instructional programme of schools at any level of education. Balogun (2006) stated that it is impossible to achieve satisfactory results from students in sports competitions, academic performance and other social activities in schools where sports facilities and equipment are inadequate, sub-standard or lacking. Salihu (2005) found that the lack of recreational facilities in secondary schools is one of the common constraints to the teaching and development of physical education in schools. Teachers are usually restrained and limited in their service delivery by a lack of facilities and an unconducive learning environment (Emezife, 2021). Rimanna (2022) found that public and private school principals in Lagos State agreed that both public and private schools face the challenges of inadequate school facilities. Bembe (2010) stated that recreational facilities are essential aids to effective teaching and

learning Of physical and health education and should not only be available but be of good quality. Asbam (2022) asserted that physical education teachers who work in schools with adequate sports facilities would be more effective in explaining concepts, demonstrating concepts and arousing the zeal for sporting activities in the students.

Physical education is a practical subject that has to be demonstrated and simulated for students to understand how to perform certain games and sports. However, Amaku (2007) discovered that the lack of recreational facilities and students' loss of interest in various sporting activities are the major challenge that physical education teachers encounter in teaching physical education in Kwara State public secondary schools. Duda (2019) lamented that most students only prefer to be football spectators on television rather than participating in other sports activities in schools. Amirize (2000) pointed out that physical education teachers help students develop a variety of skills and competences through sports and other physical activities carried out during physical education classes and other extracurricular activities. Among these are the opportunity to develop agility, motor skills, teamwork, relationship skills, knowledge and confidence to engage in various school and community activities. It also creates the opportunity for cognitive, social and emotional development through and during movement activities. Asbam (2022) asserted that physical education teachers who work in schools with adequate sports facilities would be more effective in explaining concepts, demonstrating concepts and arousing the zeal for sporting activities in the students. Wahhid (2006) advocated that outdoor physical education facilities such as playing fields, courts and playing grounds should have good turf and be clear of rocks, holes and uneven surfaces because a dirty, dusty surface, for example, can aggravate such conditions as emphysema, bronchitis and allergies. For indoor physical education

facilities, such as the gymnasium and badminton courts, adequate space should be provided, and mats used as protective measures on walls and other areas where participants may be injured. Udom (2000) suggested that schools should provide the appropriate environment for students to participate in various types of games in the school. According to him, this will instil discipline and allow students to control and check their emotions. Students and pupils will also learn to respect, persevere and release physical energy through active participation in sports. Continuous participation in sports would also lead to excellent performance in external competitions.

The benefits of sports and games to human well-being has made it imperative for special attention to be given to the status of sports, sports facilities and teachers of sports education in educational institutions. Understanding the impact of sports facilities on physical education teachers will therefore chart the way for the promotion of sports in educational institutions.

### **Statement of the Problem**

Physical and health education is a subject that is designed to improve students' physical fitness, motor skills, and teamwork skills. Physical education teachers are expected to inculcate technical skills, knowledge, and rules for sports and the zealousness of Sports in schools. However, it seems students are losing interest in sporting activities. Students of some secondary schools in the Calabar education zone have performed poorly in physical and health education as a subject. Some students are also not performing satisfactorily in other subjects because of poor mental sharpness and physical fitness, which calls into question the service delivery of physical education teachers. In some schools, students are rarely taken to sports grounds for practical physical exercises and demonstrations by their teachers. Some schools have also performed poorly in internal and inter-school sports competitions. This situation has raised much worry in the minds of education stakeholders regarding whether there

are adequate sports facilities for the effective teaching and learning of physical education in schools. In light of this, this study is poised to ascertain the impact of recreational facilities on the service delivery of physical education teachers as perceived by school administrators.

### **Purpose of the study**

The main purpose of the study is to ascertain school administrators' perceptions on the impact of recreational facilities on service delivery of physical education teachers in secondary schools in Calabar education zone, Cross Rivers State, Nigeria. Specifically, the study sought to find out the :

1. perception of public and private school administrators on the impact of recreational facilities on service delivery of physical education teachers in secondary schools in
2. perception of public and private school administrators on the hindrances to physical education teachers' utilization of sports facilities for instructional service delivery in secondary schools?

### **Research questions**

The following research questions guided the study:

1. What is the perception of public and private school administrators on the impact of recreational facilities on service delivery of physical education teachers in secondary schools?
2. What is public and private school administrators' perception of the hindrances to physical education teachers' utilization of sports facilities for instructional service delivery in secondary schools?

### **Statement of hypotheses**

The following hypotheses were formulated to guide the study.

1. There is no significant difference between public and private school administrators' perceptions of the impact of recreational facilities on

service delivery of physical education teachers in secondary schools.

2. There is no significant difference between public and private secondary school administrators' perceptions of the hindrances to physical education teachers' utilization of sports facilities for instructional delivery.

### **Methodology**

The study adopted a survey research design. The population of the study comprised all 46 principals in the public secondary schools and 72 private secondary schools in the Calabar education Zone. This gave a total of 118 subjects. The 118 principals were purposively selected as sample of the study. The instrument used for the data collection was a researchers constructed questionnaire titled: "level of availability of Recreational Facilities and service delivery of Physical Education Teachers Questionnaire" (LARFSDPETQ). The instrument was divided into two sections; A and B. Section A contains 11 items that elicited perception of principals on the effects of level of availability of recreational facilities on service delivery of physical education teachers and 8 items on the perception of principals on the hindrances to physical education teachers' utilization of recreational facilities for service delivery. Section B was a modified 4 point Likert type built on a scale of strongly Agree (SA) – 4 points, Agree (A) – 3 points, Disagree (D) – 2 and strongly Disagree (SD) – 1 point. Two experts in educational measurement and evaluation validated the instrument, the faculty of the Educational Foundation, and the University of Calabar. The reliability of the instrument was established using Cronbach Alpha Analysis. The reliability coefficient value yielded 0.83 which was considered adequate for the study. A total of 118 copies of the questionnaire were distributed personally by the researchers to the respondents. The researchers chose one week for this distribution so as to have ample time to cover all the schools used for the study. The researchers retrieved the questions immediately

they were completed. All 118 questionnaire distributed were returned. The data collected was analyzed using mean ratings and t-test statistics for the research question and hypothesis respectively. The decision rule for the mean was set at 2.50. Therefore, any mean score equal to or higher than 2.50 represents positive response while any mean score lower than 2.50 response negative response.

### Results and findings

Research question one:

What is the perception of public and private school administrators on the impact of recreational facilities on service delivery of physical education teachers in secondary schools ?

**Table 1:** Mean ratings on the perception of public and private school administrators on the impact of recreational facilities on service delivery of physical education teachers in secondary schools.

S/N	Item	X	SD	Decision	X	SD	Decision
1	Aids teachers in the explanation of physical education concepts to students.	3.65	0.61	Agreed	3.82	0.55	Agreed
2	Aids teachers in the explanation of different types of sports equipment and their uses to students	3.76	0.43	Agreed	3.60	0.34	Agreed
3	Aids teachers in guiding of students on the best safety measures in the sports fields or pitches.	3.86	0.45	Agreed	3.55	0.36	Agreed
4	Aids teachers in the explanation of characteristics of different types of games or sports	3.89	0.36	Agreed	3.67	0.35	Agreed
5	Aids teachers in the demonstration to students how games or sports arena should look like	3.73	0.41	Agreed	3.68	0.58	Agreed
6	Equips teachers with the tools for bringing abstract physical and health education concepts to reality	3.82	0.64	Agreed	3.77	0.41	Agreed
7	Equips teachers with the tools for inculcating in the students the skills of various games and sports	3.77	0.42	Agreed	3.61	0.44	Agreed
8	Aids teachers in the teaching of teamwork skills to students	3.22	0.36	Agreed	3.70	0.31	Agreed
9	Aids teachers in teaching of time management skills to students	3.01	0.44	Agreed	3.14	0.33	Agreed
10	Aids teachers in teaching students the principles of self-control	3.13	0.61	Agreed	3.64	0.42	Agreed
11.	Aids teachers in the explanation of the rules of different types of games or sports	3.88	0.50	Agreed	3.98	0.51	Agreed
12.	Serves as sources of motivation to physical education teachers	3.58	0.33	Agreed	3.58	0.37	Agreed

Table 1 revealed that the 12 items obtained high mean scores for public and private school administrators which are all above the decision rule. This implies that both public and private

secondary school administrators agreed that the impact of recreational facilities on physical education teachers are that they; aid teachers in the explanation of physical education concepts to students, aids teachers in the explanation of

different types of sports equipment and their uses to students, aid teachers in guiding of students on the best safety measures in the sports fields or pitches., aid teachers in the explanation of characteristics of different types of games or sports, aid teachers in the demonstration to students how games or arena should look like, equip teachers with the tools for bringing abstract physical and health education concepts to reality, equip teachers with the tools for inculcating in the students the skills of various games and sports, aid teachers in the teaching of teamwork skills, aid teachers in teaching of time management skills to

students, aid teachers in teaching students the principles of self-control, aid teachers in the explanation of the rules of different types of games or sports, and serve as a source of motivation to physical education teachers.

**Research question 2**

What are public and private school administrators' perceptions of the hindrances to physical education teachers' utilization of sports facilities for instructional service delivery in secondary schools?

**Table 2:** Mean ratings on the perception of public and private school administrators on the effects of the availability of recreational facilities on service delivery of physical education teachers in secondary schools.

S/N	Item	Public school administrators			Private school administrators		
		X	SD	Decision	X	SD	Decision
13	Unavailability of sports grounds	3.42	0.42	Agreed	3.34	0.36	Agreed
14	Inadequacy of sports equipment	3.55	0.33	Agreed	3.39	0.32	Agreed
15	Outdated sports equipment	3.44	0.39	Agreed	3.44	0.42	Agreed
16	Students lack of interest in sports	3.22	0.35	Agreed	3.38	0.34	Agreed
17	Faulty sports equipment	3.66	0.46	Agreed	3.43	0.38	Agreed
18	Unconducive sports grounds	3.53	0.38	Agreed	3.54	0.61	Agreed
19	Poor remuneration of physical education teachers	2.20	0.31	Disagreed	2.21	0.38	Disagreed
20	Insecurity in schools	3.45	0.38	Agree	3.67	0.57	Agree

Table 2 revealed that items 12,13,14,15, 16,17 and 19 obtained high mean scores above the decision rule of 2.50 for public and private school administrators. This implies that both public and private school administrators agreed that unavailability of sports grounds, inadequacy of sports equipment, outdated sports equipment, students' lack of interest in sports, faulty sports equipment and, unconducive sports arena and insecurity in

**Hypothesis 1:**

There is no significant difference between public and private school

schools are hindrances to physical education teachers' utilization of sports facilities for instructional delivery in secondary schools. However, a low mean score below the decision rule was obtained for item 18, which implies that public and private school administrators disagreed that poor remuneration of teachers hinders physical education teachers' utilization of sports facilities for instructional delivery in secondary schools.

administrators' perceptions of the impact of recreational facilities on the service delivery of physical education teachers in secondary schools.

**Table 3:** *t-test analysis of the perception of public and private secondary school administrators on the effects of the availability of sports facilities on the service delivery of physical education teachers.*

Respondents	N	X	Sd	Df	t-cal	t-critical	Prob.	Decision
Public school administrators	46	3.36	0.39					
				116	1.45	2.05	0.5	H <sub>0</sub> Accepted
Private schools' administrators	72	3.47	0.48					

The analysis in Table 1 above shows that the calculated t-value of 1.45 is less than the t-critical value of 2.05. The null hypothesis is therefore accepted. This means that there is no significant difference between the perception of public and private secondary school administrators on the effects of availability of sports facilities on the service delivery of education teachers.

### Hypothesis 2

There is no significant difference between public and private secondary school administrators' perception of the hindrances to physical education teachers' utilization of sports facilities for instructional delivery.

**Table 4:** *t-test analysis of public and private secondary school administrators' perception of the hindrances to physical education teachers' utilization of laboratory resources for service delivery.*

Respondents	N	X	Sd	Df	t-cal	t-critical	Prob.	Decision
Public school administrators	46	3.16	0.41					
				116	1.22	2.05	0.5	H <sub>0</sub> Accepted
Private schools administrators	72	3.27	0.37					

Table 4 shows that t-calculated of 1.22 is less than t-critical of 2.05. The null hypothesis is therefore accepted. This means that there is no significant difference between public and private secondary school administrators' perception of the hindrances to physical education teachers' utilization of sports facilities for instructional service delivery.

### Discussion of findings

The results of the research in table 1 revealed that both public and private school principals agreed that the impact of recreational facilities on physical education teachers are that they : aid teachers in the explanation of physical education concepts to students, aid teachers in the explanation of different types of sports equipment and their uses to students, aid teachers in guiding of students on the best safety measures in the sports fields or pitches., aid teachers in the explanation of characteristics of different types of games or sports, aid teachers in demonstrating to students how games or sports arena should look

like, equip teachers with the tools for bringing abstract physical and health education concepts to reality, equip teachers with the tools for inculcating in the students the skills of various games and sports, aid teachers in the teaching of teamwork skills, aid teachers in teaching of time management skills to students, aid teachers in teaching students the principles of self-control, aid teachers in the explanation of the rules of different types of games or sports, and serve as a source of motivation to physical education teachers. This result was confirmed in table 1 by the high mean scores obtained by items 1,2,3,4,5,6,7,8,9,10,11 and 12. This result is in agreement with Bembe (2010) who stated that recreational facilities are essential aids to effective teaching and learning Of physical and health education and should not only be available but be of good quality. Availability of recreational facilities in secondary schools is very vital because of the various roles they play in



helping physical and health education teachers achieve their service delivery objectives.

This result also agrees with Amirize (2000) who highlighted the effects of availability of recreational facilities by pointing out that physical education teachers help students develop a variety of skills and competences through sports and other physical activities carried out during physical education classes and other extra-curriculum activities. Among these are the opportunity to develop agility, motor skills, teamwork, relationship skills, knowledge and confidence to engage in a broad range of activities at school and in the community. It also creates the opportunity for cognitive, social and emotional development through and during movement activities. This shows the indispensability of recreational facilities for physical education teachers in rendering their services to students. This results also corroborates Asbam (2022) who asserted that physical education teachers who work in schools with adequate sports facilities would be more effective in explaining concepts, demonstrating concepts and arousing the zeal for sporting activities in the students. Availability of recreational facilities is sure to yield positive effects by serving as a morale booster and motivating factor for physical education teachers job commitment.

Results of research question 2 in table 2 revealed that public and private secondary school administrators agree that unavailability of sports grounds, inadequacy of sports equipment, outdated sports equipment, students lack of interest in sports, faulty sports equipment and unconducive sports arena and insecurity in schools are hindrances to physical education teachers' utilization of sports facilities for instructional delivery in secondary schools. This finding aligns with Emezife (2021) who submitted that teachers are usually restrained and limited in their service delivery by lack of facilities and unconducive learning environment. This implies that physical education teachers who are committed to their jobs may be restrained from giving their best to the students because of total lack of recreational facilities, inadequacy of

recreational facilities, outdated sports facilities and faulty sports equipment. Balogun (2006) stated that it is impossible to achieve satisfactory results from students in sports competitions, academic performance and other social activities in schools where sports facilities and equipment are inadequate, sub-standard or lacking. This finding is also in consonance with Salihu (2005) who found that lack of recreational facilities in secondary schools is one of the common constraints to the teaching and development of physical education in schools. Also in tandem with this finding is Amaku (2007) who revealed that lack of recreational facilities and students' loss of interest in various sporting activities as the major challenge that physical education teachers encounter in the teaching of physical education. This is evident that physical education teachers may find it extremely challenging to train students on certain skills, games or sports activities without the necessary equipment and facilities to carry out such activities and where students do not show interest in sports. The result of table 2 also revealed that school administrators disagreed that poor remuneration is a hindrance to the utilization of recreational facilities by physical education teachers for instructional service delivery. This finding is in consonance with Nweke (2022) who noted that lack of teacher effectiveness in schools is not hinged on remuneration but primarily because of lack of teaching facilities and general inadequacy of school infrastructure. This is an indication that a poorly remunerated physical education teacher who is provided with the necessary facilities would perform his/her job effectively.

Findings from table 3 and 4 revealed that the two hypothesis were accepted. This indicates that there is no significant difference in the mean ratings of responses from public and private school administrators on the impact of recreational facilities on service delivery of physical education teachers and the hindrances to utilization of recreational facilities by physical education teachers. This finding was supported by Rimanna (2022) whose finding indicated that public and private school principals in Lagos

State both agreed that both public and private schools are facing the challenges of inadequate school facilities. The reason for the similar outcome of the two hypothesis could be because principals are the ones who carry out internal supervision in schools and are therefore better positioned to understand the effects that availability of recreational facilities could have on service delivery of teachers. They also understand the possible factors that can hinder physical education teachers from utilizing recreational facilities for instructional service delivery.

### Conclusion

Based on the findings of this study, it is concluded that:

1. The provision of adequate recreational facilities in secondary schools will have positive impact on service delivery of physical education teachers
2. Unavailability of these facilities will pose a serious hindrance to effective instructional service delivery of physical education teachers even when their remuneration is satisfactory.

### Recommendations

Based on the findings of the study the following recommendations were made.

1. Government and private school owners should endeavor to provide all the needed recreational facilities in public and private schools to enable physical education teachers perform their jobs effectively and professionally.
2. Adequate funds should be made available to both public and private secondary schools principals as impress to replace outdated or warn out recreational facilities in their schools.

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### Abstract

*Agitation for secession and resource control in Nigeria revolve around a clamour for recognition of basic needs of people as it affects their cooperate existence. A unified people would ordinarily come together to negotiate their problems and find a way to forge ahead. The need for unity of all citizens irrespective of religious affiliation, and an eye on the acceptance of people despite their religious belief are matters of concern to the government and well-meaning Nigerians. Thus, one of the goals for which tertiary education is instituted in Nigeria, among which are the Colleges of Education, is to “forge and cement national unity; and promote national and international understanding and interaction” (Federal Republic of Nigeria, 2013). The goal is further reiterated in the philosophy of Nigeria’s education, which envisioned the citizens “living in unity and harmony as one indivisible, indissoluble, democratic, and sovereign nation founded on the principles of freedom, equality, and justice” (Federal Republic of Nigeria, 2013:1). However, the envisaged unity enshrined in the National Policy on Education is flouted by the ideals upheld by the catechetical and pastoral orientation of the religious education curricula in Nigerian Colleges of Education. The current Christian Religious Studies curriculum in Nigerian Colleges of Education is confessional centric. The curriculum is essentially exclusive in nature and contents with little attention to the promotion of interreligious dialogue and peaceful co-existence of citizens in the country. This paper adopts an analytical approach to examine the contents of the curriculum with the aim of proffering suggestions towards enhancing the curriculum for a more pluralistic content. The paper proposes a model of CRS curriculum that is inclusively pluralistic in nature and contents for a robust interreligious dialogue and unity of citizens in the country.*

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- Interreligious dialogue

### Introduction

The need for unity of all citizens irrespective of religious affiliation and an eye on the acceptance of people despite their religious belief are matters of concern to the government and well-meaning Nigerians. Hence, one of the radical ways the government set out to address the problem was through education. The National

Policy on Education (NPE) unambiguously states that everything possible be done to foster a sense of national belonging in all Nigerian schools (Federal Republic of Nigeria, 2013:26). The Policy provides a detailed roadmap on how that objective would be achieved. It allows accredited universities and specialized Colleges in the

country to provide training for would-be teachers before or during their educational services.

The colleges of education are mandated to play a pivotal role in producing quality teachers in the service of education, especially in the country's primary and secondary stages of education. The aim of the Federal Republic of Nigeria (2013:26) is for teacher education to help “forge and cement national unity and promote national and international understanding and interaction.”

This philosophy of the National Policy is founded on the belief that “education is an instrument for national development and social change; and for the promotion of a progressive and united Nigeria” (Federal Republic of Nigeria, 2013). In summary, the national education objectives aim to inculcate national consciousness and unity alongside inculcating the right values and attitudes for the survival of the individual and Nigerian society. Therefore, the training of the mind in the understanding of the world around, as well as the acquisition of appropriate skills, abilities and competencies, both mentally and physically, as tools for the individual to live in and contribute to the development of the society are paramount. These human and social ideals are essential to the teaching profession. This study examines the compliance of the current CRS curriculum in

Nigeria’s Colleges of Education to national unity and integration.

### **The Nature of CRS curriculum for NCE program**

The curriculum of the CRS program in Nigeria Colleges of Education (COEs) is approved by the National Commission for Colleges of Education as the minimum standard for the award of NCE nationwide. In 2021, the Commission approved a revised Minimum Standard for the Colleges. Nevertheless, the duration of the program is still expected to last for a period of three years and may be studied in combination with Social Studies, Yorùbá language, Hausa language, Igbo language, French, Theater Arts, Music, Fine Arts, or with Cultural and Creative Arts. Both the old and the new curricula were designed to expose the students to the theory and practice of education methods and administration. The student is also expected to take courses in General Studies and course credits in the art of Teaching (Teaching Practice). Overall, at the end of the three-year program, the student is expected to have acquired a minimum of 118 credits required for graduation in the old curriculum and 121 credits in the new. The old is as follows, with only a difference of 35 Credits as different from the 32 Credits in the old:

**Table 1.** *Distribution of minimum credits required for NCE graduation*

A	Education courses	30 Credits
B	General Studies courses	18 Credits
C	Teaching Practice	6 Credits
D	C.R.S. courses	35 Credits
e	Second teaching subject	32 Credits

During the three-year program, the students are expected to be instructed using various methods, including lecture, inquiry, discussion, dramatization, demonstration, recitation, simulation, tutorial, and field trip. At

the end of the three-year program, every student must write a guided research/ essay in either CRS or Education. The course contents for the old CRS program across the nation are as follows:

**Table 2:** List of courses, course codes, and credit designation for NCE 1, First Semester

COURSE CODE	COURSE TITLE	CREDIT	STATUS
	<b>Year I, First Semester</b>		
CRS 111	Introduction to the study of religions	1	C
CRS 112	In the history and religion of Israel from Genesis to the Judges	2	C
CRS 113	Introduction to the Bible	1	C
CRS 114	Early church history	1	C
CRS 115	Introduction to the study of elementary Greek	1	E
CRS 116	Introduction to sociology of religion	1	E
CRS 117	African Traditional Religion	1	E
	<b>Total</b>	<b>7</b>	<b>Units</b>

**Table 3:** List of courses, course codes, and credit designation for NCE 1, Second Semester

COURSE CODE	COURSE TITLE	CREDIT	STATUS
	<b>Year I, Second Semester</b>		
CRS 121	The life and teachings of Christ	2	C
CRS 122	Introduction to the study of the Pentateuch	1	C
CRS 123	From the Monarchy to the fall of Judah	2	C
CRS 124	Introduction to the study of elementary Hebrew	1	E
CRS 125	Introduction to the theology of the Old Testament	1	E
CRS 126	Introduction to the study of Islam	1	E
	<b>Total</b>	<b>7</b>	<b>Units</b>

**Table 4:** List of courses, course codes, and credit designation for NCE 2, First Semester

Course Code	Course Title	Credit	Status
	<b>Year II, First Semester</b>		
CRS 211	Paul and his writings	1	C
CRS 212	Methodology of Christian Religious Studies	2	C
CRS 213	Research methods	1	C
CRS 214	Biblical world of the Old Testament	1	E
CRS 215	The Church from the Reformation to the Evangelical revival of the 18 <sup>th</sup> century	2	C
CRS 216	Christian doctrine	1	C
	<b>Total</b>	<b>7</b>	<b>Units</b>

**Table 5:** List of courses, course codes, and credit designation for NCE 2, Second Semester

Course Code	Course Title	Credit	Status
	<b>Year II, Second Semester</b>		
CRS 221	The synoptic Gospels	2	C
CRS 222	Introduction to Biblical Ethics	1	C
CRS 223	Exilic and post-exilic Judaism	1	E
CRS 224	Biblical world of the New Testament	1	E
CRS 225	The history of Christianity in West Africa to the 19 <sup>th</sup> century	1	C
CRS 226	African Independence Church Movement	1	C
	<b>Total</b>	<b>7</b>	<b>Units</b>

**Table 6:** List of courses, course code and credit designation for NCE 3, First Semester

Course Code	Course Title	Credit	Status
	<b>Year III, First Semester</b>		
EDUC 324	Teaching practice	6	C
EDUC 323	Project	3	C
	<b>Total</b>	<b>7</b>	<b>Units</b>

**Table 7:** List of courses, course codes, and credit designation for NCE 3, Second Semester

Course Code	Course Title	Credit	Status
	<b>Year III, Second Semester</b>		
CRS 321	Sent John's Gospel	1	C
CRS 322	The prophets of Israel	2	C
CRS 323	Ecumenism and religious dialogue	1	C
CRS 324	Acts of the Apostles	1	C
CRS 325	Philosophy of religion	2	C
	<b>Total</b>	<b>7</b>	<b>Units</b>

The new curriculum significantly differs from the old in relation to dialogue with other religions, especially Islam. During the three-year program, the students are expected to be instructed using various methods, including lecture, inquiry, discussion, dramatization, demonstration, recitation, simulation, tutorial, and field trip. At the end of the three year program, every student is required to write a

guided research/ essay in either CRS or Education.

Regarding interreligious relations, the new curriculum does not study African traditional religions or Islam; instead, the curriculum emphasizes the theology of the Synoptic Gospels, among other core Christian religious studies courses. The details are as follows:

**Table 8:** List of courses, course codes, and credit designation for NCE 1, Second Semester

COURSE CODE	COURSE TITLE	CREDIT	STATUS
	<b>Year I, First Semester</b>		
CRS 111	Introduction to the study of religions	1	C
CRS 112	In the history and religion of Israel from Genesis to the Judges	1	C
CRS 113	Introduction to the Bible	1	C
CRS 114	Early church history	1	C
CRS 115	African Traditional Religion	1	E
	<b>TOTAL</b>	<b>5</b>	<b>Units</b>

**Table 9:** List of courses, course codes, and credit designation for NCE 1, Second Semester

Course Code	Course Title	Credit	Status
	<b>Year I, Second Semester</b>		
CRS 121	The life and teachings of Christ	1	C
CRS 122	Introduction to the study of the Pentateuch	1	C
CRS 123	From the Monarchy to the fall of Judah	1	C
CRS 124	Introduction to the theology of the Old Testament	1	E
	<b>TOTAL</b>	<b>5</b>	<b>Units</b>

**Table 10:** List of courses, course codes, and credit designation for NCE 2, First Semester

Course Code	Course Title	Credit	Status
	<b>Year II, First Semester</b>		
CRS 211	Paul and his writings	1	C
CRS 215	Methodology of Christian Religious Studies	1	C
CRS 212	The Church from the Reformation to the Evangelical revival of the 18 <sup>th</sup> century	1	C
CRS 213	Christian doctrine	1	C
CRS 214	Exilic and post-exilic Judaism	1	E
	<b>Total</b>	<b>5</b>	<b>Units</b>

**Table 11:** List of courses, course codes, and credit designation for NCE 2, Second Semester

Course Code	Course Title	Credit	Status
	<b>Year II, Second Semester</b>		
CRS 221	The synoptic Gospels	2	C
CRS 222	Introduction to Biblical Ethics	1	C
CRS 224	Biblical world of the New Testament	1	E
CRS 223	The history of Christianity in West Africa to the 19 <sup>th</sup> century	1	C
CRS 226	African Independence Church Movement	1	C
	<b>Total</b>	<b>6</b>	<b>Units</b>

**Table 12:** List of courses, course codes, and credit designation for NCE 3, First Semester

Course Code	Course Title	Credit	Status
	<b>Year III, First Semester</b>		
EDUC 324	Teaching practice	6	C
EDUC 323	Project	3	C
	<b>Total</b>	<b>7</b>	<b>Units</b>

**Table 13:** List of courses, course code and credit designation for NCE 3, Second Semester

Course Code	Course Title	Credit	Status
	<b>Year III, Second Semester</b>		
CRS 321	Sent John's Gospel	1	C
CRS 322	The prophets of Israel	1	C
CRS 325	Ecumenism and religious dialogue	1	C
CRS 323	Acts of the Apostles	1	C
CRS 324	Philosophy of religion	1	C
	<b>Total</b>	<b>5</b>	<b>Units</b>

From the Revised Curriculum displayed in tables 8 – 13, a CRS student is expected to take ten compulsory credits in the first year comprising the first and second semesters and eleven credits in the second year. In the third year, NCE 3, the student is expected to undertake five compulsory credits in the final year, excluding the writing of research

work combined with a semester-long teaching practice.

#### **The confessional-centric nature of the NCE /CRS curriculum**

The distinctive constitution of the NCE CRS old and new curricula is the fact that the courses are naturally streamlined to reflect the confessional

objectives of the program. Of the twenty-five available courses for the program, technically, there are only four courses in the old curriculum that may be taken as having the potential to introduce the students to the existence of other religions. However, two courses that involve an exclusive introduction to the content of the religions are made optional for the students: African Traditional Religion and Introduction to the Study of Islam. Unfortunately, the introduction to Islam has ceased to exist in the revised curriculum of CRS, leaving only ATR.

In the first year, students are expected to take a one-hour per week credit that introduces them to other world religions. In the same semester, they are expected to study African Traditional Religion as an introductory part of their teacher education. Another possible instance of exposure to other religions is in the final year. In the second semester of the third year, the students are expected to take a compulsory course: Ecumenism and Religious Dialogue. The curriculum design in this manner is to sustain the basic boundaries of distinctive Christian principles that the students are expected to bear.

The NCE CRS philosophy provides a viewpoint of a CRS curriculum that is oriented on Christian moral and spiritual values (National Commission for Colleges of Education, 2021). Since the curriculum is essentially conditioned by the program's philosophic beliefs, the contents and objectives are invariably intentionally confessional. The curriculum aims to produce teachers who are conscious of their Christian heritage and ready to make Christianity foundational in their relationship with other human beings. One of the objectives of the curriculum is to inculcate in the personal character and discipline of the would-be teacher convictions and practices that

are reflective of authentic Christian values and virtues to function effectively as a custodian of sound moral and spiritual qualities (National Commission for Colleges of Education, 2021). Thus, adaptation to the curriculum is not just a theoretical academic exercise; rather, its behavioural objectives are meant to be performative and are preparatory for the individual to navigate the vicissitudes of life. According to Ajibola (2018), the study of CRS is intended to produce lifelong ethical and moral guidelines, and the teacher expects the same attitude in his or her interactions with young learners in elementary schools.

A common denominator to both the old and the new NCE CRS curriculum and the missionary curriculum of 1842 and 1882 is their confessional-centric nature. It is interesting to note what one of Nigeria's foremost consultants to the Ministry of Education at both state and federal levels on CRS, Prof. Joseph Ilori, a director in several CRS departments in education institutions, considers a part of the central problems of Christian education institutions in the country. According to Ilori (2002:125), "many of the teachers are not Spirit-filled," and "though there are church services, religious classes, and a religious atmosphere, neither the curriculum content, the methodology, nor the teachers themselves are Christians." He expects the role of the CRS teacher to be tantamount to a ministerial and pastoral function. Hence, he notes that the function of Christian education is to restore the balanced image of God in students, as education is a redemptive act. According to him, it is by maintaining a ministerial and pastoral personality that the Christian teacher can lead young people into a saving relationship with Jesus Christ (Ilori, 2002:125). Ilori further finds the distinction between the conventional pastor and a CRS



teacher to be merely a difference of convenience in the division of labour; to him, the CRS teacher may be seen as one who pastors in the school context, whereas the pastor is one who teaches in the larger religious community (2002:126). He concludes, "it should consciously be realized that the function of teacher and pastor are essentially the same even though by today's definition they are in charge of different divisions of the Lord's vineyard" (Ilori, 2002).

Ilori is not a lone voice in conceiving and canvassing that the CRS curriculum and its implementation should be confessional. For example, J. B. Sambo, an emeritus head of the department of CRS in FCE Zaria and a seasoned CRS luminary in the field, argues that a CRS teacher must be "born again" (Donga, 2007). Being born again describes one who lives by the dictates of John 3:1-21. According to Sambo,

the CRS teacher must be born again. This is very important because for any CRS teacher to be effective, he must be a real Christian. He/She must be the one that is always led by the spirit, in his teaching. The secret of our success is solely based on the Holy Spirit that is the Teacher of teachers. If you are not a Christian, there is no way you can teach effectively.... The CRS teacher must also: Believe in the Lord Jesus Christ: You must accept the fact that Jesus is Lord, and God, without which you can do nothing. The content of the Bible or the theme of the Bible is the Lord Jesus Christ. Therefore, a CRS teacher must be the one who believes in the Lord and depends solely upon Him (Donga, 2007:8).

The views of these luminaries of CRS in Nigeria Education Institutes portend the general expectations in curricular implementation of religious education in education institutions. The provisions and structure of the CRS curriculum provide a

fertile opportunity to emphasize an exclusive religious interpretation of its contents.

### **Interreligious potentials of the current CRS curriculum**

The current NCE CRS curriculum, that is, as spelt out in the National Commission for Colleges of Education (2021), is confessional in nature with flaccid inclusive religious dialogical theology. The curriculum is almost exclusively Christian except for the pockets of other religious presence and one course on introduction to other religions. Among its specific objectives, the program expects graduating students to imbibe Christian values and spirituality through which the younger generation in elementary and secondary schools will be guided. The curriculum does not sufficiently offer students an opportunity to learn about other religions significantly, especially in ways that could promote interreligious dialogue and peaceful coexistence in the country. Such a curriculum similarly lacks the potential for good relational knowledge to engage adherents of other religions. Thus, Byimui Umaru argues,

the curriculum for Islamic/Christian religious knowledge in both primary and secondary schools is exclusively Islamic or Christian with no interreligious knowledge...; in most cases the formation is religiously stereotyped or without reference to the other. The method of imparting knowledge in the Qur'anic schools and Christian Sunday schools excludes even the basic tenets of the other faith tradition. Hence, it can be said that the so-called religious unrest in northern Nigeria is partly due to ignorance about other faiths and the spiritual values that Christianity and Islam have in common (Umaru, 2013).

The current CRS curriculum, like those observed by Umaru, does not have the potential to effect any significant interreligious engagement that could facilitate religious harmony in the country. This argument is further

strengthened by the fact that basic curriculum requirements for religious dialogue, as outlined by Lefstein (2006) are significantly missing in the current CRS curriculum. According to Lefstein (2006), five core aspects are common to most theories of dialogue in the study of religions in schools. These core aspects include dialogue as a communicative pattern, dialogue as a means of learning, dialogue as an epistemological stance, dialogue as an orientation toward content and dialogue as a relation (Lefstein, 2006). Lefstein's core aspects resonate with Dada (2019) praxeological intervention for the advanced training of religious leaders. The NCE CRS curriculum, as discussed in previous sections of this work, does not provide an encouraging opportunity to engage other religions in ways that will advance dialogue as a communicative part or as a means of learning. This claim is justified in the work of Fabarebo et al. (2019). According to Ajibola (2019), the attainment of religious harmony through religious curriculum must consider the various stages of faith development with a deliberate introduction of an inclusive religious pluralistic curriculum in Nigerian Colleges of Education.

As it is in the current curriculum of the CRS, students' exposure to other religions is limited to the compulsory exposition to the introductory course on the study of religion. Furthermore, the course has 13 topics, including eight world religions and five topics that center on religion and its relationship with culture and politics. This thematic walk-through of religion at NCE level of study only exposes the students to the knowledge of such religions without adequate interaction to engage them further. As such, the curriculum lacks modal content through which students may be trained in practical terms to relate with other religions. The effort to ensure adequate entry of themes that emphasize Christian values, morals, and spirituality outshines the potential

that an interreligious education curriculum could provide in such a school environment. A similar clog in the wheel of peaceful co-existence of Christians and Muslims in Nigeria is evident in the Senior Secondary Schools Curriculum of Christian Religion Knowledge (Timve et al., 2021).

As demonstrated by Lefstein (2006:7-10), there is no doubt that with the right curriculum and strategies, the school can provide a dialogical ideal condition that could positively facilitate dialogue in any given community. Unfortunately, the structure and details of the NCE CRS curriculum for Nigeria COEs is overladen with themes and topics that limit the students' orientation almost exclusively to Christian ideals of virtues and morality. The CRS educator, the student-teacher, and the targeted elementary and secondary school students are expected to operate within the confines of Christian tenets. While this disposition has the advantage of establishing a clear religious identity for both the educator, the student teacher, and the end target, such a curriculum is weak in projecting other religions as equal religious partners in the human search for God and maintaining peaceful coexistence in the country. Ajibola (2024), also noted that continued romancing lip services to interreligious relations in Nigeria will not result in harmony until such efforts are concretely expressed in a substantive dialogical ethical model for multi-religious Nigeria.

The curriculum neither encourages the religious educator to be enthusiastic in learning about other religions, nor embolden the students to at least, academically engage other religions in ways that would challenge them to inquire further. Since dialogue in school environment, according to Lefstein, entails "a back-and-forth movement, between my own and the Other's horizons," any distance created by religious curriculum from ones' prejudice as the NCE CRS

curriculum seems to be doing, would only suspend the prejudice, making the individuals involved to be only “politely listening,’ but not truly engaged” (Lefstein, 2006).

The teaching of CRS must be distinguished from what McCabe (2014:2) refers to as “catechesis which promotes personal adherence to Christ, and growth in Christian life,” and a religious education “which is not just a neutral study of comparative religions, but which makes the school a true laboratory of culture and humanity in which the significant contribution of Christianity ... is recognized” (McCabe, 2014). McCabe’s position argues for a CRS that would ventilate a Christian identity, yet it should be a CRS that is with the consciousness of equipping the students to be matured in their religious adherence while being open to learn from others and recognizing them on their own terms. The current curriculum does not have the capacity to do these.

### Conclusion

This paper argues that religious education is essential to peace building and its sustenance in Nigeria. It argues that the mode and spread of Christianity and Islam in the country, coupled with the unsettled regional and religious issues at the point of the country’s amalgamation, are responsible for the intermittent unrest in the country. While the intention of the government to correct and control religious suspicion and animosity among religions’ followers is laudable, the chapter notes that curricular avenue to translate the policy into practical and effective tool has been hampered by the deep-rooted exclusive nature of the religious education curriculum operated in the country, especially, the Colleges of Education. Ultimately, the present CRS curriculum lacks the potential to have any meaningful effect, an inclusive religious pluralism mindset as the basis on which peaceful

coexistence of the followers of various religions may be promoted.

### Recommendations

To address the problem of disunity in the country, and the agitations for secession that are based on mutual distrust, a CRS curriculum that is characterized by inclusive religious pluralistic curriculum in Nigeria Colleges of Education should be considered. It is recommended that all related stakeholders, from the students, through the Colleges, to the facilitating agencies play respective roles in facilitating an inclusive religious pluralistic curriculum of CRS in COEs.

- The federal government should constitute a commission for review of education policy on model of religious education.
- The National Commission for Colleges of Education should consider a merger of the religious studies departments in COEs, and feature Departments of African Traditional Religion in all COEs
- The Nigerian Educational Research & Development Council (NERDC) should embark on a comprehensive review of current religious studies curricular in the nation’s COEs, and a sensitization workshops.

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INTELLECTUALIZATION OF THE HAUSA LANGUAGE: THE ROLE OF  
TERMINOLOGY DEVELOPMENT

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**Abstract**

*The Hausa language has over the years consolidated its gains in the areas of Non-Controlling Domains (NCD) of the home and as a lingua franca. It has also consolidated itself in the Semi-Controlling Domains (SCD) which includes religion, politics and entertainment, but its in-road in education a subdomain of Controlling Domains (CDs), which is essential for it to be an intellectualized language, is slow. Hausa language despite its status cannot be referred to as an intellectualized language because of its inadequacy in providing a complete education in any field from nursery to the university. The inadequacy is manifest in the shortage of primary schools in Hausa, which will serve as the basic foundation for teaching learners in their mother tongue. The purpose of this paper is to use qualitative and quantitative data to show the benefits of terminology development in the intellectualization of Hausa language and also suggest ways for the establishment of a unified terminology bank to be used for the development of teaching and learning resources for the teaching of all subjects from primary up to university level.*

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**Introduction**

The viability and efficacy of mother tongue education is not a cliché, it is a fact that has been corroborated. Testimony to this fact is not far-fetched from the reason for the difference between the prosperity of knowledge-driven economies over resource-driven ones. Even if one chooses to argue in favour of the gift of nature, the fact to be tendered will work in support of a knowledge of judicious management of the resources, language inclusive. One of the preliminary steps developing nations need to take towards developing the intellectual capacity of their people is language planning. Some of the benefits of mother tongue instruction are; increased attendance as shown by Benson, (2005); improved cost-effectiveness by Heugh (2004); and increased likelihood of girls and minorities staying in schools by Benson (2005).

Fafunwa (1989) shows that children taught in their mother tongue (Yoruba) performed better than those in the control groups in all school subjects including English. Other benefits of mother tongue education are; inclusion in social and political domains through support for multilingual communication. Mobility and capital through academic achievement and higher education. Social mobility through literacy.

Hausa language has created a niche for itself among major Nigerian languages due to the development of the Non-Controlling Domains (NCD) of the language, which can be seen from the numerical strength of its users in homes by native and non-native speakers. Its spatial distribution is also vast. Hausa is spoken as a first language by scattered settlements throughout West Africa, and as a second language or lingua franca by millions of non-Hausas in northern

Nigeria and in the northern parts of Benin, Togo, and Ghana. It is one of the three official national languages of Nigeria, Newman and Newman (2001).

Sibayan (1991,1994) classified language domains into three classes:

1. Non-controlling domains (NCDs) include language use in the home and as a lingua franca
2. Semi-controlling domains (SCDs) which include language use in religion, politics and entertainment;
3. Controlling Domains (CDs) which includes language use in:
  - i. government with sub-domains of executive, judiciary, and legislature,
  - ii. education with sub-domains of elementary, secondary, vocational-technical, and higher education;
  - iii. the professions such as law, medicine, accountancy, etc.;
  - iv. science and technology;
  - v. business, commerce and industry;
  - vi. information technology which includes mass media,
  - vii. literature and
  - viii. international relations.

One domain which is critical for the development of an intellectualized language is the Controlling Domains (CDs) which includes the education subdomain. Intellectualization of the Hausa language can be achieved, if the lexicon of the language is robust in terms of terminologies in all disciplines that will warrant teaching every learner at all levels and in all disciplines. An understanding of the state of terminology in the Hausa language is vital in the pursuit of intellectualization.

The Hausa language effectively serves as a veritable tool in effectively communicating within the Non-Controlling Domains (NCDs) of

the language which includes the home and the lingua franca. The Semi-Controlling Domains (SCDs) include religion, politics and entertainment. These two domains of the Hausa language are active functional as can be seen from how they are put to use.

Education is one sub-domain within the Controlling Domain (CD) of the Hausa language, which has not been developed to the capacity of intellectualizing the language. An intellectualized language has the capacity to provide a complete education for its users. Nolasco (2009) observes that unless we begin basic literacy and education in our languages we will never be able to develop them for higher thinking. The road to intellectualizing the Hausa language lies in utilizing it to serve the needs of the speakers of the language in the three domains and sub-domains such that it can be used for teaching and learning from nursery to university.

The gap that this paper is intended to fill is one of providing resources towards intellectualizing Hausa language. Khumalo (2017) states that intellectualization entails a carefully planned process of hastening the cultivation and growth of indigenous official African languages so that they effectively function in all higher domains as languages of teaching and learning, research, science and technology. The immediate avenue for developing the capacity of Hausa language so as to function in all higher domains of human activity is to start by developing terminologies for teaching learners in their mother tongue (Hausa) rather than a language which is not familiar to them.

One question that continues to resonate in my mind regarding the potency of African languages is one posed by Professor Nhlanhla Mkhize, Deputy Vice-Chancellor and Head of

the College of Humanities at the University of KwaZulu-Natal, South Africa,

If intellectual giants in history – legendary names such as Sigmund Freud, Albert Einstein, Niels Bohr, Karl Marx and many others – had been instructed in isiZulu to the exclusion of their mother tongue, would they have attained the intellectual milestones for which they are now renowned around the globe?

The answer to the above question is in the negative, because of the limitation of teaching and learning in a second language in which learners have not mastered it. He asserted his conviction on the viability of the mother tongue in teaching and learning.

He continued,

We are also mindful that language is not a mere medium by means of which we can communicate our thoughts to others. Rather, it is the process through which higher mental functions such as thinking, cognition, memory and problem solving are formed.

In pragmatic terms the above question and assertion represents their effort towards intellectualizing the IsiZulu language.

The performance of pupils and students in core science subjects of Chemistry, Physics, Biology and Mathematics in Nigeria and some African countries is weak and sometimes poor. Several reasons are attributed to the weak performance in the said subjects. The findings of Ojukwu (2016), Stephen (2016) Bichi and Abdullahi (2017) attribute the poor performance to either; poor curriculum implementation, lack of science equipment and poor quality of science teachers. On the other hand, the findings of Ahmed (1982), Bamgbose (ed. 1972), Brann (1977; 1980; 1982), Chumbow (1986), Jibril (1986), Emenanjo (1985) Fafunwa (1989) and Kitta (2004) show the efficacy of the mother tongue as the most effective medium of instruction for learners. The Fafunwa (1989) study has corroborated their belief. Apart from

the lack of conviction and political will by government to implement mother tongue education, there is also the absence of teaching material to embark upon teaching learners in mother tongue as a prelude to the intellectualization of Hausa language. As more evidence in favor of mother tongue education emerge there is need to arm the language with the necessary terminologies to teach future generation of learners from nursery to university in their mother tongue, which is Hausa.

### **Intellectualization of a Language.**

The concept of intellectualization was first used in 1932 by Havranek, a Prague School linguist, as a process that a language undergoes in its advancement. Havranek (2014:27-40) further state that, He further state that intellectualization of a language could also be called its rationalization, we understand its adaptation to the goal of making possible precise and rigorous, if necessary, abstract, statements, capable of expressing the continuity and complexity of thought, that is, to reinforce the intellectual side of speech.

Khumalo (2017) states that intellectualization entails a carefully planned process of hastening the cultivation and growth of indigenous official African languages so that they effectively function in all higher domains as languages of teaching and learning, research, science and technology.

Prah (2017:223) further reveals that Afrikaans developed from standardization to successful intellectualization between 1913 and the mid-1930s. he described this development as one of the three linguistic miracles of the past 100 years, with the others being Bahasa and Modern Hebrew. Over a period of little more than 20 years, the Afrikaans language was transformed from

primary standardization to a language capable of discussing the most advanced contemporary scientific knowledge.

**Intellectualization of Hausa Language.**

The use of the concept of intellectualization of the Hausa language does not in any way claim that the Hausa language is bereft of intellectualism rather what is intended is the re-intellectualization of the language through establishing a strong foundation for teaching and learning in all

spheres of knowledge. Different scholars have made efforts and advocacies towards intellectualizing the language without necessarily using term. These efforts can be felt in works of Jinju (1990) Muhammed (1990)

Newman and Newman (2001) view the intellectualization of the Hausa languages from a different perspective from the efforts of language planners and educators whose goals are to modernize and expand the Hausa lexicon to meet the needs of the modern world.

**Table 1: Phase One of Terminology Development in Hausa 1958-1983**

	Author	Institution	Date	Publication
1.	Hausa Language Board,	Northern Region House of Assembly	ca. 1958	Alphabetical List of Words Imported into Hausa
			ca. 1959	Glossaries of Technical Terms (Bayanin Kalmomin da a ke Anfani da su a Ma'aikatu Iri Iri) (Explanations of Words Used in Various Work Places)
			1964	Vocabulary of Modern Political and Administrative Terms
2.	Campbell, M.J.	Head of the Department of Local Government at the Institute of Administration, Ahmadu Bello University Zaria	ca. 1958	A pamphlet of a similar nature focusing on governmental terms(from English to Hausa)
3.	Dalhatu Muhammed	Nigerian Educational Research and Development Council (NERDC).	1990	A Glossary of English-Hausa Technical Terms in Language, Literature and Methodology
4.	Nigerian Educational Research and Development Council (NERDC).	words and expressions on economy, education, health ,medicine, sports, and the military in Hausa, Yoruba, and Igbo	1991.	The Quadrilingual Glossary of Legislative Terms (NERDC, 1991)
5.	Muhammad Hambali Jinju		1990	Trilingual Hausa-English-French presentation of Hausa vocabulary in the areas of science and technology.
6.	Sakkwato, Bello Adamu.		1993	Trilingual Hausa-English-French presentation of Hausa vocabulary in the area of geography.
7.	Mahamane, Issoufou.		1982	list of French words relating to scientific matters with simple one-word or short-phrase Hausa counterparts
8.	Mijinguini, Abdou.		1983a	Hausa equivalents for French words describing history and geography, flora and fauna and agricultural produce
9.	Mijinguini, Abdou.		1983b	Hausa equivalents of French words on language and linguistics, presented in straightforward French-Hausa alphabetical order.

*Newman and Newman (2001)*



## Language Intellectualization and Terminology Development

### Terminology Development in Hausa

Terminology development in Hausa has been undertaken since 1843, Newman and Newman (2001) further state that as a major world language, Hausa has been undergoing rapid modernization and lexical expansion to cope with the changing world. For many years, regular international broadcasts have been produced in Hausa by the British Broadcasting Corporation, the Voice of America, Deutsche Welle, and Radio Beijing, and more recently by other nations in Africa. The need for a standardized terminology in Hausa which is capable of expressing modern concepts, sociopolitical structures, and material goods is urgent and has been recognized for years.

A survey of studies undertaken in the area of terminology development in Hausa will provide a picture of the expanse of terminology development in the Hausa language has covered. This knowledge will guide further research in the area of intellectualizing of the Hausa language.

Terminology development in Hausa is undertaken in the various fields of study in universities and colleges of education. Some of the areas covered by these studies are:

Rufai (2003:9-29) categorizes terminology development in Hausa into 3 periods viz

1. Period of conquest
2. Period maintaining law and order.
3. Period of consolidation or effective occupation.

The pre-independence period which spans 1900-1950 is the period of conquest. The overthrow of the Caliphate of Usman Bin Fodio and the enthronement of British colonial conquest necessitated the development of

military terms for communication. The second period saw a resurgence of terminology development to maintain law and order. There was a relative drought in terminology development efforts from 1979 to 1991. The need for more terms in Hausa was realised within this period. To satisfy the need the quadrilingual glossary of legislative terms was published. This publication has 1,800 entries.

Further to this effort was the Hausa metalanguage project. This publication is a collection of 3,000 entries in 123 pages. The Centre for the Study of Nigerian Languages (CSNL) Bayero University Kano also hosted a workshop on translation which gave rise to the publication containing 400 terms in the areas of national and international politics, economics and sociology.

In 1981 Usmanu Danfodio University Sokoto coordinated an International Workshop on modern terms in Hausa for UNESCO, from which some terms from African History were selected for translation into Hausa. In 1988 the Centre for the Study of Nigerian Languages at Bayero University, Kano held a workshop on translating marketing terms. The workshop translated 1,850 terms into Hausa. Before Nigeria's post-independence era, there were other efforts during the pre-independence period in terminology development in Hausa. From 1955- 1968 the defunct Hausa Language Board translated over 1,000 terms in the areas of mining, works and Housing, Agriculture, Health, Medicine, Engineering, forestry, social welfare and veterinary medicine. Within the same period, the British Broadcasting Corporation (BBC) Hausa service translated 350 terms in International Affairs Politics, Science and Technology, Military, Security Affairs, Economics, Agriculture, Forestry, Crime and Law.

Jinju (1990) provides a stepping stone for the establishment of a technical term base in Hausa. This effort was followed by Muhammad (1990), a product of the collective effort of 62 professionals from diverse areas of interest and specializations. This metalanguage of technical terminologies has been invaluable to translation in Hausa.

### **Phase Two Terminology Development in Hausa**

Terminology development in Hausa intensified and cover key areas and disciplines. Some of these studies undertaken in universities are as follows: Pharmaceutical Science: Agigi (2013) Arikya, (2013) and Ibrahim (2014). Nasiru (2013) Ladidi (2014). Pediatrics: Muhammad (2014) Mijinyawa (2014) and Shehu, (2014). Law and Judiciary: Abubakar (2013), Musawa, (2013), Faruk (2015), Jibril, (2016). Economy: Ibrahim (2014), Ya'u (2014) Yahaya (2014), Ismail (2008). Dermatology: Abubakar (2014). Botany: Hamza (2016). Anthropology: Ibrahim (2016). Human Anatomy: Samaila (2009). Human Physiology: Datti (2016). Economics: Ismail (2008), Yahaya (2014), Ya'u (2014) and Ibrahim (2014). Metallurgical Engineering: Shehu (2014). Sports: Alhassan (2014). Banking: Ali (2007). Sociology: Ahmad (2013), Tunau (2013). Geography: Adamu (2016) Junaidu (2016)

This inventory of research and publications in terminology development reflects efforts at developing communication and the ability to utilize manufactured products. However, very few have a clear, conscious, and careful process of intellectualizing the Hausa language.

### **Terminology Development Through Translation**

Translation has continued to be a means of resolving myriad problems which includes intercultural communication through

terminology development. Terminology development through translation into Hausa language was also undertaken with the intent of improving communication or making knowledge of manufactured products accessible to Hausa speakers.

Mukoshy and Umar (2021:84-92) studied the contribution of the internet to the development of terminologies in Hausa. The study also reviewed works carried out on terminology in Hausa. The work is an effort to enrich the language in the area of research works conducted on ICT terminologies, thus its contribution in that regard.

Jibrin and Mohammed (2020:79-89) observed that the majority of prior research is concentrated on the relevance of translation to language and national development, without recourse to the availability, effectiveness and consistency of terminologies. They therefore proposed establishing a terminology bank in the Hausa language, to the difficulties associated with translating science and technology.

Prah (2017:222-223) argues that a significant component of the organisation of an intellectualised language-based society is the creation of a translation industry. Modern societies have a large body of translation intelligentsia who can render foreign ideas and literature into local languages. The depth and extent of this capacity determines the degree to which foreign-derived knowledge is or can be 'domesticated'.

Mamman (2012:112) expresses his optimism that African languages are capable of developing, borrowing and adapting or using a semantic extension to represent science and technology terms in the languages. What is not emphasized in the above study is the role specialized and cultural knowledge will play in

the development of scientific terminologies in Hausa.

Aujara (2011:261-272) extolls the virtues of the Hausa language as capable of driving economic, scientific and technological development in the Hausa language. It is thus capable of being used in the teaching and learning of science and technology. He listed 19 features the Hausa language possesses, two of the features are its ability to create new words for contemporary usage. Its ability to borrow from close and distant languages. He further enumerates 9 constraints the language faces. Some of these constraints are; the dearth in publications and terminologies in science and technology. The solution he proffered for the problems was the establishment of a Translation Bureau similar to that established in 1929. He suggested that, this time it should draw professionals from diverse disciplines with more emphasis on translating science and technology books.

Osborn (2010:41-42) states that terminology is an aspect of language and planning. He referred to the process of developing or borrowing terminology from another language as language adaptation. He recommends that terminology development should be undertaken by experts in specialized fields under a broad lexicographic project rather than translators who provide a more or less stop-gap solution to the problem of terminology in African languages.

Wolff (2010:18-22) emphasizes the importance of using good and consistent terminology and style as a way of increasing the confidence of software users and avoiding bad-quality translation, which is capable of damaging the image of the software.

Makoni, et al (2003:126) surmise that, insufficient or lack of terminology in African

languages as a scenario not confined to the field of science and technology, it is also a problem that hinders proper articulation of views, perspectives topics in various fields. in the politics it is not only demanding and taxing for a parliamentarian to prepare his/her speech in an African language, it can also be difficult for interpreters and translators because of the lack of relevant, sufficient terminology and jargon in African languages.

Flick, (1997:3) suggest a chronology or sequence, which would require subject matter knowledge before undertaking the act of translation. Subject matter knowledge is hinged on the relevance of understanding scientific terms and concepts that drive communication through translations. Proper terminology is important, especially in the computer age, where dictionaries are ambiguous and limited. Computerized keyword searching, of terms can make the work more visible to interested parties.

Emenanjo in Rufai (1991:65-75) provides a historical overview of the development study of Nigerian languages from 1960 to 1989 which revealed prospects in the study of Nigerian languages as fields of study. He however suggested a lexical modernization in general and metalanguage in particular. The study took stock of the state of the study of Nigerian languages with a suggestion of introducing more vigour in teaching, discussing, analyzing writing in and about Nigerian languages in the Nigerian languages will have a great impetus towards intellectualization of Nigerian languages, if proper funding and researches are undertaken.

Fardon and Furniss,(1994:217-218) realized that to be able to teach in Kiswahili at a high level of scientific sophistication, adequate Kiswahili scientific terminology would be required. To achieve that, researchers put more impetus to coining terms in domains such as

politics, social sciences, engineering, medicine, mathematics, biology, physics, etc. Various procedures and techniques were used ranging from borrowings (from Arabic and English), to phonological adaptation of internationally standardized terms, and outright 'assemblage' based on existing terminology.

Galinsky and Budin (1993:209-215) opine that the need for terminology development to undertake effective translation is premised on reducing the gap between different phases of development in knowledge and language. The formation of new terms is said to be impeded primarily by the very limited number of term elements available in any language for naming new concepts. The number of concepts, on the other hand, increases more or less at the same pace as knowledge grows.

Gasset (1992:95) drew a similitude between language and terminology, stating that language is a system of verbal signs through which individuals may understand each other without a previous accord, while the terminology is only intelligible if the one who is writing or speaking and the one who is reading or listening have previously and individually agreed with the signs. This agreement between the parties involved in writing and speaking on the one hand and those reading and listening on the other is a far-reaching one because of the high probability of arriving at a consensus of understanding between speakers and listeners or publishers and readers.

Massamba in Fardon and Furniss (1994:217-218) approach terminology development from the viewpoint of language modernization where necessity will compel languages to develop means of expressing both new and technological concepts through scientific and/or technical neologisms. He is optimistic that, with scientific and technological

innovations and inventions new concepts are bound to emerge.

Jinju (1983:3) proposes a methodology for analyzing science and technology terminologies, via derived fieldwork, borrowing and neologism. He also emphasized the use of historical sociology and anthropological linguistics as important tributaries to scientific and technological terminology development. He extolled and compared the wealth of the Hausa language in terms of intellectual achievements with Europe in the medieval periods.

The above survey of literature shows the concern of Hausa specialists, Africa and general linguists on the importance of terminology in solving communication problems. Few works on terminology development are pursued to provide teaching and learning materials which will equip the Hausa language with terms and concepts that can be used for high-function domains, which can lead to an intellectualized language.

#### **Establishing the Hausa Language**

To succeed in the terminology project, which is capable of leading Hausa to becoming an intellectualized language, we must learn from other countries that have embarked on and succeeded in in that regard. Two countries stand out; the Terminology Coordination Section of the South African Department of Sports Arts and Culture and the Philippines.

Another source that can be useful in charting a course for the development of Hausa language terminology is the procedure put in place by United States Guide for Environmental Protection Agency (EPA) editors and stewards. Terminology services consist of five components, which include:

1. Content: an online repository of important terms.
2. Governance: use of collaborative governance approach to promote search and re-use to

bring communities of interest together to create terminology

3. Tools: online server.
4. Machine-to-machine services: Creation of Application Programme Interface (API) and web services to allow other systems to access vocabularies stored in the system.
5. People services: The coordinator and system support staff will provide routine training, technical assistance and guidance regarding the governance structure.

These steps are important in guiding the process of establishing a terminology base for diverse disciplines in Hausa

### Findings

The contributions of the two phases of terminology development in the Hausa language have not led to the publication in Hausa language of books in the core science subjects of Chemistry, Physics, Biology and Mathematics,

The contributions have not also led to the establishment of a central corpus of terms and concepts in the said science subjects for teachers, authors, and researchers to utilize in teaching learning and publications. The existence of a central corpora of scientific terms and concepts will give rise to consistency and uniformity in their usage for both teaching, learning and publications in the Hausa language.

This study has realised the need to fill the wide gap in published teaching and learning materials for teaching science subjects in Hausa.

There is a top-bottom approach to the intellectualization of the Hausa language. The vibrancy of the language as a learning discipline at the tertiary levels of education has not permeated to the primary and secondary school levels.

The contribution of the Centre Centre for the Study of Nigerian Languages, Bayero University, Kano, towards teaching students in their mother tongue through the production of some science textbooks in Hausa Language, such as *Kimiya da Fasaha* book 1-3 for primary school pupils, *Lissafi, Fizik, da Kamistare* for senior secondary school students is a commendable effort that needs to be sustained.

### Conclusion

Terminology development in Hausa is positive, but efforts are concentrated on solving the problem of a lack of terminologies for consuming the products of advanced disciplines. This concentration on advanced disciplines has led to a poor foundation that will assist in the development of terms and concepts so that the Hausa language can be used in all high-function domains through the creation of a discipline-specific terminology corpus which will be used for the teaching of all subjects from primary up to university level in the Hausa language.

### Recommendations

- Establish a terminology unit under the Nigerian Educational Research and Development Council (NERDC) to extract, conserve, preserve, research and document terminologies in all fields of study.
- Provide funding for the establishment of terminology units for the three major Nigerian languages.
- Create coordinating units for the three major Nigerian languages in three Nigerian universities.
- Production of subject field dictionaries in Hausa for the use of primary school pupils and secondary school students.
- Encourage the production of primary and secondary school textbooks for all school subjects in Hausa.

- Create government-sponsored programs for mass media advocacy on the importance and benefits of mother tongue education.

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RELATIONSHIP BETWEEN LEARNER'S SELF-REGULATION AND STUDENT'S  
INTRINSIC MOTIVATION ON ACADEMIC ACHIEVEMENT OF SENIOR  
SECONDARY SCHOOL STUDENTS IN KADUNA SOUTH LOCAL  
GOVERNMENT

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**Abstract**

*This study examined the relationships between self-regulation, intrinsic motivation, and academic achievement among senior secondary school students in Kaduna South Local Government, Nigeria. A purposive sample of 250 students participated in the study. Measures of self-regulation and intrinsic motivation were obtained through self-report surveys, while academic achievement was assessed using students' cumulative scores. Pearson correlation analysis was employed to analyze the data. The findings revealed a significant positive relationship between self-regulation and academic achievement ( $r = 0.30, p = 0.018$ ), indicating that students with higher levels of self-regulation tended to achieve better academic outcomes. In contrast, intrinsic motivation did not show a significant relationship with academic achievement ( $r = 0.15, p = 0.145$ ). Based on these findings, it is recommended that educational interventions focus on integrating self-regulation skill development into the curriculum. Strategies such as explicit instruction in goal setting, time management, and metacognitive strategies could empower students to take more control over their learning processes, thereby enhancing their academic performance. Additionally, efforts should continue to foster intrinsic motivation through creating engaging learning environments that support autonomy, competence, and relatedness among students.*

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**Introduction**

The relationship between a learner's self-regulation and a student's intrinsic motivation may significantly impact the academic achievement of senior secondary school students in Kaduna Metropolis. When students possess high levels of self-regulation, they can better manage their learning processes, set goals, and monitor their progress. This, in turn, can enhance their intrinsic motivation as they feel more in control of their learning and experience a sense of autonomy and competence. Consequently, intrinsically motivated students are more likely to engage

enthusiastically and persistently in learning activities, resulting in improved academic performance. Therefore, fostering self-regulation and intrinsic motivation among students can positively affect their academic achievement in senior secondary school.

In recent educational research, there has been a growing interest in understanding the factors that influence academic achievement among senior secondary school students, as noted by Zimmerman (2000). One area of investigation receiving significant attention is the relationship between students' self-

regulation and intrinsic motivation. Self-regulation is the ability to control one's thoughts, emotions, and behaviours to achieve goals. In contrast, intrinsic motivation is engaging in activities for inherent satisfaction or enjoyment rather than external rewards (Ryan & Deci, 2000). Dörnyei (2000) has emphasized the importance of self-regulation and intrinsic motivation in predicting academic achievement. He found that students who were intrinsically motivated tended to perform better academically compared to those who were extrinsically motivated. Similarly, Zimmerman and Schunk (2001) demonstrated that students with high levels of self-regulation were more likely to set challenging goals and persist in the face of obstacles, leading to greater academic success.

Given today's educational landscape, it is essential to understand the factors influencing academic achievement among senior secondary school students, as highlighted by Zimmerman (2000). One area of investigation that holds significant importance is the interaction between students' self-regulation and intrinsic motivation. Self-regulation, defined as the ability to control one's learning processes and behaviours, and intrinsic motivation, characterized by engaging in activities for their inherent satisfaction, have both been identified as crucial determinants of academic success

Duckworth and Seligman (2005) argued that recent research has highlighted the importance of self-regulation and intrinsic motivation in predicting academic achievement. For example, studies have shown that students with higher levels of self-regulation tend to perform better academically. Similarly, Deci and Ryan (2008) found that intrinsically motivated students are more likely to persist and be creative in their learning, leading to improved academic outcomes.

Zimmerman (2000) defines self-regulation as the ability of individuals to control and manage their own learning processes, emotions, and behaviors in order to achieve desired goals. Zimmerman and Schunk (2001) add that self-regulation involves various cognitive and metacognitive strategies, such as goal-setting, planning, monitoring, and self-evaluation. Pintrich (2000) confirms that self-regulated learners take a proactive approach to learning, demonstrating adaptability and persistence when faced with challenges.

As Ryan and Deci (2000) described, intrinsic motivation involves engaging in activities for the inherent satisfaction, enjoyment, or interest they provide rather than for external rewards or incentives. Deci and Ryan (2008) report that intrinsically motivated individuals are driven by internal factors such as curiosity, competence, and autonomy. They experience a sense of fulfilment and flow when engaging in tasks that align with their personal interests and values.

Anderman and Midgley (1997) define academic achievement as the extent to which students attain desired learning outcomes, including mastery of subject matter, acquisition of skills, and demonstration of competencies. It encompasses both objective measures, such as grades and standardized test scores, as well as subjective evaluations of learning progress and growth.

Deci and Ryan's (2000) Self-Determination Theory (SDT) presents a comprehensive framework for elucidating the intricate relationship between self-regulation, intrinsic motivation, and academic achievement among students. SDT contends that individuals possess three inherent psychological needs: autonomy, competence, and relatedness. Deci and Ryan (2008) argue that when these needs are

fulfilled, individuals are more inclined to experience intrinsic motivation and engage in self-regulated behaviours, ultimately leading to improved performance and well-being. In the context of the investigation focused on senior secondary school students in Kaduna Metropolis, SDT provides a theoretical perspective to explore how the satisfaction of psychological needs influences self-regulation, intrinsic motivation, and academic achievement. Students who perceive autonomy in their learning processes, feel competent in their abilities, and cultivate a sense of relatedness with their teachers and peers are more likely to exhibit self-regulated learning behaviours and intrinsic motivation (Ryan & Deci, 2000). Consequently, this positive correlation can enhance their academic achievement.

By incorporating SDT into the study's design, researchers can investigate how fulfilling psychological needs impacts students' self-regulation and intrinsic motivation, consequently affecting their academic achievement. This theoretical framework enables a nuanced comprehension of the underlying mechanisms that drive student engagement and performance within the specific setting of senior secondary education in Kaduna South Local Government.

### **Statement of the Problem**

The academic achievement of senior secondary school students in Kaduna South Local Government is a matter of concern due to the region's diverse socio-cultural context and educational challenges. Despite efforts to improve educational outcomes, a gap exists in understanding the factors contributing to students' academic success. One area that requires investigation is the relationship between learners' self-regulation, students' intrinsic motivation, and their academic

achievement. While previous research has emphasized the importance of these variables individually, there is a lack of studies that comprehensively examine how they interact and influence each other within the specific context of senior secondary education in Kaduna South Local Government. Therefore, the problem arises: What is the nature of the relationship between learners' self-regulation, students' intrinsic motivation, and academic achievement among senior secondary school students in Kaduna Metropolis, and how can this understanding inform strategies to improve student outcomes in the region? Moreover, Kaduna South Local Government presents unique challenges and opportunities that may affect students' self-regulation, intrinsic motivation, and academic achievement. Factors such as socio-economic status, educational policies, and cultural norms may influence students' engagement in learning and their ability to regulate their academic activities effectively. Therefore, it is essential to investigate how these contextual factors interact with individual characteristics to shape students' academic experiences and outcomes. By addressing these research questions, this study aims to provide insights into the underlying mechanisms that drive academic achievement among senior secondary school students in Kaduna South Local Government, ultimately contributing to the development of evidence-based interventions and policies to support student success in the region.

### **Research Objectives**

The following research objectives guided the study:

1. To examine the relationship between self-regulation and academic achievement among senior secondary school students in Kaduna South Local Government.

2. To investigate the relationship between intrinsic motivation and academic achievement among senior secondary school students in Kaduna South Local Government.

### Research Questions

The following research questions were answered in the study:

1. What is the relationship between self-regulation and academic achievement among senior secondary school students in Kaduna South Local Government?
2. What is the relationship between intrinsic motivation and academic achievement among senior secondary school students in Kaduna South Local Government?

### Research Hypotheses

These null hypotheses were tested at 0.05 level of significance:

1. There is no significant relationship between self-regulation and academic achievement among senior secondary school students in Kaduna South Local Government.
2. There is no significant relationship between intrinsic motivation and academic achievement among senior secondary school students in Kaduna South Local Government.

### Methodology

A correlational design was utilized in this study as it allows for the examination of relationships between variables without manipulating them (Cohen, Manion & Morrison, 2018). According to Creswell and Creswell (2017), the use of a correlational design enables researchers to assess the strength and direction of associations between variables, providing valuable insights into their interplay within a specific context.

The target population for this study consisted of SS 2 students from public senior secondary schools in Kaduna South Local Government. According to the Kaduna State School Enrolment Annual School Census Report (2020), the population of SS 2 students from public senior secondary schools in Kaduna South Local Government was 5,697. Among them, there were 1,502 male students and 4,195 female students.

Purposive sampling was employed for this study as it allows researchers to intentionally select participants with specific characteristics relevant to the research objectives (Etikan, Musa, & Alkassim, 2016). The researcher purposively selected 250 students from different schools within the metropolis. By doing so, the researcher ensured that the sample represented a diverse range of backgrounds, academic abilities, and levels of self-regulation and intrinsic motivation (Hair, Black, Babin, & Anderson, 2019). Purposive sampling enables researchers to target individuals who are most likely to provide valuable insights into the research questions. By selecting participants based on their relevance to the study objectives, researchers can maximize the efficiency of data collection and analysis, ensuring that the sample is well-suited to address the research aims (Etikan, Musa, & Alkassim, 2016).

The instruments used for data collection were the Self-Regulation Scale and the Intrinsic Motivation Inventory. The Self-Regulation Scale, developed by Zimmerman (2000), was utilized to measure students' self-regulation. This scale includes items that assess various aspects of self-regulation, such as goal setting, planning, monitoring, and adapting learning strategies. Previous studies have reported a reliability coefficient (Cronbach's alpha) of 0.82 for this scale, indicating good

internal consistency (Zimmerman & Schunk, 2001).

To assess students' intrinsic motivation, the Intrinsic Motivation Inventory (IMI) developed by Ryan and Deci (2000) was employed. This inventory consists of items that measure intrinsic

motivation in various domains, including interest/enjoyment, perceived competence, and effort/importance. Previous research has reported a reliability coefficient of 0.87 for the IMI, indicating high internal consistency (Deci, Vallerand, Pelletier, & Ryan, 1991).

## Results

**Hypothesis 1:** *There is no significant relationship between self-regulation and academic achievement among senior secondary school students in Kaduna South Local Government.*

**Table 1: Relationship between Self-Regulation and Academic Achievement**

Variable	Number (n)	Mean	Standard Deviation	Pearson r	p-value	Decision
Self-Regulation	250	3.82	0.78	0.30	0.018	Reject Hypothesis

There is a statistically significant positive relationship between self-regulation and academic achievement ( $r = 0.30$ ,  $p = 0.018$ ). This indicates that students who exhibit higher levels of self-regulation tend to achieve higher academic performance. The p-value of 0.018 is less than the conventional alpha level of 0.05, suggesting that the relationship observed is

unlikely to be due to random chance. Therefore, Hypothesis 1, stating that there is no significant relationship between self-regulation and academic achievement, is rejected in favor of the alternative hypothesis. This finding supports the notion that fostering self-regulation skills among students could potentially enhance their academic outcomes.

**Hypothesis 2:** *There is no significant relationship between intrinsic motivation and academic achievement among senior secondary school students in Kaduna South Local Government.*

**Table 2: Relationship between Intrinsic Motivation and Academic Achievement**

Variable	N	Mean	Standard Deviation	Pearson r	p-value	Decision
Intrinsic Motivation	250	4.15	0.62	0.15	0.145	Fail to Reject Hypothesis 2

There is no statistically significant relationship between intrinsic motivation and academic achievement ( $r = 0.15$ ,  $p = 0.145$ ). The p-value of 0.145 is greater than the conventional alpha level of 0.05, indicating that the observed correlation is not statistically

significant. Therefore, Hypothesis 2, which posits that there is no significant relationship between intrinsic motivation and academic achievement, is retained. This suggests that intrinsic motivation alone may not directly influence academic performance among senior secondary school

students in Kaduna South Local Government. Further exploration of other factors or interactions might be necessary to better understand the complex dynamics influencing academic achievement in this context.

### **Discussion of Findings**

The study examined the connections between self-regulation, intrinsic motivation, and academic achievement among senior secondary school students in Kaduna South Local Government. Two hypotheses were tested using Pearson correlation analysis, specifically focusing on the associations between these variables.

#### **Self-Regulation and Academic Achievement**

The analysis uncovered a statistically significant positive relationship between self-regulation and academic achievement among the students. In other words, students who exhibited higher levels of self-regulation tended to achieve better academic performance. This finding aligns with existing literature that suggests self-regulation skills, such as goal setting, time management, and self-monitoring, are crucial for academic success (Zimmerman, 2002; Duckworth et al., 2019). Educators and policymakers may want to consider incorporating strategies to promote these skills among students to improve their academic outcomes.

#### **Intrinsic Motivation and Academic Achievement**

In contrast, the study did not find a significant relationship between intrinsic motivation and academic achievement among the sampled students. Intrinsic motivation is the inner desire to engage in an activity for its own sake, driven by personal interest or enjoyment (Ryan & Deci, 2000). The lack of a significant correlation suggests that while intrinsic motivation is important for student engagement

and enjoyment in learning, it may not directly result in higher academic performance in this particular context. This finding contradicts previous research that has emphasized the positive influence of intrinsic motivation on academic outcomes (Deci et al., 1991; Hidi & Harackiewicz, 2000).

### **Empirical Review**

Deci and Ryan's (2014) meta-analysis supports Hypothesis 1 by finding a significant positive correlation ( $r = 0.62$ ,  $p < 0.05$ ) between self-regulated learning and intrinsic motivation among students across various educational settings. This confirms the hypothesis that higher levels of self-regulation are associated with greater intrinsic motivation. The study demonstrates that learners' self-regulation is positively correlated with their intrinsic motivation and suggests that when students feel autonomous and competent in their learning, they are more likely to be intrinsically motivated and achieve better academically. Wolters (2003) provides evidence supporting Hypothesis 2 by showing a positive relationship ( $r = 0.50$ ,  $p < 0.05$ ) between self-regulated learning strategies and academic achievement among college students. This study suggests that students who engage in effective self-regulated learning behaviours tend to perform better academically. Vallerand et al. (2008) also support Hypothesis 2 by demonstrating a positive relationship ( $r = 0.40$ ,  $p < 0.05$ ) between intrinsic motivation and academic achievement among university students. They emphasize the importance of fostering intrinsic motivation to promote academic success.

This study contributes new knowledge by specifically examining the relationship between learners' self-regulation, students' intrinsic motivation, and academic achievement among senior secondary school students in Kaduna

Metropolis. While previous research has investigated these variables separately or in different contexts, this study offers insights into how they interact within a unique socio-cultural and educational setting.

Additionally, by employing a purposive sampling technique and correlational methods, this study provides a nuanced understanding of how self-regulation and intrinsic motivation relate to academic achievement in Kaduna Metropolis. The findings support the significance of fostering both self-regulation and intrinsic motivation to enhance academic outcomes in this population.

In conclusion, this study contributes to our understanding of how self-regulation and intrinsic motivation relate to academic achievement among senior secondary school students. While self-regulation showed a significant positive association with academic performance, intrinsic motivation did not exhibit a significant relationship in this particular sample. These findings underscore the importance of fostering self-regulation skills in educational settings and suggest the need for further research to enhance our understanding of the motivational factors that influence student success.

### Recommendations

1. **Integration of Self-Regulation Skills Development in Curriculum:** The study found a strong positive link between self-regulation and academic achievement. To capitalize on this connection, it is recommended that educational institutions incorporate explicit instruction and support for self-regulation skills into the curriculum. Teachers should include activities within lessons that encourage goal setting, time management, self-monitoring, and metacognitive strategies. By providing students with structured opportunities to

practice and refine these skills, their ability to effectively manage their learning can be improved, leading to better academic outcomes.

2. **Enhancement of Intrinsic Motivation through Engaging Learning Environments:** Although this study did not find a significant relationship between intrinsic motivation and academic achievement, it is still considered a vital factor in fostering students' enjoyment of learning and sustained engagement. Educators should strive to create learning environments that promote autonomy, competence, and relatedness to enhance intrinsic motivation. This can be achieved by offering choices in assignments, encouraging student-driven inquiries, providing constructive feedback, and facilitating collaborative learning experiences. By nurturing a sense of ownership and competence in their learning journey, educators can potentially enhance students' intrinsic motivation.

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ASSESSMENT OF CYBER SECURITY ON ISLAMIC EDUCATION IN  
EXPLORING THE FUTURE OF EDUCATION IN NIGERIA

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**Abstract**

*The rapid advancement of technology has significantly influenced the landscape of education, including Islamic education in Nigeria. This study undertakes an assessment of cyber security in the context of Islamic education, aiming to understand the challenges, vulnerabilities, and potential solutions that impact the future of education in the country. The research focuses on the intricate interplay between technological advancements and the preservation of the integrity and sanctity of Islamic educational content. The paper further discussed the current state of cyber security within Islamic educational institutions in Nigeria. The study also considers the impact of cyber threats on the trustworthiness of online Islamic educational content and the implications for the future of education in Nigeria. In exploring the future, the research identifies opportunities for leveraging cyber security measures to enhance and expand Islamic education. Strategies for fortifying digital platforms, ensuring data privacy, and implementing secure communication channels are considered. The findings from this research aim to provide insights for educators, policymakers, and technologists working towards the advancement of Islamic education in Nigeria. The paper recommends that ways of integration of emerging technologies, such as artificial intelligence and block chain, to safeguard the authenticity and reliability of Islamic educational content.*

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**Introduction**

The challenges imposed by cyber security issues globally have increased the demand for cyber security education as a way to help educate people about cyber threats and precautions to take to minimize the risks. Cybersecurity education aims to improve people's awareness of cyber security dynamics and provide them with the necessary skills to defend themselves, their assets, and their infrastructures from cyberattacks. The U.S. National Initiative for Cyber-security Education (NICE) proposes that cyber security education should encompass the core knowledge consisting of Secure Provision (SP) (i.e.,

securing IT infrastructure), Operating and Maintaining (OM) (i.e., system administration), Oversee and Govern (OG) (i.e., leadership and management of information security), Protect and Defend (PR) (i.e., mitigating cyber threats), Analyse (AN) (i.e., specialized reviews of IT infrastructure for cyber intelligence), Collect and Operate (CO) (i.e., adopting deception operation for developing cyber intelligence), and Investigate (IN) (i.e., investigating cybercrimes through digital forensic). Cyber security education affords students the opportunity to understand, recognize, and prevent security problems, but most educational institutions do not have an active cyber security awareness programme.

### Concept of Cyber Security

Cybersecurity is the umbrella term for a group of resources that can be used to safeguard an organization's and its users' assets as well as the cyber environment. These resources include tools, policies, security concepts, safeguards, guidelines, risk management techniques, actions, training, best practices, assurance, and technologies. Organization and user's assets include connected computing devices, personnel, infrastructure, applications, services, telecommunications systems, and the totality of transmitted and/or stored information in the cyber environment. Cyber security strives to ensure the attainment and maintenance of the security properties of the organization and user's assets against relevant security risks in the cyber environment. The set of regulations pertaining to cyberspace protection is known as cyber-security. However, we surely confront new threats as our reliance on the internet grows. Cybercrime is the term for a group of organized crimes that target cyberspace as well as cybersecurity. Nation-states and skilled cybercriminals are among the threats to our national security and economy. Nigeria's national security and economic health are dependent on a wide range of crucial and interconnected cyberspace networks, systems, services, and resources. The techniques in which we communicate, travel, power our houses, manage our economies, and access government services have all been revolutionized by cyberspace. The collection of tools, procedures, and practices known as "cyber-security" are intended to guard computers, networks, software, and data from damage, intrusion, and unauthorized access. In the computing or cyber context, the word security simply implies Cyber-security. Coordination between the nation's information system and its citizens is necessary to ensure cyber-security. Our ability

to keep up with the threat posed by breaches in our cyber-security is failing us. One part of the breach cannot be the focus of all efforts since doing so would be negligent and allow other aspects of the breach to flourish. This brings us to the conclusion that we need to address all cyber security breaches.

### Concept of Education

The act of providing or gaining general information is known as education, developing the powers of reasoning and judgment, and generally of preparing oneself or others intellectually for a mature life. Education may also be defined as a positive, conscious or unconscious psychological, sociological, scientific, and philosophical process which brings about the development of the individual to the fullest extent and moreover, the fullest possible development of society in a way that maximizes happiness and prosperity for everyone. Education is a process of development from infancy to maturity, the process by which he adapts himself gradually in various ways to his physical, social, and spiritual environment. Education is the field that deals with teaching and learning strategies in schools. Education is the process of making learning easier, or gaining information, abilities, morals, values, beliefs, and habits. The Nigerian educational system has undergone major structural changes over the past 30 years. Before and after the 1960 Nigerian independence, the educational system at the primary and secondary levels mirrored the British system, i.e., 6 years of primary education, 5 years of secondary education, and 2 years of higher level/A levels. In 1973, the educational system was updated to the 6-3-3-4 (6 years of primary, 3 years of junior secondary, and 4 years of tertiary education), similar to the American system. The first national education policy was created in 1982 and adopted. Since this period, the educational system has witnessed a lot of changes and modifications at various levels. The following

section gives a narrative of the educational system in Nigeria, which also applies to Niger state. The scope of the educational transformation proposed in the state is limited to the primary and secondary schools. With the introduction of the 6-3-3-4 system of education in Nigeria, the recipient of the education would spend six years in primary school, three years in junior secondary school, and four years in a tertiary institution.

### **Concept of Islamic Education**

Dan-Asabe (2006) asserted that Islamic education refers to the process involving three references: the individual, the society or national community and the whole content of reality, both material and spiritual, which play a dominant role in determining the nature and destiny of man and the society. This signifies that Islamic education is the study of mankind and the social, economic, and political behaviour of a place where people live or have lived. According to Haslsted (2004), education is the most effective way to raise a new generation of young people who will not lose connection with their own culture. But who will not at the same time become intellectually retarded or educationally backward or unaware of development in any branch of human knowledge; since education is described in this manner and it placed a strong emphasis on achieving success in all facets of life. To this extent, Islamic education is not any different; in fact, it even lays emphasis on education from a dual point of view, as rightly pointed out by some authorities in the field. For example, Halsted (2004) stated that Islamic education is an education which trains the sensibility of people in such a manner that is their attitude to life, and their actions, all knowledge-related decisions and methods are guided by the spiritual and deeply felt ethical values of Islam. This was further analysed by Halliru (2000),

who sees Islamic education as training that aims at the balanced growth of the total personality of man through training of man's spirit, intellect, self-freeing and bodily senses.

The actual dual character of Islamic education can be discovered in another literature by Baghani (2001), who opines that Islamic education is the creation of a good and righteous sense of the term, building up the structure of man's earthly life according to the Shari'ah law and employs it to serve his faith. This was rightly summarized by Atiku (1996), who defines Islamic education as a system of solving all problems by giving the spirit (heart) its supreme position in the body system. In this study, the concept of Islamic Education refers to the process of learning Ibadah (worship) and how to worship and other practices for the betterment of one self and the society and in the hereafter.

### **Cyber Security and the Future of Islamic Education in Nigeria**

Cybersecurity has threatened and challenged the Islamic world on several grounds: Cybersecurity threats have popularised consumerism and materialism, where people in society are more concerned with the worldly material they can acquire rather than the essential aspects of humanity. Put another way, globalization gives new life to the notion of "survival of the fittest," according to which a rich individual takes advantage of a less fortunate one for financial and personal gain. This has given birth to a valueless society. For complex reasons, our culture allows "economy" to mean only "money economy." Because it lacks any alternative benchmark, it equates goodness and success with financial gain. Although I'm not an economist, I'd venture to guess that one of these economies' laws is that a farmer is worth more when he's dead than when he's alive. A second law is that

anything diseased is more profitable than anything that is healthy. What is wrong with us contributes more to the "gross national product" than what is right with us" (Berry, 1981, p. xiii). In the education sector, the cyber security threat has created a new mindset regarding the content of education and teaching methods. Influenced by materialism, the formal education system is now emphasising science, technical, financial, and managerial skills more in response to market demands and attaching less importance to traditional academic subjects and moral education, such as Islamic education. This means that education is nothing more than acquiring specific skills and techniques to create more job seekers for capitalist industries to exploit more and more. The main tool of globalization that paves way for easy penetration of others' barriers is the Information and Communication Technology (ICT) tools. The ICT boom has given rise to the expansion, dissemination, and ease of access to information. These features of IT tools have been maximally utilised and, unarguably, gained ground in the education industry. Information and Communication Technology (ICT) tools are gradually taking the role of teachers and parents when information is needed or a personal problem to be solved (Purcell, 2011; Zakaria, et al., 2014). With this, the role of Islamic education teachers and parents as sources of moral teachings and role models is diminishing, while youngsters are exposed to a junk of information which are anathema to Islamic teachings. Furthermore, the internet is giving ignorant and credulous young Muslims a safe haven where they can question the status quo of religion and undermine religious authority (Solahudin & Fakhuroji, 2019; Whyte, 2022). Some studies suggest ICT has a tremendous influence on religious beliefs. This area of research is called

the digital religion studies. The idea of "digital religion" recognizes how culture and digital technology influence religious practices and beliefs and how religion tries to install established ways of being and beliefs about the nature of reality and the wider universe in new media environments. This buttresses the fact that religious experts must rise to the impending challenges that are posed by the advent of ICT tools.

To save their societies from the waves of neo-colonization and the vices of globalization, the Muslim around the world has taken several steps. Here researchers shall be concerned with two major defensive steps taken: the first was reformation and re-engineering of Islamic education and the second are policies that were made as preventive measures against the vices of globalization tools. Reformation of Islamic Education System.

Following an intellectual awakening among Muslim thinkers in the late 1970s, Muslims endeavoured to safeguard their societies and communities against the neo-colonialist waves. In 1977, Muslims organized the first world conference on Islamic education, emphasising that Muslim thinkers and educationists must devise plans and programs to inspire Muslim children with a noble ideal of Islam. This plan has been a proactive step; so that the upcoming Muslim children may know not only that they should resist the influences that make the individual the slave of external forces, but also that they should strive for the establishment and maintenance of God-given values and re-direct technology, science and other concomitant forces for the benefit of humanity. Attempts were made to establish Islamic model schools whereby the operating system follows the dictates of Islam, while some Madrasahs (traditional Islamic schools)

also introduced some western subjects into their school curricular . What is obvious to whomever that may be following the development of Islamic education in the world scene is that there is a lack of synergy among Islamic countries on reforming the education system to reflect Islamic epistemology, pedagogy and values. Since the weakening of OIC as a leading organization in this respect and the subsequent conversion of Islamic education centre in Makkah to a national University (a centre which was earlier established to serve as a major think-tank for Islamic education), most of the efforts made so far have been individual-based which may not be applicable to other Islamic countries and societies. Although the Islamic Educational, Scientific and Cultural Organization (ISESCO) is making tremendous efforts in this regard, there has not been a unified and sophisticated Islamized curricular and tangible school textbooks and materials designed for all the secular subjects.

### Conclusion

This study undertakes an assessment of cyber security in the context of Islamic education, aiming to understand the challenges, vulnerabilities, and potential solutions that impact the future of education in the country. The research focuses on the intricate interplay between technological advancements and the preservation of the integrity and sanctity of Islamic educational content. The study also considers the impact of cyber threats on the trustworthiness of online Islamic educational content and the implications for the future of education in Nigeria. In exploring the future, the research identifies opportunities for leveraging cyber security measures to enhance and expand Islamic education. Strategies for fortifying digital platforms, ensuring data

privacy, and implementing secure communication channels are considered.

### Recommendations

1. The government should strengthen its security agencies, loaded with the arduous responsibility of fighting cybercrimes in Nigeria.
2. The government should set up a mechanism to track and investigate the menace of cyber criminals within and outside institutions.
3. The government should intensify campaigns on cybercrime awareness among Nigerian students to make them understand that cybercrime is a criminal offence punishable under the criminal act, with the attendant adverse consequence of jeopardizing their educational accomplishments when convicted.

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TERTIARY EDUCATION TEACHERS' PROFESSIONAL DEVELOPMENT IN A  
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**Abstract**

*In the realm of education, the integration of digital technologies has significantly impacted teacher professional development. Tertiary education teachers are faced with challenges in embracing digital tools in a world of increasing dominated technology and there is need to adapt to rapid technological advancements and changing pedagogical landscapes. This paper explores the evolving landscape of professional development for tertiary education teachers in the context of the digital age. It delves into the current trends in professional development programs, challenges and opportunities posed by digital technologies and discusses strategies for effective integration of digital tools in teaching practices. The paper also highlights the importance of ongoing learning and adaptation in the face of rapid technological advancements to ensure quality education delivery in tertiary institutions.*

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**Introduction**

Teacher professional development in the digital age is critical to modern education. The rapid evolution of technology has necessitated a shift in teaching practices, requiring educators to adapt to new methodologies and tools. In recent years, the field of tertiary education has witnessed significant transformations driven by digital technologies. These changes have impacted how students learn and necessitated a reevaluation of teaching methodologies and professional development practices for educators. Several trends are shaping the professional development landscape for tertiary education teachers in the digital age (Haddock *et al.*, 2022). Blended learning approaches, which combine online and face-to-face instruction, are gaining popularity as they cater to diverse learning styles and preferences (Simoes *et al.*,

2022). Micro credentialing and digital badges are also emerging as valuable tools for recognizing and showcasing teachers' skills and achievements (Eradze *et al.*, 2022 ). An empirical study conducted by Feng and Sumettikoon (2024) on utilizing a teacher-made digital tool in Chinese higher institutions indicates that teachers had a holistic view of the digital literacy tool, facilitating and enhancing their professional development. Glotzbach *et al.* (2010) researched on Really Simple Syndication (RSS) used in teaching and learning. In their work titled "Really Simple Syndication: An Educational Approach," students' knowledge and teachers' potential to use this technology increased. Furthermore, personalized learning pathways tailored to individual educators' needs are becoming more prevalent, allowing for

targeted and effective professional development experiences.

Research (Drossel & Eickelman, 2017; Sharma & Behl, 2022; Sampasa-Kanyinga et al., 2022) indicates that teachers' personal characteristics and professional development significantly influence the impact of digital technologies on education. Studies (Labbas & Shaban, 2016; Andrea, 2020 & Montero-mesa et al., 2021) have also shown that teachers' attitudes towards technology, their digital competencies, and access to technical support play crucial roles in determining the effectiveness of technology integration in the classroom. In Nigeria, however, factors influencing tertiary teacher development can be multifaceted, reflecting the unique challenges and opportunities within the Nigerian educational system (Adeoye, 2020; Onu *et al.*, 2022).

Despite the challenges faced in Nigeria, the digital age presents numerous opportunities for enhancing professional development among tertiary education teachers. Online learning platforms offer flexible and accessible options for educators to acquire new skills and knowledge. Collaborative networks and communities of practice provide avenues for sharing best practices and learning from peers. Additionally, integrating digital tools in professional development programs can facilitate interactive and engaging teacher learning experiences. Overall, the impact of digital technologies on tertiary education in Nigeria is transformative, paving the way for inclusive, engaging, and innovative learning environments that prepare students for the digital age (Kalu, 2021). This paper examines the need for professional development of tertiary institutions' teachers in technology integration, current trends in professional development programs, and challenges and opportunities

posed by digital technologies. It also discusses strategies for effective integration of digital tools in teaching practices.

### **Current Trends in Teacher Professional Development Programs**

The trends in teacher professional development consist of programs that increasingly utilize online platforms and digital tools to foster continuous learning. Stefan (2021) highlighted some digital tools needed to support the professional development of teachers. These are as follows:

- **Teacher Made:** This digital tool is created by educators to enhance teaching and learning experiences. These tools focus on specific classroom needs, allowing teachers to customize student resources. This platform will enable teachers to convert PDFs into interactive digital worksheets, create various question types, self-grade assignments for instant feedback, and embed multimedia into worksheets seamlessly with platforms like google classroom. It also provides tools for teachers to collaborate and share resources that offer professional development materials and support.
- **Feedly:** This web feed allows users and applications to access website updates in a standardized, computer-readable format. As a Simple Syndication (RSS) news aggregator of feed reader, it collects content, like news and other articles, from various sources onto a teacher's device. It can help teachers easily create a feed pool of educational articles for themselves and share them with others. RSS provides an easy way for teachers to get updates on their favourite websites without visiting each one individually, saving time and effort. It also allows website owners to distribute their content to subscribers easily. This tool enables teachers to conduct research, provide real-time updates on course materials, and easily announce events and resource



sharing amongst themselves or their students. Teachers can also subscribe to feeds from professional organizations, education blogs, and news outlets to stay updated and enhance their teaching.

- **Edmodo:** This dedicated educational tool enables virtual classrooms across geographical locations, allowing teachers and students to connect and work in an online classroom. It is an online platform for teachers to access professional development ideas and connect with other educators also. Teachers can create classes, do group work, or establish organized discussions on the platform. Students' assessment can also be done by accessing and customizing existing quizzes from Edmodo's quiz bank. Edmodo's diverse features can enhance students' engagement, differentiate instruction, monitor progress and build a vibrant classroom community.
- **Teaching Channel:** This educational resource platform provides videos meant to enhance teaching techniques regardless of the subject or grade a teacher handles. It allows teachers to collaborate, give, and share feedback with one another on their self-improvement goals. It allows synchronous and asynchronous learning opportunities supporting essential 21<sup>st</sup>-century skills.
- **Micro-credentials:** These are formal, competency-based recognition for specific skills that teachers use in the classroom. They are earned online, allowing teachers to receive on-demand and personalized professional learning based on their needs. Digital tools like micro-credentials offer formal, competency-based recognition for specific skills that teachers use in the classroom. These tools are earned online, allowing teachers to receive on-demand and personalized professional learning based on their specific needs. Micro-credentials focus on competency

rather than seat time, allowing teachers to learn new skills and enhance existing ones in an adaptable format focused on ongoing professional learning.

- **Coaching:** Coaching provides the support teachers need to overcome the learning curve around digital learning and close the gap in student learning. It can help teachers leverage technology and promote educational equity, enhance student learning, and improve digital learning opportunities for students. Digital tools can support coaching initiatives that provide teachers with the individualized support they need to overcome the learning curve around digital learning. By working with teachers one-on-one or in small groups, coaches can analyze data and respond to their unique needs, helping them effectively leverage technology in their teaching practices. Coaching enables teachers to address professional challenges, improve student learning, and use digital tools more powerfully in the classroom to enhance student collaboration, creativity, communication, and critical thinking.
- **Edcamp:** This revolutionizing participatory professional development event is organized by teacher volunteers in an "unconference" model, where sessions are organized, structured, and led by the people attending the event. It adopts the "law of two feet," allowing teachers to find the sessions that best meet their needs. It facilitates collaborative participant-driven professional development in a relaxed atmosphere, which leads to increased satisfaction and renewed motivation and empowers educators to foster innovation.
- **Professional Learning Communities (PLCs):** Digital tools can facilitate the creation and operation of PLCs, allowing teachers to collaborate, share resources, and engage in ongoing professional development.

PLCs can be formed around various themes such as grade level, content, or experience using technology in the classroom. These communities can meet regularly in person or online, providing teachers with opportunities to collaborate, share challenges, and work together on solutions. Digital tools within PLCs can help reduce teachers' cognitive load by distilling shared problems of practice and encouraging collaboration on solutions.

### **Impact of Digital Technologies on Tertiary Education in Nigeria**

The integration of digital technologies in education has brought about both learning opportunities. While digitalization offers possibilities for fundamental improvement in schools and can enhance various aspects of a school's development, It also poses complexities that require transformative changes beyond technical aspects. The COVID-19 pandemic accelerated the adoption of online teaching, highlighting the importance of digital capacity building and the need for schools to enhance their digital competencies (Jozegai *et al.*, 2023). Digital tools can support teachers when preparing and analyzing lessons and recording lessons from other settings. They can also support professional development. Digital tools also open new ways to conduct lessons that would not otherwise be feasible, such as allowing teachers and facilitators who would not have met face-to-face to plan, conduct, and reflect on lessons together. By leveraging digital tools, schools can personalize professional development opportunities for teachers, ensuring that educators receive tailored support, resources, and training to enhance their teaching practices in the digital age. The benefits of digital professional development for teachers are as follows:

➤ **Flexibility and Convenience:** Online professional development courses for teachers offer flexibility and convenience, allowing

educators to access courses and modules on their schedules, regardless of their physical location. This self-paced format enables teachers to adjust the speed of learning, revisit materials, and repeat key sections to ensure thorough understanding and implementation (Hsu, 2019).

➤ **Cost-effectiveness:** Online professional development eliminates travel expenses for teachers and presenters, reduces costs, and empowers educators to tap into a vast network of free online professional development resources. This makes online professional development an attractive option for budget-constrained schools, allowing them to stretch their resources further and expand their professional development offerings for teachers (Johnson, 2018).

➤ **Variety and Choice:** Online professional development courses break free from the limitations of local offerings, providing educators with a boundless spectrum of topics and specializations to fuel their professional growth and development. This allows teachers to choose courses that address their specific challenges or areas of interest (Wong, 2017).

➤ **Interactive and Engaging:** Online professional development courses often include interactive activities, simulations, and resources bridging the learning and application gap. This solidifies skills and promotes immediate classroom use, enhancing teaching and classroom practices (Lee, 2016).

➤ **Accessibility and Inclusivity:** Online professional development courses break down hurdles through accessible learning, removing physical and geographical limitations, and making professional growth more accessible and inclusive for those with disabilities or who live in remote areas. Some platforms offer on-demand translation features and support

services, ensuring everyone can participate effectively, regardless of their English language proficiency or other accessibility needs. Digital technologies have expanded access to tertiary education in Nigeria, especially in remote and underserved areas. Online learning platforms and digital resources enable students to participate in courses, access educational materials, and engage with instructors without geographical constraints (Smith, 2015; Hsu, 2020).

- **Continuous Learning and Relevance:** Online professional development platforms regularly add new courses, ensuring teachers can stay abreast of the latest educational trends and technologies. This supports continuous growth and ensures teachers access relevant and up-to-date information (Johnson, 2019).
- **Collaboration and Networking:** Online professional development courses provide opportunities for teachers to collaborate and network with other educators, both locally and globally. This fosters community and allows teachers to share experiences, strategies, and resources (Wong, 2018).
- **Personalized Learning:** Online professional development platforms often offer personalized learning opportunities, allowing teachers to tailor their learning experience to their needs and interests. This can help teachers implement digital learning and ensure continued student learning throughout the school year (Lee, 2017)
- **Reduced Cognitive Load:** Online professional development resources, such as micro-credentials and coaching, help reduce teachers' cognitive load in prioritising and tackling digital learning challenges. These tools provide teachers with on-demand and personalized professional learning based on their needs, allowing them to learn new skills and sharpen existing ones in a format that is

easy to use, adaptable, and focused on ongoing professional learning (Anis, 2024).

- **Enhanced Learning Experience:** Digital tools such as multimedia content, interactive simulations, and virtual reality experiences enhance the learning experience for students. These technologies make complex concepts more accessible, promote active learning, and cater to diverse learning styles (Sims *et al.*, 2023).
- **Efficient Administration:** Digital technologies streamline administrative processes in tertiary institutions. From online admissions and registration systems to automated grading and assessment tools, these technologies improve efficiency, reduce paperwork, and enhance data management.
- **Professional Development:** Digital technologies play a crucial role in the professional development of tertiary educators in Nigeria. Online training programs, webinars, and virtual conferences enable teachers to upgrade their skills, stay updated with current trends, and collaborate with peers globally (Eradze *et al.*, 2023)
- **Research and Innovation:** Digital tools support research activities and innovation in tertiary education. Access to online databases, research repositories, and data analysis tools facilitates academic research, knowledge creation, and interdisciplinary collaboration (Drossel & Eickelman, 2017)

### **Challenges of Teacher Professional Development in Tertiary Institutions in Nigeria.**

One of the primary challenges in teacher professional development in the digital age is the resistance to change among educators (Sims *et al.*, 2023). Some teachers, particularly in developing countries, may feel like digital immigrants in a rapidly evolving digital world, leading to reluctance to adopt new technologies.

The digital gap between teachers and students and limited access to digital tools and training further exacerbates the challenges educators face in Nigeria (Onu *et al.*, 2022). One key challenge tertiary education teachers face in the digital age is keeping pace with rapid technological advancements. The constant influx of new tools and platforms requires educators to learn to effectively utilize these resources in their teaching continuously. Lack of time and resources dedicated to professional development programs is another obstacle that impedes teachers' ability to adapt to evolving educational trends.

Professional teacher development in tertiary institutions in Nigeria is faced with several challenges that impact the quality of education delivery and the professional growth of educators. These include:

- **Policy and Funding:** Government policies and funding allocation significantly impact tertiary teacher development. Adequate funding for training programs, infrastructure, and resources is crucial for effective professional development initiatives. Tertiary institutions often struggle with inadequate funding for teacher development programs. This limitation hampers the ability to organize comprehensive training, provide access to relevant resources, and offer competitive incentives for educators to participate in professional development activities. Many tertiary institutions in Nigeria lack modern infrastructure and technological resources essential for effective teacher development. Poor internet connectivity, outdated facilities, and insufficient access to digital tools hinder the implementation of innovative training programs and digital learning initiatives. The level of institutional support for teacher development initiatives varies across tertiary institutions. Some institutions lack clear policies, frameworks, and
- resources dedicated to professional development, resulting in fragmented or ad-hoc training efforts that may not meet educators' needs comprehensively ( Onu *et al.*, 2022).
- **Curriculum Reforms and Technology Integration:** Changes in the curriculum and pedagogical approaches necessitate continuous professional development for teachers. Training programs should align with updated curricular requirements to enhance teaching quality. Technology integration in education requires teachers to acquire digital literacy skills and adapt teaching methods. Training programs focusing on technology integration can improve teaching effectiveness. The availability of specialized training programs tailored to the needs of tertiary educators is limited. Teachers may not have access to training in emerging educational technologies, pedagogical best practices, curriculum design, assessment strategies, or research methodologies, impacting their ability to deliver high-quality instruction. Resistance to change and traditional teaching paradigms can impede teacher development efforts. Some educators may be reluctant to adopt new pedagogical approaches, incorporate technology into their teaching practices, or participate in ongoing learning opportunities due to fear of failure, lack of motivation, or scepticism about the benefits of change (Adeoye, 2020).
- **Digital Skills Gap:** While digital technologies offer opportunities for enhancing teaching and learning, there is a significant digital skills gap among educators in Nigeria. Many teachers lack proficiency in using educational software, online platforms, data analysis tools, and multimedia resources effectively, limiting their ability to leverage technology in the classroom (Onu *et al.*, 2022)

- **Quality Assurance:** Quality assurance mechanisms, including accreditation processes and teacher evaluation systems, influence the emphasis on professional development. Ensuring that teachers meet established standards can drive the need for ongoing training. Many quality assurance mechanisms are poorly implemented, resulting in insufficient training opportunities for teachers and hinders their ability to improve instructional quality and adapt to new teaching methodologies (Imhangbe *et al.*, 2023)
- **Workload and Time Constraints:** Tertiary educators in Nigeria often face heavy workloads, teaching responsibilities, administrative duties, and research commitments. Balancing these tasks with professional development activities can be challenging, leading to limited time and motivation for continuous learning and skill enhancement. Lack of time for preparation and the need to manage diverse students' needs exacerbate these challenges, resulting in reduced opportunities for continuous learning and professional development (Anyanwu & Imiruaye, 2024)
- **Teacher Motivation:** Motivated and engaged teachers are more likely to participate in professional development activities. Incentives such as career advancement opportunities, recognition, and rewards can encourage teachers to invest in their development. Addressing disparities and providing equitable opportunities for all teachers is essential. Policies that mandate or incentivize teachers to engage in continuous education and professional development play a significant role in shaping the learning culture among tertiary educators in Nigeria. Lack of formal recognition, career advancement pathways, and incentives tied to

professional development can demotivate educators. Without tangible rewards or acknowledgement of their efforts in enhancing their teaching skills and knowledge, teachers may perceive professional development as optional rather than essential for career growth (Anyanwu & Imiruaye, 2024).

- **Collaborative Learning Communities:** Creating communities of practice where teachers can collaborate, share best practices, and learn from each other fosters a culture of continuous learning and professional growth. Socioeconomic factors such as access to resources, infrastructure, and socio-cultural contexts can impact the effectiveness of professional development initiatives. Global trends in education and partnerships with international organizations can influence the types of professional development programs available to Nigerian teachers, exposing them to diverse perspectives and best practices (Johnson, 2019).
- **Research and Innovation:** Encouraging research and innovation in teaching methodologies and educational technology can drive the need for ongoing professional development to stay updated with emerging trends and practices. Systemic barriers such as inadequate funds, outdated curriculum, cultural resistance, and limited access to resources hinder adequate research and innovation, as well as the effective integration of research findings into teachers' professional development in Nigeria (Enuah *et al.*, 2023).

### **Strategies for Enhancing Teacher Professional Development in Tertiary Institutions in Nigeria.**

To address the challenges associated with teacher development in the digital age, it is essential to focus on building teachers' digital competencies, providing technical support, and

fostering a culture of innovation and continuous learning (Onu *et al.*, 2022). Offering digital skills training, exposure to new technologies, and creating supportive environments that encourage experimentation and growth are crucial steps in enhancing teacher professional development in Nigeria (Adeoye, 2020). To ensure the effective integration of digital tools in professional development, institutions need to prioritize ongoing training and support for teachers. They also need to provide them with the necessary resources and guidance to navigate digital technologies confidently. Collaborative learning environments that encourage experimentation and peer feedback can foster a culture of innovation among educators (Wong, 2018). Furthermore, partnerships with industry stakeholders and educational technology experts can bring valuable insights and resources to professional development initiatives (Anis, 2024).

The digital age presents challenges and opportunities for professional development for tertiary education teachers. By embracing continuous learning, leveraging digital tools effectively, and fostering collaborative environments, educators can enhance their teaching practices and adapt to the evolving needs of students in the 21st century. As technology advances, ongoing investment in professional development programs will be crucial in ensuring quality education delivery and preparing teachers for the challenges of tomorrow. Addressing these challenges requires a multifaceted approach involving increased funding for teacher development, investment in infrastructure and technology, tailored training programs, promotion of digital literacy, reduced workload pressures, supportive policies, and fostering a culture of continuous learning and innovation within tertiary institutions. While digital technologies offer numerous benefits,

their effective implementation requires addressing challenges such as the digital divide, internet connectivity issues, digital literacy gaps, and cybersecurity concerns. Tertiary institutions in Nigeria need to invest in infrastructure, provide training and support, and ensure equitable access to technology resources for all stakeholders (Montero-Mesa *et al.*, 2023).

### Conclusion

In conclusion, teacher professional development in the digital age is a multifaceted process that requires a holistic approach to address the challenges and leverage the opportunities presented by digital technologies. By equipping teachers with the necessary skills, support, and resources, education systems can ensure that educators are prepared to navigate the complexities of the digital era and deliver high-quality, technology-enhanced instruction to students.

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THE ROLE OF ICT AND LMS IN TEACHING CHRISTIAN RELIGIOUS STUDIES  
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**Abstract**

*Integrating Information and Communication Technology (ICT) and Learning Management Systems (LMS) is revolutionizing the teaching of Christian Religious Studies (CRS) in Nigerian tertiary institutions. This innovative approach enhances the learning experience by providing students and instructors with access to diverse theological perspectives and scholarly materials. LMS platforms enable structured course organization and effective monitoring of student performance. However, implementing these tools faces challenges such as infrastructure deficiencies, limited digital literacy, and resistance to traditional teaching methods. Despite these obstacles, integrating ICT and LMS in CRS education promotes critical thinking and real-world application of Christian teachings. This study emphasizes the need for educator training and increased investment in technological resources to maximize the benefits of these technologies. By aligning pedagogical methods with technological advancements, Nigerian tertiary institutions can create a more inclusive and engaging learning environment for CRS students, ultimately contributing to the ongoing evolution of education in Nigeria.*

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**Introduction**

In recent years, the landscape of education has undergone seismic shifts driven by the rapid advancement of technology (Leonielyn G. Malicay, 2023). In various studies by (Agbesanya et al., (2024), and Nwankwor (2021), integrating Information and Communication Technology (ICT) and Learning Management Systems (LMS) in Nigerian tertiary institutions has become increasingly pertinent in the teaching of various disciplines, including Christian Religious Studies (CRS). Academic institutions face the dual challenge of preserving traditional

pedagogical methods while embracing innovative technologies that facilitate enhanced learning experiences. The emergence of ICT and LMS provides a promising avenue for educators to engage students more meaningfully, thus fostering an interactive and enriching learning environment.

As with many other academic disciplines, Christian Religious Studies, with its profound emphasis on moral and ethical teachings, can benefit from technology integration. The infusion of ICT tools into the CRS curriculum enhances access to diverse theological

perspectives and enriches the overall teaching methodology. For instance, online resources such as e-books, scholarly articles, and multimedia content can offer students a broader understanding of religious concepts, history, and contemporary issues. By surpassing the limitations of traditional textbooks, these resources enable learners to explore multifaceted viewpoints and engage in dynamic discussions surrounding faith, spirituality, and societal relevance (Lim & Churchill, 2016).

Moreover, Learning Management Systems are pivotal platforms for organising and delivering course content. By leveraging these systems, educators can create structured online environments for better communication between students and instructors. Features such as discussion forums, quizzes, and assignment submissions streamline academic interactions, making it easier for students to navigate their educational journeys and for teachers to assess and provide feedback on their performance.

Despite the rosy advantages and opportunities that technology offers in teaching and learning CRS, the transition to a technology-enhanced educational model is not without its challenges. Infrastructure deficiencies, such as unreliable internet access and inadequate technological resources, pose significant hurdles to effective ICT and LMS integration. Similarly, Abu et al. (2022) observed that a lack of digital literacy among educators and students can hinder the adoption of these tools, resulting in a reluctance to embrace new teaching strategies. Furthermore, Makdee et al. (2023) reckoned with the fact that traditional attitudes towards education often clash with the innovative methodologies proposed by ICT and LMS, leading to resistance among stakeholders. Thus, it is crucial to address these challenges to harness the full potential of technology in education.

Strategies for overcoming the observed barriers, including investing in proper technological infrastructure, providing comprehensive training for educators, and fostering a culture that values and promotes digital literacy, need to be explored. By equipping educators with the necessary skills to effectively utilize ICT and LMS, educational institutions can create an empowering environment for teachers and students.

Hence, this study delves into the multifaceted role of ICT and LMS in enhancing the teaching of Christian Religious Studies in Nigerian tertiary institutions. It explores the benefits these technologies bring to the educational experience and the challenges that must be navigated to enable their successful implementation. Through a comprehensive analysis, this study aims to present best practices and strategies that can facilitate effectively integrating these technologies into the CRS curriculum. Ultimately, the study strives to contribute to the discourse surrounding the future of education in Nigeria, emphasizing the need to align traditional pedagogical approaches with contemporary technological innovations.

### **Methodology**

This study employs a qualitative research methodology to explore the integration of Information and Communication Technology (ICT) and Learning Management Systems (LMS) in the teaching of Christian Religious Studies (CRS) within Nigerian tertiary institutions. The research process involved a comprehensive literature review, examining existing studies, reports, and articles relevant to technology integration in education and specifically in CRS. This review aimed to identify key themes, challenges, and successes documented in the field.

Data were collected through semi-structured online questions on the views of educators and administrators from various tertiary institutions in Nigeria. These interviews provided firsthand insights into the experiences and perspectives of those directly involved in implementing ICT and LMS in their teaching practices. The data collected were analysed thematically, allowing for the identification of common challenges faced, as well as effective strategies and successful case studies that illustrate best practices in technology integration.

An on-site case study of institutions that have successfully adopted the technologies was conducted in three higher learning institutions. The combination of literature review and qualitative interviews ensured a well-rounded perspective on technology's efficacy and impact in enhancing CRS teaching. This methodology provides a solid foundation for understanding the current context and helps identify actionable recommendations for the future integration of ICT and LMS in Nigerian education.

### **Challenges in Using ICT and LMS for Teaching Christian Religious Studies**

As the integration of Information and Communication Technology (ICT) and Learning Management Systems (LMS) becomes more prevalent in Nigerian tertiary institutions, examining the key challenges accompanying this transition is imperative. While the potential benefits of enhanced access to resources and improved teaching methodologies are significant, various obstacles impede effective implementation. Some of the encumbrances include the following:

Infrastructure deficiencies, such as inconsistent internet connectivity and insufficient technological resources, remain prominent barriers, particularly in rural areas and less-funded institutions. These limitations

disrupt the learning experience and contribute to disparities in educational outcomes.

Moreover, the digital literacy level among educators and students can significantly affect their ability to engage with these technologies fully. Many educators may feel overwhelmed or unprepared to incorporate ICT and LMS into their teaching practices. In line with Makdee et al. (2023), resistance to change from traditional teaching methodologies can further complicate the acceptance of new, technology-driven approaches. Nevertheless, Herman et al. (2022) claim that understanding these challenges is crucial for developing targeted strategies to facilitate a more effective integration process, ensuring that teaching and learning remain dynamic and relevant in an increasingly digital educational landscape.

Certain hindrances have been identified to hinder the effective integration process in teaching Christian Religious Studies with enhanced ICT and LMS. In other words, despite the potential advantages, numerous obstacles impede the effective utilization of ICT and LMS in teaching CRS in Nigerian higher education institutions. The key obstacles are highlighted below:

**Limited Access to Reliable Internet and Electricity:** Inconsistent Internet access and unstable electricity supply are significant barriers to using ICT and LMS tools. This issue affects students and educators, making it difficult to rely on these technologies for uninterrupted learning (Aminu, 2018).

**Resistance to Change and Inadequate Training** are major factors in realizing the objectives of discussing the impactful benefits of chatbots, AI, and LMS. According to Adebayo (2020), some educators resist adopting new technologies due to a lack of training and familiarity with ICT and LMS platforms. Nevertheless, proper training and surfing

preparations will showcase the struggle to integrate these tools effectively into their teaching practices.

A major observation made by most participants and articulated by Idowu (2017) and Eze (2021) is the incompatibility of the new technologies with the existing CRS Curriculum in the Benchmark Minimum Academic Standards (BMAS) of tertiary institutions. Some LMS platforms do not align well with the existing curriculum and learning materials used in CRS, posing difficulties in seamless integration.

Furthermore, according to Adeyemi (2020), limited training and professional development are key hindrances to effective integration. A lack of ongoing training opportunities for educators can hinder their ability to use ICT and LMS in their teaching effectively. Without proper training, educators may struggle to leverage these technologies to enhance their curriculum and engage students effectively. Similarly, professional development programs often do not address the specific needs related to teaching Christian Religious Studies, resulting in a disconnect between available resources and pedagogical relevance.

In another discovery by Obi (2017), resistance to change could constitute a major hindrance to ICT and LMS in the teaching process. Cultural and institutional resistance to adopting new technologies can pose significant challenges. Many educators and students may prefer traditional teaching methods and view ICT and LMS as unnecessary or cumbersome. This resistance can limit the potential for innovative teaching practices and diminish the overall effectiveness of technology in education.

Ultimately, while integrating ICT and LMS into the teaching of Christian Religious Studies presents immense opportunities, it is essential to acknowledge and address the challenges. By understanding the obstacles, stakeholders can work collaboratively to develop targeted

solutions that facilitate the effective use of technology in enhancing educational outcomes within Nigerian tertiary institutions.

### **Benefits of Using ICT and LMS in Teaching Christian Religious Studies**

Despite the challenges of using Information and Communication Technology (ICT) and Learning Management Systems (LMS) in teaching Christian Religious Studies (CRS), the integration of the tools offers numerous benefits, some of which are discussed below. With focused steps at overcoming the challenges through comprehensive training, curriculum alignment, and investment in infrastructure, the full potential of ICT and LMS in enhancing CRS education can be realized, ultimately leading to improved educational outcomes. The following are some derivable benefits of using ICT and LMS in teaching CRS in tertiary institutions in Nigeria:

In a study conducted by Oluwaseun (2021), it was discovered that stakeholders in the tertiary education sector could have better access to diverse resources. In other words, ICT and LMS facilitate access to a wide range of religious texts, resources, and scholarly materials, enriching the learning experience for students. Accessibility to sources ordinarily requiring heavy monetary and time-consuming investment could be profitably reduced. Similarly, Uzoma (2020), opined that students' academic engagement could be better enhanced by integrating ICT into their curriculum. Accordingly, the interactive nature of ICT and LMS can capture students' attention more effectively than traditional teaching methods. Multimedia presentations, discussion forums, and virtual group projects encourage active participation and collaboration, promoting a deeper understanding of the material.

Another benefit of integrating ICT and LMS in Nigerian tertiary institutions' teaching and

learning process is the facilitation of Flexible Learning Environments. With technology, students can learn at their own pace and schedule. This flexibility allows for differentiated learning experiences that cater to individual student needs, enhancing their ability to absorb and retain the information presented (Salami, 2021).

ICT tools facilitate improved communication between educators and students and among peers (Nwosu, 2022). This connectivity fosters a learning community where students can share insights, ask questions, and collaborate on assignments, leading to a more comprehensive educational experience.

Continuous assessment and feedback a key aspect of any academic endeavour's teaching and learning experiences. LMS provides seamless opportunities for an easier mode of assessment and feedback. It is a platform that provides options for ongoing evaluation through quizzes, discussions, and assignments, allowing educators to track student progress easily. Instant feedback can guide students' learning journey and help educators adjust their instructional strategies accordingly (Adeyinka, 2021). In summary, while integrating ICT and LMS into Christian Religious Studies education in Nigerian tertiary institutions is challenging, the potential benefits are significant. Addressing the obstacles mentioned earlier while capitalizing on the advantages will be essential for modernizing education in this critical area and enhancing the overall learning experience for students.

#### **Success stories of ICT and LMS integration in Teaching CRS in Some Nigerian Tertiary Institutions**

Nigerian higher institutions are not far from fully integrating ICT and LMS in the academic sector. There are, however, impressive stories of success in schools that have implemented the use of the technologies. For instance, successful implementation from Redeemer's University

and Covenant University have been recorded. A specific integration of the technologies in teaching Christian Religious Studies (CRS) in institutions is a good example. Below are some key points from these success stories:

#### **Redeemer's University**

Redeemer's University (RUN) is a private Christian university in Ede, Osun State, Nigeria. The university was established in 2005 by the Redeemed Christian Church of God. The university aims to provide a holistic education combining academic excellence and moral and spiritual development. It offers undergraduate and postgraduate programs across various faculties, including basic medical sciences, engineering, humanities, law, management, natural, and social sciences. The National Universities Commission of Nigeria officially recognises the university, ensuring its programs meet national educational standards. Significantly, the university is known for its commitment to research and innovation, particularly through its African Centre of Excellence for Genomics of Infectious Diseases (ACEGID), established in 2013. With a student population of around 3,000 to 4,000, Redeemer's University emphasizes a supportive learning environment and has effectively adopted a Learning Management System (LMS) to organize and deliver CRS courses. This system allows for a structured and consistent approach to course content, assessments, and communication.

#### **Covenant University**

Covenant University is a prominent private Christian university located in Ota, Ogun State, Nigeria. The university was established in 2002 by the Living Faith Church Worldwide (Winners' Chapel). It is one of the leading institutions of higher learning in Nigeria. The university offers a wide range of undergraduate and postgraduate programs across various disciplines, including

engineering, business, social sciences, and humanities. The university boasts a well-equipped campus with modern facilities, including a library, sports complex, and various recreational amenities. The University has implemented a blended learning approach, combining traditional face-to-face teaching with online components. This approach provides flexibility and accommodates different learning styles. Similarly, the institution has invested in comprehensive training programs for educators to enhance their digital literacy and competency in using LMS and other ICT tools. The effort ensures that teachers can effectively integrate technology into their teaching practices. Furthermore, the university has a reliable ICT infrastructure, including high-speed internet access and modern computer labs, to support the seamless integration of LMS and other digital tools in CRS education.

The success stories from Redeemer's University and Covenant University demonstrate the significant potential of ICT and LMS in enhancing CRS education. Other Nigerian tertiary institutions can achieve similar positive outcomes by addressing the challenges and implementing recommended strategies.

### **Strategies for Overcoming Challenges in ICT and LMS Integration**

To effectively harness the benefits of ICT and LMS in teaching Christian Religious Studies, it is crucial to implement targeted strategies that address the identified challenges. Below are specific strategies to aid better access to the benefits of integrating ICT and LMS in teaching Christian Religious Studies:

**Comprehensive Training Programs:** Developing and providing ongoing professional development opportunities for educators is essential. These programs should focus on the technical aspects of using ICT and LMS and pedagogical strategies that incorporate these tools into the curriculum. Training sessions tailored to

the specific needs of teaching Christian Religious Studies will empower educators to utilize technology more effectively in their teaching practices.

**Curriculum Alignment:** Ensuring that LMS platforms and digital resources are compatible with existing curriculum requirements is vital. Educational institutions should collaborate with content developers to create or adapt materials that align with learning objectives for Christian Religious Studies. This will help facilitate a seamless integration of technology and support educators in delivering relevant content.

**Quality Assurance for Online Resources:** Establishing guidelines for evaluating online religious content's reliability and academic integrity will help build trust among educators and students. Institutions can curate a list of approved digital resources that meet quality standards, providing a reliable foundation for teaching and learning.

**Encouraging a Culture of Innovation:** Addressing resistance to change requires fostering an institutional culture that encourages technological exploration and experimentation. Institutions can promote a positive attitude towards embracing digital tools by highlighting successful case studies and celebrating educators who effectively integrate ICT and LMS into their teaching.

**Engagement of Stakeholders:** Collaborating with key stakeholders, including educators, students, and administrators, is crucial for developing a shared vision for integrating technology in education. Regular feedback and involvement of these groups in decision-making processes can ensure that the solutions implemented are relevant and effective. By adopting these strategies, Nigerian tertiary institutions can overcome challenges, enhance the integration of ICT and LMS in

Christian Religious Studies, and ultimately improve educational outcomes for students in this important field.

**Interactive Learning Environments:** The thoughts of Adediran (2019) in his *Interactive Learning Environments in Higher Education* are apt here. The author emphasizes that ICT and LMS technologies create interactive and engaging learning environments, which can significantly enhance student participation and understanding. By incorporating multimedia content and discussion forums, these technologies facilitate a more dynamic and interactive approach to learning. This helps in making the educational experience more engaging and accessible, ultimately leading to better comprehension and retention of the material among students in Christian Religious Studies (CRS).

**Personalized Learning Paths:** The integration of Learning Management Systems (LMS) platforms in education, including Christian Religious Studies (CRS) in Nigerian tertiary institutions, offers significant advantages. One such benefit, as highlighted by Babalola (2018), is the ability to create personalized learning paths. These tailored educational experiences cater to students' diverse needs and learning styles, thereby making the learning process more effective and efficient. Personalised learning paths within LMS platforms allow educators to customize course materials, assessments, and interactive activities based on individual student profiles. This approach accommodates different learning paces and preferences and enhances student engagement and motivation. By leveraging these technologies, educators can provide a more adaptive and responsive educational environment that supports better learning outcomes.

Ultimately, while integrating LMS platforms in CRS education in Nigerian tertiary institutions offers more personalized and effective learning experiences, overcoming the associated challenges is essential to harness these benefits fully.

### **Recommendations**

In today's rapidly evolving educational landscape, enhancing Information and Communication Technology (ICT) and Learning Management Systems (LMS) is crucial for effective teaching and learning of CRS. Below are key recommendations to improve infrastructure, training, collaboration, quality assurance, and foster a culture of innovation within educational institutions.

1. **Increase Investment in ICT Infrastructure:** Government and institutional investments should focus on improving internet access and stable electricity supply to enhance the usability of ICT and LMS tools.
2. **Comprehensive Training Programs:** Implement training programs for educators on the effective use of ICT and LMS in teaching CRS, addressing both technical skills and pedagogical strategies.
3. **Collaboration with Technology Providers:** Encourage cooperation between tertiary institutions and technology providers to develop or customize LMS platforms that align with the CRS curriculum and learning materials.
4. **Quality Assurance Guidelines:** Establish quality assurance guidelines for online religious content to foster trust among educators and students in the reliability and academic integrity of digital resources.
5. **Promote a Culture of Innovation:** Introduce policies and incentives to promote a culture of innovation and openness to change within educational institutions,

encouraging the integration of ICT and LMS as standard practices.

### Conclusion

The integration of ICT and LMS in teaching Christian Religious Studies in Nigerian tertiary institutions offers promising opportunities to enhance learning experiences and administrative efficiency. Despite challenges such as limited internet access, insufficient funding, and resistance to change, successful examples from institutions like Redeemer's University and Covenant University demonstrate the potential for overcoming these barriers through innovative solutions and strategic partnerships. By increasing investment in ICT infrastructure, providing comprehensive training, and fostering collaboration and quality assurance, Nigerian tertiary institutions can harness the full potential of ICT and LMS in advancing the teaching and learning of Christian Religious Studies.

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