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EDITORIAL

The landscape of education is rapidly evolving, driven by technological advancements, societal changes, and a growing recognition of the diverse needs of learners. This issue of the Zaria Journal of Educational Studies (ZAJES) reflects this dynamic environment, offering a rich tapestry of research that spans from foundational educational practices to cutting-edge innovations.

A recurring theme throughout this issue is the interplay between traditional educational approaches and modern technologies. The study on digital literacy skills and its impact on student engagement and academic performance highlights the growing importance of technological competence in today's educational landscape. Similarly, the exploration of artificial intelligence in technology-enhanced learning points to the potential of emerging technologies to revolutionize education and foster inclusive development.

Another significant focus is on the holistic development of students. The research on school physical learning environments and preschoolers' psychomotor development underscores the importance of considering all aspects of a child's growth in educational settings. This holistic approach is further exemplified in studies examining the relationship between attitudes and academic performance in subjects like Biology and Christian Religious Studies.

The journal also addresses broader societal concerns, as evidenced by the study on the role of Christian ethical teaching in curbing moral decadence in Nigeria. This research reminds us of the vital role education plays in shaping not just academic outcomes, but also societal values and ethics.

As we reflect on the diverse studies presented in this issue, it becomes clear that the field of education is at a critical juncture. The challenges we face are complex, but so too are the opportunities for innovation and improvement. It is my hope that the research presented here will spark meaningful dialogue, inspire further investigation, and ultimately contribute to the advancement of educational practices that serve all learners effectively.

Ilesanmi Ajibola, PhD
Editor-in-Chief

FOREWORD

It is with great pleasure that I present this issue of the Zaria Journal of Educational Studies (ZAJES), a compilation of cutting-edge research and thought-provoking analyses in the field of education. The articles contained herein represent a diverse array of topics, methodologies, and perspectives, all united by a common goal: to enhance our understanding of educational processes and outcomes in various contexts.

From exploring the impact of welfare services on teacher productivity to examining the role of Christian ethical teaching in addressing moral decadence, this issue spans a wide range of critical educational concerns. The studies presented delve into crucial areas such as the relationship between student attitudes and academic performance, the importance of information and communications technology in entrepreneurship education, and the influence of physical learning environments on preschoolers' development.

Moreover, this issue sheds light on innovative approaches in education, including the application of artificial intelligence in technology-enhanced learning and the impact of digital literacy skills on student engagement. These forward-looking studies underscore the journal's commitment to addressing the evolving landscape of education in the 21st century.

I am confident that the research presented in this issue will not only contribute to the scholarly discourse but also provide valuable insights for educators, policymakers, and researchers alike. As we navigate the complex challenges facing education today, it is my hope that these articles will inspire further inquiry and inform evidence-based practices in the field.

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
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- Social Science Education
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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 (7th 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 Need and Benefits of Public Private Partnership 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.

Type of Citation	Narrative Format	Parenthetical Format
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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**WELFARE SERVICES PROVISION AS ADMINISTRATIVE STRATEGY FOR ENHANCING
SECONDARY SCHOOL TEACHERS' PRODUCTIVITY IN CALABAR EDUCATION ZONE OF
CROSS RIVER, NIGERIA**

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Abstract

The paper examined welfare services provision as administrative strategy for enhancing secondary school teachers' productivity in Calabar education zone of cross river, Nigeria. The study aimed to ascertain the relationship between provision of welfare services and teachers' productivity. Three null hypotheses were formulated to guide the study. The correlational research design was adopted. The study population is 2,746, comprising all 2700 teachers and 46 principals in 46 public secondary schools in Calabar Education Zone. Multistage sampling procedure was used to select 540 study sample from the population of teachers and principals in the education zone. An instrument titled welfare services provision and teachers productivity questionnaire (WSPTPQ) was used for data collection. The instrument was validated by two experts in Educational Measurement and evaluation, faculty of educational foundations, University of Calabar. The reliability of the instrument was established using Cronbach Alpha Analysis. The reliability coefficient value yielded 0.85 which was considered adequate for the study. The data collected were analyzed using Pearson product moment correlation statistics. Results of the analysis revealed that there is significant positive relationship between provision of housing facilities, payment of allowances, provision of medical services and teachers' productivity. The study concluded that the productivity of secondary school teachers in will be greatly enhanced if welfare services are adequately provided for teachers. It was therefore recommended that housing facilities and medical services should be provided for teachers. It was also recommended that government should endeavor to be paying teachers allowances as and when due.

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KEYWORDS

- Welfare services
- Administrative
- Strategy
- Teachers' productivity

Introduction

Teachers occupy a very strategic position in the entire educational process. They are employed in schools and have diverse skills and knowledge to render various services. Teachers' roles include lesson planning, lesson delivery, classroom management, student evaluation, guidance and counseling services,

and discipline. Teachers' productivity level in these tasks determines the extent of schools' goal attainment.

Teacher productivity is the term used to describe how effective and efficient teachers are able to perform their duties. Productivity of teachers is therefore a measure of their job performance. According to Odunaga and Agila

(2000), teacher productivity is a measure of the efficiency with which the school utilizes its labour force towards the achievement of educational goals and objectives. It is the measure of how much the goals of the school as an organization is achieved through the commitment and performance of teachers.

The productivity of teachers could be measured in terms of effectiveness of teaching techniques and methods, mastery of subject matter, classroom management, record keeping, interpersonal relationship with students, students' evaluation, verbal proficiency, participation in committees and community service (Ocho, 2003). Ocho further stated that the level of productivity of the teacher at any educational level is determined by his/her abilities, motivations and technical factors such as quality and quantity of instructional materials as well as welfare services provided. This implies that to achieve high productivity among teachers, management must show concern for staff resourcefulness and the ability to provide all the necessary school resources, welfare services and their effective management.

It has long been recognized that without teachers, the educational objectives as specified in the National Policy of Education (FRN, 2004) would not be realized. Teachers are the ones that would translate educational objectives into knowledge and skill and transfer them to students in the classroom. Therefore, the major responsibility of achieving educational objectives in schools lies with the academic staff.

Welfare services are those activities, provisions and facilities made available in organizations in order to cater for the wellbeing, personal needs, happiness, health, safety and comfort of employees. These

services can be monetary compensation, housing/accommodation, medical services, advisory services, secure work environment, retirement benefits, good work conditions, periodic free work days or leaves. Monetary compensations include satisfactory salaries, leave allowances, promotion arrears, hazard allowances, overtime, and other related monetary incentives. Housing/accommodation includes' conducive housing facilities for teachers and their families while good work conditions entail the provision of conducive, spacious, ventilated, secured and well-equipped offices for teachers. medical services include the provision of free or subsidized health care services to teachers and their immediate families. Secure work environment refers to the maintenance of safe school environment free from any life threats or hazardous conditions. Leaves are work-free days granted to workers for various reasons. Leaves range from study leave, sick leave, maternity leave, leave of absence and vacations. Workers are exempted from work during leaves in order to tackle their personal problems, recuperate from sicknesses and other health challenges, embark on trainings and other capacity development programmes or to go on vacations for relaxation and recovery from work stress. Advisory services are the emotional supports and counselling given to workers on how best to maintain work life balance and avoid work stress.

In various formal organizations outside education sector, workers enjoy one form of welfare service or another. In the school system where teachers are employees, provision of welfare services could bolster school operations (Onaga, 2022). When certain welfare services are provided to workers, job dissatisfaction and low productivity are minimized or completely avoided

(Banla,2012). Teachers are the soul of any educational programme and are supposed to be provided with the necessary incentives and facilities to perform their jobs (Nnaji,et al, 2023). Udom(2014) noted that workers who seldom go on leaves or vacations may experience burnout and low productivity. In a school where life and property are unsafe, fear, truancy, absenteeism and low commitment to duties by workers will become customary. On the other hand, Iwang (2017) observed that when workers are not well mentored, they are bound to make grievous mistakes that can slow productivity. it is through mentorship and other advisory services that junior employees are imparted on how to become efficient in their jobs and how best to maintain a balance between work and daily living (Onaga,2022).

In recent times, there has been growing criticism of teachers and their job performance in calabar education zone. It appears that secondary school teachers in this education zone are no longer dedicated and committed to their jobs. Nwokolo (2023) made it known that stakeholders in education has lamented that students of these schools learn very little as a result of teachers skipping of lesson periods, late coming to classes and inappropriate evaluation of students. Teachers cannot also give proper account of their students because they do not keep proper records.

It is noteworthy that from the researcher's interaction with teachers in this zone, they acknowledged that they have not put in their best in their jobs. They complained that their level of motivation is terribly low. They expressed loss of interest in their jobs and their dissatisfaction with the general work conditions. They complained of lack of conducive office spaces and classrooms, poor remuneration and general lack of welfare services in their schools.

The astronomical rise in the cost of transportation, medicines and housing has made teachers struggle to pay transport fares to their schools every work day, pay their house rents and maintain healthy living with their meagre salaries. It is also difficult for teachers to purchase good books and electronic devices such as personal computers, smart phones and other information and technology resources to aid them in subject mastery, students' evaluation and records keeping. some teachers are faced with too much workload with no provision for adequate compensation and advisory programmes on stress management. Late coming and absenteeism by teachers attracts salary deductions in some schools. These results to low morale, discouragement and leads to low productivity among teachers.

Commenting on ways of tackling problems in education system, Omani (2020) opined that teachers welfare should be given due attention. Yuka (2022) stated that increment and prompt payment of salaries and other allowances should be prioritized as it has the potential to boost teachers' morale towards high achievement.

The provision of medical incentives such as health insurance packages, free hospital consultations and subsidized medicines will go a long way in helping teachers maintain their health and become more productive (Noah, 2022). A healthy and satisfied worker would have positive attitude to wok (Eya 2021). Ugbo (2018) remarked that establishment of school clinics where school staff and students can obtain subsidized health care is a groundwork for enhancing workers productivity. Perik (2022) stated that building living quarters for teachers is a morale boosting investment. Schools can build lodges of different categories and sizes and subsidize them for teachers of different categories and ranks. This can save

teachers transport fares and the stress of coming to work from long distances thus propelling their productivity level (Taon 2009).

Provision of welfare incentives in schools will promote motivation of the teachers, reduce teacher attrition and ensure teachers satisfaction with their job and in-turn enhance high job performance Ubochi (2009). Borem (2012) stated that managers must deal with employee personal problems because failure to do that may negatively impact on the overall performance of workers. The educational system needs healthy, happy, productive teachers who are physically and mentally able to contribute maximally to the progress and success of their schools .

Statement of the problem

Teachers in public secondary schools in calabar education zone has been criticized for not being productive in their schools. This is because of reports about the seeming lack of commitment in their duties. Some of the teachers are always late to school while some are usually absent from school because of high cost of transportation, far distance of their residences or ill health.

Some of the teachers complain of illnesses and hospital appointments as reasons for lateness, absteesm or inability to properly prepare their lesson notes and to effectively teach students in the classroom. This lack of puntuality, periodic absenteeism and the condition of ill health results to some of the teachers not covering their subject syllabus at the end of term. Some also skip classes or spend less than the allotted time for a subject in the classroom. This has also negatively affected the ways these teachers evaluate students nor monitor their students' progress. The academic performance of students of these schools have not also been satisfactory as they have been

performing poorly. Efforts have been made by the states ministries of education and school administrators to checkmate the activities and programmes of these schools through periodic monitoring and supervision and enforcing of disciplinary measures on erring teachers, yet the problem persists. This implies that there are other factors that may be connected to teachers productivity and welfare of teachers appears to be neglected. It is against this backdrop that this study is curious to ask: To what extent does provision of welfare services relate with teachers' productivity in public secondary schools in Calabar Education Zone of Cross River State, Nigeria?

Purpose of the study

The main purpose of study was to investigate the relationship between provision of welfare services and teachers' productivity in public secondary schools in Calabar Education Zone of Cross River State, Nigeria. Specifically, this study sought to find out whether:

1. Provision of housing facilities relates to teachers' productivity.
2. Payment of allowances relates to teachers' productivity.
3. Provision of medical services relates to teachers' productivity.

Statement of hypotheses

The following hypotheses were formulated for the study:

1. Provision of housing facilities has no significant relationship with teachers' productivity.
2. Payment of allowances has no significant relationship with teachers' productivity.
3. Provision of medical services has no significant relationship with teachers' productivity

Methodology

The study adopted correlational research design. The population of the study is 2,746, comprising all 2,700 teachers and 46 principals in the 46 public secondary schools in Calabar education zone. Multi-stage sampling procedure was used for this study. At first, schools were stratified according to the 7 local government areas that make up Calabar education zone. At the second stage, simple random sampling technique was used to select 20 percent of schools in each local government area as recommended by Barudah (2019). A total of 10 schools were randomly selected. At the third stage, simple random sampling technique was used to draw 20 percent of teachers from each of the selected 10 secondary schools which gave 530. At the final stage, purposive sampling technique was used to select the 10 principals of the selected ten schools. This gave a total of 540 study sample. An instrument titled “welfare services provision and teachers productivity questionnaire” (WSPTPQ) was used for data collection. The instrument was a four point Likert scale consisting of items designed to measure the relationship between the sub variables of welfare services (which includes; housing facilities, payment of allowances, medical services) and teachers productivity.

Table 2

Pearson Product Moment Correlation Analysis of the relationship between Provision of housing facilities and teachers’ productivity (N=540)

Variab les	X	S	r- value
Provis ion of housing facilities	21. 93	1. 12	0.43

Each of these variables were measured using 6 items. Each item has 4 response options ranging from Strongly Agree (SA) - 4 points, Agree (A) - 3 points, Disagree (D) – 2 and Strongly Disagree (SD) - 1 point. The instrument was validated by two experts in Educational Measurement and evaluation, faculty of educational foundations, University of Calabar. The reliability of the instrument was established using Cronbach Alpha Analysis. The reliability coefficient value yielded 0.85 which was considered adequate for the study. The researchers chose one week for the distribution of the questionnaire to respondents so as to have ample time to cover all the schools used for the study. The researchers retrieved the copies of questionnaire administered to respondents immediately after they were completed. All 540 questionnaire distributed were returned. The data collected were analyzed using Pearson product moment correlation statistics in order to validate the relationship between the two variables (welfare services provision and teachers’ productivity) under study.

Results and findings

Hypothesis one

There is no significant relationship between provision of housing facilities and teachers’ productivity.

Teach ers’ productivity	23	21. 85	1. 3*	0.43
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* Significant at .05, critical r = .194, df = 538

The result of the analysis as presented in Table 2 revealed that the calculated r-value of 0.43 is higher than the critical r-value of .194 at .05 level

of significance with 98 degree of freedom. With the result of this analysis, the null hypothesis which stated that there is no significant relationship between provision of housing facilities and teachers' productivity was rejected. This result implies that, provision of housing facilities has a significant positive relationship with teachers' job performance. The positive r implied that the higher the provision of housing

facilities, the higher the teachers' productivity tends to be. On the other hand the lower the provision of housing facilities the lower the teachers' productivity tends to become.

Hypothesis two

There is no significant relationship between payment of allowances and teachers' productivity

Table 3: Pearson Product Moment Correlation Analysis of the relationship between payment of allowances and Teachers' productivity (N=540)

Variables	X	SD	t-value
Payment of allowances	21.07	1.89	0.87*
Teachers' productivity	21.23	1.85	

* Significant at .05, critical $r = .194$, $df = 538$

The result of the analysis as presented in Table 3 revealed that the calculated r -value of 0.87 is higher than the critical r -value of .194 at .05 level of significance with 98 degree of freedom. With this result, the null hypothesis which stated that there is no significant relationship between payment of allowances and teachers' productivity was rejected. This result indicated that, payment of allowances has a significant positive relationship with teachers' productivity. The positive r implied

that the more regular allowances of teachers are paid, the higher the teachers' productivity tends to be. On the other hand, the less regular their allowances are paid the lower the teachers' productivity tends to become.

Hypothesis three

There is no significant relationship between provision of medical services and teachers' productivity

Table 4

Pearson Product Moment Correlation Analysis of the relationship between Provision of medical services and productivity (N=540)

Variables	X	SD	r-value
Provision of medical services	20.47	2.19	0.62*
Teachers' productivity	21.23	1.85	

* Significant at .05, critical $r = .194$, $df = 538$

The result of the analysis as presented in Table 4 revealed that the calculated r -value of 0.62 is higher than the critical r -value of .194 at

.05 level of significance with 98 degree of freedom. With this result, the null hypothesis which stated that there is no significant positive

relationship between Provision of medical services and teachers' productivity was rejected. This result implied that provision of medical services has significant relationship with teachers' productivity. The positive r indicated that the higher the provision of medical services the higher teachers' productivity tend to be. On the other hand, the lower the Provision of medical services the lower teachers' productivity tends to become.

Discussion findings

The result of the first hypothesis revealed that there is a significant positive relationship between housing facilities and teachers' productivity. This result implies that the higher the provision of housing facilities for teachers, the higher the teachers' productivity will become but On the other hand the lower the provision of housing facilities the lower the teachers' productivity. Providing teachers with accommodation within the school will save teachers from lateness to school and avoidable absenteeism that might result from transportation glitches. The close proximity will also help them save money to meet other needs. it will also serve as morale boosters to that will motivate teachers to put perform at optimum. This result is in line with Perik (2020) who stated that building living quarters for teachers is a morale boosting investment. This result is also in consonance with Taon (2009) who noted that accommodation for teachers can save teachers transport fares and the stress of coming to work from a long distance thus propelling their productivity level.

The result of the second hypothesis showed that payment of allowances has a significant positive relationship with teachers' productivity. this implies that the more prompt and regular allowances are payed teachers, the higher teachers teachers productivity will become but On the other hand, the delay and the lower the

payment of allowances to teachers, the lower teachers' productivity. Allowances paid to teachers will help them in the purchase of books and devices that will enable them carry out their jobs optimally. This result is in line with Yuka (2022) who stated that increment and prompt payment of salaries and other allowances should be prioritized as it has the potential to boost teachers morale towards high achievement.

The third hypothesis revealed that provision of health facilities has significant positive relationship with teachers' productivity. This This finding is in line with Noah (2022) who noted that The provision of medical incentives such as health insurance packages, free hospital consultations and subsidized medicines will go a long way in helping teachers maintain their health and become more productive. This finding is also in tandem with. Ugbo (2018) who remarked that establishment of school clinics where school staff and students can obtain subsidized health care is a groundwork for enhancing workers productivity. This finding also corroborates Ubochi (2009) who stated that provision of welfare incentives in schools will promote motivation of the teachers, reduce teacher attrition and ensure teachers satisfaction with their job and in-turn enhance high job performance

Conclusion

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

- Provision of housing facilities have significant relationship with teachers' productivity.
- Payment of allowances have significant relationship with teachers' productivity.
- Provision of medical services have significant relationship with teachers' productivity.

Recommendations

On the basis of the findings of this study, the following recommendations were made:

- Housing facilities should be provided for teachers in or around the school premises to mitigate lateness and absenteeism of teachers and also enable teachers to put in extra hours in school.
- The government should endeavor to pay allowances to teachers.
- Medical services should be subsidized or made free for teachers.

References

- Banla F. (2012). Assessment of the impact of motivation on teachers' performance in secondary schools in Akwa Ibom state. *Journal of development education*. 3(2) 30-45
- Borem, R (2012), Reward system and teachers' attitude to work. Implications for school effectiveness. *Journal of social sciences and humanities* 4(1)45-65.
- Eya, Y. (2021). Human resource management and teachers' performance: implications for school effectiveness. *DIEN journal of education*.3(2) 78-91
- Federal Public of Nigeria (2019). *National Policy on Education*. Lagos:Government printer
- Iwang, A.U. (2017). Incentives and teacher performance in secondary schools in AkwaIbom State,Nigeria. *Journal of continuing education*, 2(4) 87-93.
- Nnaji, E. S, Ofem,O.O, Anashie,A.I, Bassey,E.E (2023) Repositioning universal basic education: a need for teachers retraining and motivation for national development. *Global journal of educational research*, 22(3), 265-270
- Nwokolo, T.O (2023) Education and development. *Journal of community development* 5(2),45-59
- Ocho, A. (2003), Assessing teacher motivation and incentives in Nigeria. *Journal of education integration*. 2(2) 56-69
- Odunaga,D &Agila, N. (2000), school administrators effectiveness and teachers productivity. *journal of research in management sciences*, 4(2), 37-59.
- Omani O. (2020) Teachers condition of service and their job performance. *Journal of staff development*.3(2)67-78
- Onaga,U (2022). Improving education in Nigeria. *Development review*. 4(2),67-75.
- Perik, A.A, (2022), Effects of motivational factors on teacher's service delivery. *Journal of vocational education open*,3(4) 56-68
- Taon, U (2009) Managing organizational health and performance in junior colleges. *International Journal of educational management*. 2 (2) 62-73
- Ubochi,A.O (2009), School variables and teachers job performance. *Journal of Educational practice*, 3(2),60-65
- Udom. N. (2014) *Educational Administration*. Lagos: Yakjo publishers.
- Ugbo, O (2018), Personnel management and teachers attitude to work in lagos state. *Social science research review*.13-26
- Yuka,D (2022), Assesment of teachers personal variables and their productivity. *Journal of review in education*.2(2)33-48

CORRELATION STUDY OF ATTITUDE AND ACADEMIC PERFORMANCE IN BIOLOGY AMONG SECONDARY SCHOOL STUDENTS IN LERE, KADUNA STATE

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Abstract

The study explored the correlation between attitude and academic performance in Biology among secondary school students in Lere, Kaduna State. The study was guided by two objectives, two research questions and two null hypotheses. A mixed method consisting of descriptive survey and ex-post facto research designs was adopted for the study. From a total population of twenty thousand, one hundred and fifty-nine public secondary school students, the sample of three hundred and seventy-seven biology students were selected using random sampling techniques. Data collection was done using a questionnaire titled "Students Attitude towards Academic Performance in Biology Questionnaire (SAABQ)", which was validated by three experienced science educators. To determine the reliability of the instrument, it was pilot tested via split-half method and a Cronbach co-efficient value of 0.78 was derived. Data analysis employed mean and standard deviation for the research questions and PPMC and t-test for the null hypotheses. The findings indicate a significant positive relationship between attitude and performance in biology among secondary school students in Lere, Kaduna State ($r = 0.61$; $P = 0.02 < 0.05$). Additionally, there was a significant difference in the attitude of male and female secondary school students towards biology ($t = 0.13$; $P = 0.02 < 0.05$). Based on the results, it was recommended that Kaduna State Government, Lere LGA Education Authority and biology teachers should establish targeted interventions to address the underlying factors influencing students' attitude towards the subject.

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Introduction

Biology is considered a fundamental science subject taught in secondary schools in Nigeria, serving as the foundation for exploring life and its relationships with the environment through scientific inquiry (Tibi et al., 2023):

Rooted in the Greek words "Bios" meaning life and "logy" signifying study, the term "Biology" encapsulates the scientific exploration of living organisms and their processes (Ozoarinze, 2018). Maharana et al., (2015) further elucidate that Biology encompasses an

extensive array of topics, including the structure, function, growth, origin, evolution, distribution, interrelationships, and adaptations of living organisms, as well as the investigation of diseases and the proposal of potential solutions. As a discipline within the natural sciences, Biology employs inquiry methods and discoveries to delve into the complexities of life and the mechanisms governing biological systems. It provides invaluable insights into the mechanisms driving life processes, ecological dynamics, and the intricate web of interactions between organisms and their environments (Huntley, 2023). From the molecular mechanisms governing cellular functions to the ecological dynamics of ecosystems, Biology offers a comprehensive framework for understanding the complexities of life in all its forms.

Biology serves as the foundation for numerous scientific disciplines, including medicine, agriculture, biotechnology, environmental science, and conservation biology. Its principles and methodologies underpin advancements in various fields, from the development of life-saving medical treatments to the conservation of endangered species and ecosystems (Erdogan et al., 2018). In the context of secondary education, Biology plays a pivotal role in shaping students' understanding of the natural world and fostering scientific literacy. Through hands-on experimentation, observation, and critical analysis, students gain a deeper appreciation for the intricacies of life and develop essential skills in scientific inquiry and reasoning (Huntley, 2023). Overall, Biology serves as a gateway to unlocking the mysteries of life and empowering individuals to contribute to advancements in science, technology, and medicine. Its interdisciplinary nature and broad scope make it a cornerstone of scientific exploration and discovery, shaping our understanding of the natural world and our place within it.

In recent years, there has been growing concern over the declining interest, attitude and

performance of secondary school students in science subjects in Nigeria, particularly in Biology (Umar et al., 2020; Unodiaku, 2022 & Sunday, 2023). Lavonen *et al.*, (2017) posited that attitudes toward Biology among students play a crucial role in their academic performance and career choices in science-related fields. Understanding the factors influencing students' attitudes and their impact on academic achievement is essential for educators and policymakers to develop effective interventions and strategies to improve learning outcomes in Biology. Numerous studies (Osunde, 2019; Gayatri, 2020; Gobert, 2021; Burks, 2022) have emphasized the pivotal role of student attitudes in influencing their academic performance across various disciplines. Specifically, in the context of Biology education, positive attitudes have been consistently linked to enhanced learning outcomes and academic achievement. Students who exhibit positive attitudes towards Biology demonstrate higher levels of engagement, motivation, and interest in the subject matter, which in turn facilitate deeper understanding and mastery of complex biological concepts (Mohamed & Waheed, 2021). For instance, Osunde (2019) conducted a study examining the relationship between student attitudes and academic performance in Biology and found a strong positive correlation between positive attitudes and academic success. Students who expressed enthusiasm and interest in Biology exhibited higher levels of academic achievement compared to their peers with more negative attitudes towards the subject.

Conversely, negative attitudes towards Biology have been shown to impede students' ability to comprehend and retain course material, thereby negatively impacting their academic performance (Mohamed & Waheed, 2021). Students with negative attitudes may display disinterest, lack of motivation, and reluctance to engage with Biology-related tasks, leading to suboptimal learning outcomes and lower academic achievement levels. These

findings underscore the importance of addressing and fostering positive attitudes towards Biology among students to optimize their learning experiences and academic success. By promoting a supportive learning environment that cultivates curiosity, engagement, and enthusiasm for Biology, educators can enhance students attitude and facilitate deeper conceptual understanding, ultimately leading to improved academic performance (Singh, & Manjaly, 2022).

Academic performance, as defined by literatures (Ozoarinze, 2018; Elbilgahy et al., 2021; Reuter & Forster, 2021) encompasses the observable changes in behavior exhibited by students over a given period or within a specific timeframe. González et al., (2021) elaborates further, characterizing academic performance as the level of achievement attained by students across various educational settings, including classrooms, laboratories, libraries, projects, and fieldwork. Aniekwe (2019) offers a nuanced perspective, conceptualizing performance as a means of testing and measuring skills across diverse academic disciplines. In essence, academic performance reflects the successful completion of tasks through exertion, skill development, and perseverance. It serves as a yardstick for assessing students' mastery of course content and their ability to apply knowledge in different contexts (Aronson, 2022). Moreover, academic performance provides valuable insights into students' relative standings and achievements, allowing for comparisons and evaluations of individual and group progress (Etuk, *et al.*, 2021). The significance of academic performance extends beyond the classroom, resonating with students, teachers, parents, and society at large. Students aspire to excel academically to secure future opportunities and fulfill their potential, while teachers and parents invest time and resources to support their educational endeavors (Etuk, *et al.*, 2021). Additionally, Aronson (2022) opined that academic performance serves as a key determinant of students' educational trajectories, influencing

their access to higher education, career prospects, and socioeconomic mobility. Given its multifaceted implications, academic performance remains a focal point of concern and interest for various stakeholders within the educational landscape. Understanding the factors that contribute to academic success and implementing targeted interventions to support students' learning and development are essential for fostering positive academic outcomes and maximizing students' potential for success.

Empirical studies carried out among biology students by Adebisi et al., (2016); Nasir and Anwer (2020) and Shahzad et al., (2022) in different study areas all indicated a positive relationship between attitude and academic performance among biology students. Also, Yuorsuu (2024) carried out a research among home economics students offering biology course at a senior high school in Ghana. Results of the study revealed a positive significant relationship between students attitude and academic performance in biology subject. Researches (Ekperi *et al.*, 2019; Thelwall & Nevill, 2019; Firdoos et al., 2023; Jamal et al., 2023) indicate that gender disparities exist in attitudes towards Biology with females frequently displaying lower levels of interest and confidence in the subject compared to males.

This gender gap in attitudes towards biology has been attributed to various factors, including societal stereotypes, cultural norms, and educational experiences. Archer *et al.* (2020) conducted a comprehensive study exploring gender differences in attitudes towards science subjects, including Biology, among secondary school students. The findings revealed that while both male and female students demonstrated interest in science, females tended to perceive Biology as less relevant or appealing compared to other scientific disciplines. Addressing these gender disparities in attitudes towards biology is crucial for promoting academic success and fostering gender equity in science education.

Creating a positive and inclusive learning environment that encourages active participation and engagement from all students, regardless of gender, is essential (Ekperi *et al.*, 2019). Furthermore, initiatives aimed at challenging gender stereotypes and promoting positive role models in Biology can help empower female students and enhance their confidence and interest in the subject (Archer *et al.*, 2020). By providing equal opportunities for male and female students to excel in Biology and other science disciplines, educators can contribute to narrowing the gender gap and promoting academic performance for all students. Therefore, this research intends to correlate attitude and performance of students in order to highlight its significance to biology teaching and learning.

Statement of the problem

The divergence in attitudes between male and female students towards Biology has emerged as a significant concern in Nigeria. The researcher's observations of students' performance in the Senior Secondary School Certificate Examination (SSCE) in Lere, Kaduna State have revealed a discouraging trend in academic achievement in Biology over the years. Furthermore, an analysis of students' performance in Biology subject in the West Africa Senior Secondary School Certificate Examination (WASSCE) and the National Examination Council (NECO) in 2022 indicated low rates of distinctions among the students. Considering Biology's pivotal role in medical sciences, one would anticipate a higher prevalence of distinctions and credit passes among Biology students. However, the observed low performance may be attributed to various factors, including gender disparities and students' negative attitudes towards their studies. Given these circumstances, this study aims to delve into the attitudes of students and its impact on academic performance in Biology at Lere, Kaduna State.

Objectives of the study

The objectives of the study are to:

- i. determine the relationship between attitude and performance in Biology among secondary school students in Lere, Kaduna State.
- ii. determine gender disparity in the attitude of secondary school students towards biology in Lere, Kaduna State.

Research questions

The study was guided by the following research questions:

- i. What is the relationship between secondary school students' attitude and academic performance in biology in Lere, Kaduna State?
- ii. Is there any gender disparity in the attitude of secondary school students toward biology in Lere, Kaduna State?

Null hypotheses

The null hypotheses postulated are as follows:

HO₁: There is no significant relationship between attitude and performance in biology among secondary school students in Lere, Kaduna State.

HO₂: There is no significant difference in the attitude of male and female secondary school students towards biology in Lere, Kaduna State.

Methodology

In this study, a mixed method consisting of descriptive survey and ex-post facto research designs was utilized to investigate the attitudes and academic performance of Biology students in senior secondary schools located in Lere, Kaduna State. The target population comprised all senior secondary school students in Lere, encompassing twenty-four public senior secondary schools with a collective student population of twenty thousand one hundred and fifty-nine (20, 159) students. A sample size of three hundred and seventy-seven students was selected using simple random sampling based on Krejcie and Morgan's (1970) sample size table.

Data collection was conducted through the administration of a structured questionnaire

titled "Students Attitude towards Academic Performance in Biology Questionnaire (SAABQ)" which was adapted from Fareo (2019). The questionnaire, consisting of 20 items, utilized a five-point Likert scale ranging from Strongly Agreed (SA) to Strongly Disagreed (SD). It was divided into two sections: Section A focused on capturing respondents' biodata, while Section B contained questions aligned with the study objectives. The validity of the instrument was established through expert review by three science education experts from the Department of Science Education, Ahmadu Bello University, Zaria. Additionally, reliability testing was performed on a sample of fifty senior secondary school students using the

split-half method. The resulting Cronbach coefficient value of 0.78 indicates satisfactory reliability.

Data collection was done by the researchers in collaboration with biology teachers who served as research assistants in the study area. The questionnaire was administered randomly to students across various schools, and their terminal results were obtained from school records to assess academic performance additionally. Descriptive and inferential statistical analyses, including mean, standard deviation, Pearson Product Moment Correlation (PPMC), and t-test, were employed to analyze the gathered data and test hypotheses.

Results

Table 1: Students Attitude towards Biology in Lere, Kaduna State

S/N	Statement	Mean	Std. Dev	Remark
1.	When I don't understand something, I ask the teachers	2.23	1.07	Low
2.	I exchange views with my classmates about what we study	3.89	1.36	High
3.	In my exercise or study works, I concentrate on others which are already corrected	4.06	1.29	High
4.	When I finished a test, I read it again before handing it	4.08	1.14	High
5.	When I study, I use to consult other sources besides the adoption of Biology book to clarify or widen/increase knowledge	3.97	1.14	High
6.	I revise frequently so as not to forget what I have learn	4.47	0.81	High
7.	To learn something, I have to understand it before	4.52	0.86	High
8.	I read all the questions f the test before beginning to answer it	2.40	0.75	Low
9.	When I have to do some study work, before starting I read a lot about the theme, organize the ideas and write an outline.	4.54	0.70	High
10.	I ask questions on what I study and try to answer them	2.21	0.77	Low
11.	I study biology daily	3.94	1.17	High
12.	I feel distracted when I am studying biology	3.97	1.26	High
13.	I have a jotter that is used to take down note during biology study	2.20	1.29	Low
14.	During biology class, I take down note always	4.05	1.20	High
15.	I always compare my class note with the biology textbook	2.00	1.15	Low
16.	I always relax for 30 minutes after 2 hours study	3.95	1.15	High
17.	I always attend biology class	3.99	1.26	High

18. I always study my biology note before exams	3.97	1.27	High
19. I have a sense of mental note before examination	4.27	1.02	High
20. I feel afraid of examination failure.	3.95	1.24	High
21. Cumulative Mean	3.63	1.10	High

Benchmark: Mean ≥ 3.0 = High level; Mean < 3.0 = low level

Table 1 shows that the cumulative mean of all the items is 3.63 which is higher than the benchmark mean of 3.0 with the standard deviation of 1.10. This is an indication that there is a positive attitude among students towards Biology learning in Lere, Kaduna State. Particularly, majority of the respondents were of the opinion that they revise frequently so as not to forget what they have learnt. Also, they consulted other sources besides the Biology textbook to clarify or widen/increase knowledge, among others. Among the factors causing low attitude of students in this study area are: not reading all the

questions of the test before beginning to answer it (2.40), lack of frequently asking teachers questions (2.23) lack of asking questions on what they students try to answer them but couldn't (2.21), lack of using jotter that is used to take down note during biology study (2.20) and lack of regular comparison of class note with the biology textbook (2.00).

Performance scores of respondents in Biology first term (2021/2022) were collected and analysed. Summary of means and standard deviation is presented in Table 2.

Table 2: Summary of means and standard deviation of Students Performance in Biology at Lere.

S/No	School Code	N	Mean	Std. Dev
1	A	62	47.0	13.2
2	B	49	38.0	13.41
3	C	56	37.5	12.92
4	D	48	40.0	13.23
5	E	43	54.0	13.63
6	F	47	43.5	13.48
7	G	52	38.5	13.56
8	H	30	38.0	13.89
	Cumulative Mean	377	42.06	13.42

From Table 2, the respondents' performance, revealed the cumulative mean value of 42.06 with standard deviation of 13.42.

Table 3: Means and Standard deviation of Attitude of Students offering Biology based on Gender

Gender	N	Mean	Std. Dev	Mean Diff
Male	220	3.61	1.08	0.22
Female	157	3.59	1.07	

From Table 3, the respondents' attitude based on gender revealed the mean value for male is 3.61 and standard deviation of 1.08 while for female is 3.56 with standard deviation

of 1.08 which implies that the males have slightly higher positive attitude than the females. Significance of the mean difference was tested in the related hypothesis.

Table 4: Summary of PPMC Statistics on the Relationship between Students Attitudes and Academic Performance

Variables	N	Mean	S. D	r	P
Academic performance (%)	377	41.89	13.42	0.61	*0.02
Attitude	377	3.63	1.10		

*Significant at the 0.05 level

The correlation between academic performance and students' attitude towards Biology in the study area was computed and presented in Table 4. The analysis revealed a strong positive association between these two variables ($r = 0.61$; $p = 0.02$), which was found

to be statistically significant ($p < 0.05$). Consequently, the null hypothesis was rejected, indicating that there is indeed a significant positive relationship between attitude and performance in Biology among secondary school students in Lere, Kaduna State.

Table 5: T-test Analysis of gender disparity in the attitude of students towards biology

Gender	N	Mean	Std	Df	T _{cal}	P value	Remark
Male	220	3.61	1.01	375	0.13	0.02	Significant
Female	157	3.59	1.08				

Significant at $P \leq 0.05$

Table 5 presents the results of the t-test analysis examining gender disparities in the attitudes of secondary school students towards Biology in Lere, Kaduna. The calculated t-value from the Table at 95% confidence interval is 1.64. With a p-value of 0.02, which is less than the significance level of 0.05. The analysis indicates a statistically significant gender disparity in the attitudes of secondary school students towards Biology in Lere, Kaduna.

Discussion

Based on the findings in Tables 1 & 4, the study revealed a positive attitude among students toward Biology learning in Lere, Kaduna State ($r = 0.61$, $P = 0.02$). This aligns

with the significant positive relationship found between attitude and performance in Biology among secondary school students in the same area. Studies by Adebisi et al., (2016), Nasir and Anwer (2020), Shahzad et.al., (2022) and Yuorsuu (2024) all supported this study as their findings indicate a positive relationship between attitude and academic performance in biology among secondary school students. Tamukong (2017) also observed a significant relationship between student attitudes and performance in Mathematics, emphasizing the impact of cognitive, affective, and behavioral attitudes on academic achievement. These findings underscore the

multifaceted influences on student attitudes and their implications for academic performance. Additionally, Fareo (2019) concluded that attitudes towards biology are influenced by perceptions, beliefs, learning abilities, and previous performance in the subject, suggesting that fostering positive attitudes can lead to improved academic outcomes.

Results presented in Tables 3 & 5 indicates a slightly higher attitude among male students compared to females, with a significant difference noted in their attitudes towards Biology in favour of males in Lere, Kaduna State ($t = 0.132$, $P = 0.02 < 0.05$). This is in line with Ming et al., (2011) who discovered that male students from science classes exhibit more positive attitudes towards academic performance than their counterparts. Erdogan, *et al.* (2018) further supports this notion, revealing a positive relationship between male students' attitudes towards modern learning technologies and their academic achievement. This result might be due to social and cultural factors in the study area. Societal biases and expectations in favour of male against female education might be a factor which needs to be addressed for a more equitable learning environment for all students.

Conclusion

Attitude towards science education serves as a fundamental factor influencing academic performance across various educational settings. The present study underscores the crucial association between students' attitudes towards Biology and their academic performance. The data collected supports the notion that there exists a significant positive relationship between attitude and performance in Biology among secondary school students in Lere, Kaduna State. Furthermore, the study reveals a disparity in the attitudes of male and female secondary school students towards Biology in the same region. These findings emphasize the importance of considering students' attitudes as

a key determinant of their academic success in Biology. A positive attitude towards the subject not only fosters greater engagement and motivation but also correlates with enhanced learning outcomes. Conversely, negative attitudes may hinder students' ability to grasp complex biological concepts and impede their overall academic achievement. By understanding and addressing these differences, educators can create a more inclusive and supportive learning environment that caters to the diverse needs and preferences of all students.

Recommendations

Based on the findings of the study, the following recommendations are made:

Educators and parents alike should strive to instill a sense of appreciation and fascination for the subject, emphasizing its relevance and real-world applications. By promoting open communication, collaboration, and mutual respect, teachers can stimulate a thirst for knowledge and make the learning experience more engaging and enjoyable for students.

Kaduna State Government, Lere LGA Education Authority and biology teachers should establish targeted interventions to address the underlying factors influencing students' attitude towards the subject. This will encourage positive attitudes to improve students' academic performance.

References

- Adebisi, A.O., Adekunle, R.F. & Femi-Adeoye, K.O. (2016). Students Attitude and Interest as Correlates of Academic Performance in Biology in Senior Secondary School. *International Journal for Innovation Education and Research*, 4(3), 40-45.
- Aniekwe, J.U., (2019). Effect of a constructivist-based instructional model on students' interest and achievement in French language in Anambra state. Unpublished PhD. Thesis University of Port Harcourt, Nigeria.
- Archer, L., DeWitt, J., & Willis, B. (2020). Adolescent boys' science aspirations:

- Masculinity, capital, and power. *Journal of Research in Science Teaching*, 47(4), 476–496.
- Aronson, J. (2022). *Improving academic achievement: Impact of psychological factors on education*. San Diego, CA: Academic Press.
- Burks, T., N. (2022). Improving Student Attitudes and Academic Performance in Introductory Biology Using a Project-Based Learning Community *Journal of Microbiology & Biology Education*, 23 (1), 1-9.
- Ekperi, P. M., Ude, O. & Wike, Y. N. (2019). Teachers' Attitude as a Correlate of Students' Academic Performance. *International Journal of Research and Innovation in Social Science*, 3(1): 205-209.
- Elbilgahy, A., A., Sweelam, R., K., M., Eltaib, F., A., Bayomy, H. & Elwasefy, S., A. (2021). Effects of Electronic Devices and Internet Addiction on Sleep and Academic Performance Among Female Egyptian and Saudi Nursing Students: A Comparative Study *SAGE Open Nursing*, 7, 1-10. <https://doi.org/10.1177/23779608211055614>.
- Erdogan, Y., Bayram, S., & Deniz, L. (2018). Factors that influence academic achievement and attitudes in web-based education. *International Journal of Instruction*, 1(1), 31-48.
- Etuk, N., Koko, G. & Eno, U. (2021). Constructivist Instructional strategy and pupils' achievement and attitude towards primary science. *Bulgarian Journal of Science and Educational Policy*, 5(1), 225-230.
- Fareo, D.O. (2019). Study Attitude and Academic Achievement in Biology at Secondary School Level in Mubi Metropolis, Adamawa State. *International Journal of Scientific and Research Publications*, 9(8), 333-340.
- Firdoos, A., Naz, F., L. & Masud, Z. (2023). Impact of Cultural Norms and Social Expectations for Shaping Gender Disparities in Educational Attainment in Pakistan. *Qlantic journal of social sciences and humanities*, 4(3), 166-172.
- Gayatri, Y. (2020). Peer and self assessment in e-learning using moodle and whatsapp as scaffolding to improve students 'ability tobe _____ self-learners. <https://api.semanticscholar.org>. corpus ID: 234481034.
- Gobert, G. (2021). Electronic teaching resources for university cell biology supports improved student learning outcomes *Biochemistry and Molecular Biology Education*, 50, 91-98.
- González, C., Varela, J., J., Sánchez, P., Venegas, F., C., Tezanos-Pinto, P., D. (2021). Students' Participation in School and its Relationship with Antisocial Behavior, Academic Performance and Adolescent Well-Being *Child Indicators Research*, 14, 269-282.
- Huntley, B.J. (2023). General Concepts in Ecology. *Ecology of Angola*. Springer, Cham. https://doi.org/10.1007/978-3-031-18923-4_9.
- Jamal, B., Niazi, S., Arshad, R., Muhammad, W., Manzoor, M., F., Khan, M., H., N., Riaz, A. & Naseem, A. (2023). Addressing Gender Disparities in Education: Empowering Girls Through Education in Pakistan. *Russian Law Journal*, 11(12s),15-25.
- Krejcie, R. V. & Morgan, D. W. (1970). *Determining sample size for research activities*. Educational and Psychological Measurement. 30, 607-610.
- Lavonen, J., Byman, R., Uitto, A., Juuti, K., Meisalo, V., & Vainikainen, M. P. (2017). Why do students choose or reject biology? A focus on upper-secondary school students. *International Journal of Science Education*, 39(11), 1447–1467.

- Maharana, B., Tewari, A. & Singh, V. (2015) An overview on kinetoplastid paraflagellar rod *Journal of Parasitic Diseases* 39, 589-595.
- Mohamed, M.. & Waheed, A. (2021). Impact of students' attitude towards science and perceptions of science teachers on their academic achievement in science. *Eurasian Journal of Physics and Chemistry Education*, 3(1), 20–29.
- Nasir, M & Anwer M.(2020). Relationship of Students Attitude towards Achievement in Biology across Gender and Grade. *Pakistan Social Sciences Review*, 4 (2),422-435.
- Osunde, A. U. (2019). Attitude of secondary school students towards Biology in Edo State, Nigeria. *Journal of Education and Practice*, 10(5), 115–121.
- Ozoarinze, O. T. (2018). Influence of biology practical activities on academic achievement of senior secondary school students in Enugu East local government area of Enugu State. An undergraduate project submitted to the Department of Science and Vocational Education, Godfrey Okoye University, Enugu.
- Reuter, P., R. & Forster, B., L. (2021) Student health behavior and academic performance *PeerJ Journal*, 9, 1-20. [https://doi.org/10.7717/peerj:11107](https://doi.org/10.7717/peerj.11107).
- Shahzad, A., Naveed, S. & Jamil, S.(2022). Students Attitudes towards Biology and Academic Achievement in Biology at Secondary School level in Islamabad, Pakistan. *American Journal of Educational Research*, 10(5), 268-275.
- Singh, A., & Manjaly, J. A. (2022). Using Curiosity to Improve Learning Outcomes in Schools. *SAGE Open*. <https://doi.org/10.1177/21582440211069392>.
- Sunday, B. I. (2023). Correlation Between Creative Thinking, Open-Mindedness and Interest In TVET Program: An Empirical Study of Secondary School Students in River State, Nigeria. *International Journal of Advance Research in Education and Literature*, 9(3), 6-11.
- Tamukong, N. M. N. (2017). Student and Teacher Attitudes as Correlates of Performance in Mathematics in Cameroon Secondary Schools. *International Journal of Humanities Social Sciences and Education*, 4(12), 1-10.
- Thelwall, M. & Nevill, T. (2019). No evidence of citation bias as a determinant of STEM gender disparities in US biochemistry, genetics and molecular biology research *Scientometrics* 121, 1793-1801.
- Tibi, P., I., Chenube, O. & Omumu, F. (2023). Counselling implications of school climate and learning outcomes of students in senior secondary schools in Delta State, Southern Nigeria *International Journal of Social Sciences*, 6(4), 212-221.
- Umar, S., Sani, M., Y. & Isma'il, A. (2020). Impact of Interactive Teaching Strategy on Interest and Performance in Ecology among Secondary School Students in Kano State, Nigeria *ATBU Journal of Science, Technology and Education* 8, 123-131.
- Unodiaku, S., S. (2022). Effectiveness of Origami-based Instructional Model Approach (Obima) on Secondary School Students' Academic Performance and Interest in Mensuration, Enugu State, Nigeria. *Frontiers of Contemporary Education*, 3(4), 1-22.
- Yuorsuu, S.N.M.(2024). Home Economics Students Attitudes towards Biology and How it Impacts their Academic Performance. *European Journal of Health and Biology Education*, 11(1), 21-27.

ROLE OF CHRISTIAN ETHICAL TEACHING IN CURBING MORAL DECADENCE IN NIGERIA

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Abstract

The study explored the role of ethical teaching in curbing Moral Decadence in Nigeria: The Christian Perspective. Any community, organization, and country must be founded on the principle of ethics, which shapes the types of people that live there, how they are portrayed, their cultures, and their value systems. Before the colonial invasion, Nigeria's moral uprightness was very high, and it was the nation's pride. Today, our value system has been declining, casting its shadow of constant desecration on every aspect of polity. The glorious days of moral uprightness in Nigeria are remembered with social vices. Right from the colonial invasion to the present day of Nigeria, the nation has witnessed progressive degeneration of morality. Before the colonial invasion, Nigeria was characterized by norms that were pivoted to the running of the society. But in recent times, all the prohibitions that aided the maintenance of high morals and disciplined society have been neglected and abandoned due to the influence of Western culture mainly brought about by colonial invasion. Therefore, there is a need for moral reorientation among Nigerian citizens. This study aims to examine the role of ethical teaching in curbing moral decadence in contemporary Nigerian society. It examines ethical teaching in Christian homes, schools, churches, and society as an agency of moral training. The paper also proposes a recapture of the lost moral uprightness through profound efforts by ethical teachings.

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Introduction

It is believed that any nation's development hinges on the sincerity of its ethical practice. Nigeria today, there is widespread concern about the moral crisis faced by the country. Moral decadence permeates almost all aspects of our public lives, and rampant corruption cases are easily noticeable. Many youths have imbedded the culture of immorality for their selfish gains. This Nigeria youths in the secondary schools manifest moral decay in the following ways, sexual harassment, robbery, truancy, and maiming. A society where the youths no longer think of how tomorrow will be better than today or how to be instrumental to the development of the country is really in dilemma. This write up therefore focuses on how ethical teachings in Nigerian schools and society can bring about

positive changes in reshaping the lives of every individuals in the society.

Ethic is derived from the Greek word 'ethos' meaning good behavior or attitude by the people living in a particular community. It could also be interpreted to mean the study of what is right or wrong, avoiding what is wrong and doing what is right, and what is approved, and acceptable, (Sherman, 2020). Ethical teaching is the systematic approach of helping an individual to understand the important of ethics, moral principles and how to apply those principles in the nations' lives and wellbeing.

Christian views ethics as the standard of behavior or attitude of the followers of Christ as supposed to be practiced and live by it, Oyetubo (2021).. Jesus Christ in his sermon on the mount in Mathew 5:1ff taught that ' we are the light of the world' he also taught that we are

the salt of the earth and if the salt losses it taste it becomes useless because it has loss it value and can only be thrown away and be trampled upon by men. By implication, Christians supposed to live transparent lives anywhere they found themselves and avoid those things that will profane the name of the Lord. Christians are also supposed to preserve the Christian culture and the value system, no matter the changing world and should make the world seasoned with good taste so that God's name be glorified.

The word decadence is tantamount to disapproved behavior or attitude which shows a fall in standard of moral and ethical ones, not on interest in pressure and enjoyment rather on more serious things. Moral or morality simply means conduct or behavior while the word ethics means the study of moral conduct, or system. Moral decadence comes in when there is deviation from the standard expected of every member of the society. Moral decadence is seen when people are no longer virtuous, honest or law abiding. It is a decline in moral values or standards, especially in the society or group. The term is used to describe behaviors that are seen immoral or unethical, such as greed, dishonesty and many others.

Elements of Moral Decadence in Nigeria

Moral decadence in Nigeria today is increasing on daily basis in our various learning institutions, homes and society at large, this has become a global issue not only locally but has grown internationally. According to Adebisi, (2018), the element of moral decadence are multifarious and of different and great varieties. Some of such elements include religious intolerance, exam malpractices, forgery, vandalism, armed robbery, killing, smuggling, victimizations, favoritism, absenteeism, nepotism and abortion.

For example. In some institutions of learning we have seen several acts of malpractice and cheating all over venues of examinations. In fact the examination conducting bodies as WACE, NECO, and JAMB are not left out such. Recently, in the

WACE written in 2006, almost all the papers leaked and this resulted in the cancelation of paper and rewriting. On several occasion students are involves in this obnoxious practice, students don't have interest in reading but want to pass their examinations, likewise, some teachers have become cheaters that do not pick interest in doing their job, rather they dictate books for students to write and students do not have access to those books due to financial constraints.

One of the major problems besetting the youth in the Nigerian society is moral decadence. Indeed, religion has been plagued with youth restlessness and this situation has continuously taken a heavy toll on humans and material resources, peace and development. This study employs both historical and analytic methods in its approach suffice to say that it has given the nation a toga of notoriety. Especially, the pressing and obviously daunting challenges facing political leaders and policy makers alike and this has a ways of stemming the attitudes of youths who seem to have taken militancy as a way of life. The Nigerian society has a large group of Christians who tends to be serving God, but yet the moral upbringing and behavior are poor which are assumed to be the caused of illiteracy , and poor parental upbringing, low level of income and lack of sound Christian teaching in the churches spread across the metropolis. But it is observed that with sound ethical Christian teaching, most of the menace will be put to rest as in line with the biblical teaching of training a child in the way he should go and when he is old he would not depart from it, it becomes evidence that providing religious education to the youths would go a long way in resolving the menace of the youths delinquency and youth militancy in the society.

Today, cases of bribery and corruption, cuts across all facet of Nigerian society. Shockingly, bribery and corruption have found their ways into schools, and even in some places of worship in the nation. We see students, teachers, even some religious leaders find ways of extorting money from their

students, and some religious followers. Students who are unable to pass their tests and examinations pay specific amounts of money to lecturers or invigilators to help them pass their papers.

In 2020, along Bauchi -Jos road, a security agent shot a driver to death instantly just because he declined to give bribe and after the incident, other drivers plying the road blocked it for hours, seeking justice for their dead colleague. (kobi.2003). Apart from that, today there are several road blocks on many roads by hoodlums seeking to extort money from road users and passengers. Even security personals. On several occasions we have had of canalization and bonkers in some part of Nigeria. We also had of the teenager involves in premarital sex, abortion and taking of hard drugs. There are also examples of cultism and secret cult activities going on in our educational institutions and some communities. Ehimidu and Uyagu (2006) stated that there are some known secret cults operating in our society such as black axe, black cats, buccaneers, pirates confraternity, black berets, sea dogs, brother hood of Sahara, panama etc. for example in August 2000 in Ondo state, ten (10) ss1 student where expelled from the school because they were discovered to be members of seven star cult. Similarly, in 2003 in Enugu state university of technology, the members of the black axe disrupted a party organized by the black beret. In the punch newspaper of October 13th that year four (4) students were killed by cultists. In the daily trust July 5th. 2002 five (5) suspected cultists where burnt at Owo polytechnic and in punch Jan 4th 1994, 22 student of the "eye fraternity" a secret society in Ondo state university where arrested while initiating new members. The list continue. The rate of moral decadence in Nigeria is alarming and something need to be done urgently before it will be too late.

Causes of Moral Decadence

In Nigeria today moral decadence does not just exist in a vacuum but there are said to be initiated or caused by some agencies or

means. Right from the eightens century even in Europe, moral decadence was evident even among the clergy, Some of the causes of moral decadence are connected to the home, media, government, schools and society.

1. Home: the home involves the parents, children or peer groups or friends. The home as the cases may be is a place where moral values are taught, patent are responsible for the moral upbringing of their children because that is where life started but today the reverse is the case. The parents who are to serve as models to their children do not even have time to spend with them, there by entrusting their children into the hands of the maid at home, parent come back from work late at night when children are far asleep tell me when will they pass across moral instruction to the children, this is contrarily to the scripture which says train up a child in the way he should go and when he is old he will not depart from it (proverb 22:6).
2. Media: there are strong influences of the media on the people of the society, mass media such as pornography film and other immoral program watches by people has expose them, the movie star fashion advertiser, the gang star rappers all this things are powerful forces that pull down the culture and the value of the society, people today spend most of their time watching movie which does not teach moral but immorality.
3. Government: the government in this case is not left out they are to serve as model but reverse is the case, the government itself is corrupt what example could they offer, government are accuse of embezzling the money that are meant for development, they are been diverted into their own account, workers are paid accordingly which lead to several strike in the society.
4. School: the school is to serve as one of strongest agents of social change, a place where moral values are taught and learnt but the reserve is the case. Teachers in our institution has become the displayer of

immoral acts and contributor of moral decadence in Nigeria. Teachers who are seen as custodians of norms, value and moral have debased them self and luring themselves into immoral act Yildirin and Durdaji (2020). Several girls who are innocent have to succumb to teacher's quest in other to pass their paper and some of innocent student carryover courses because they fail to sleep with the teachers.

5. Society: our society is not left out in this case morality has decline greatly in Nigeria society to the extent that we can no longer see anyone who is the custodians of moral values that can lay example, for instance in the 60s dressing code is decent, children cannot look to the face of an adult, you can leave your farm product for months and come back to meet it, you can entrust your female daughter into the hands of a male neighbor and come back to meet her as a virgin but today due to socialization, civilization, and self-interest this can no longer be found, bribing, corruption, religion in tolerance, cultism, favoritism and many other have taken over our wonderful and cherish value, norms, custom and culture.

Effects of Moral Decadence in Nigeria

Moral decadence in Nigeria have quite devastating effect in the society at large, its effect is multifarious but to mention few are:

Untimely or premature death: people who involves in act which are immoral such as involving in prostitution die of HIV/AIDS before their appointed time, some get involve in arm robbery, occultism, banditry, kidnapping and other social vices. Many of them die at the early age, some of them get involved in drug addiction while others which have negative effects on them. Some in to smoking to destroy themselves just as the federal ministry of health always advertise "smokers are reliable to die young, those who involves in illicit sex can become pregnant and as a result of aborting or terminating the pregnancy may loses their lives. Moral

decadence has led people of their grave before time.

Drop out from school: a student been caught in the practice of cultism would not be scared he would be driven away from the school, his name would be published and such student cannot be given admission to any of our educational institution of learning.

Underdevelopment: people with potential that would have help in developing the Nigeria potentials have been left unattended to by the government. Invariably, they turned out to become arm robbers, ritual its kidnappers, bandits and hire killers in our society.

The Role of Ethical Teaching in Curbing Moral Decadence in Nigeria

According to Yildirin and Durdaji, (2020) there are certain things that every individual should always be mindful of, one personality, integrity and his professional ethic because this will enhance the productivity, the efficiency of his or her profession example his relationship with his or her follow being in the society. Teaching ethics can have many positive effects on students and society as a whole. For example, it help students to develop the following character:

- Moral character, developing their own sense of morality and ethics, and to understand the important of acting ethically on their own lives and their interactions with others.
- It also help in improving decision-making, teaching ethics help students and every individuals how to think critically about ethical decision in their personal and professional lives.
- It help to reframe from speaking unfavorable about your neighbor or colleges. For instance, do not says things that will present your neighbor or college in bad light to his mates, eventually get to his or her ears in an adulterated form which may cause him or her to react unfavorable towards you. The bible say thou shall not speak evil against thy neighbor.
- It keeps oneself from arrogant and pride, gives all glory to God for everything you

have accomplished. Patient which is a virtue that every living being required in order to succeed in life emanated from the teaching of ethics. Life transform by the power of God therefore only God can tell the certainty, the exact time it will take to effect a particular transformation.

- It help to learn how to take criticisms patiently without taking your critics as your enemies for a wise man and woman there are benefit to drive from every criticisms. Though by this reason a critics is not justified, he or she will bear his or her iniquity while, by your wisdom, benefit from an intended evil, Proverb 24:15-20, Lev 19:34, Matt 5:34. Be slow to act in respond to complain presented to you by an individual before taking actions, investigate every report thoroughly. 1Thess. 4:4, psalm 21:17, 1 peter 2:29, lam 2:39-40.

Recommendations

Since there is a belief that the development of any nation depends on the sincerity practice of ethical teaching of that nation and moral principles, it is therefore recommended that, a every citizen should endeavor to uphold the acceptable norms and ternate of the society. The following recommendations becomes imperative for the good of the nation.

You should not develop the spirit of covetousness. In other word do not desire the good of others to be your own. Such an attitude can give birth to ungodly rivalries among individual, this can affect once emotionally and physical life, Duet 28:1, Prov 3:31-35, 2 Tim 2:25.

Beware of developing a critical spirit, foe such a spirit will make your profession unattractive and will also damn your own life. Always find some good things to talk about others. Col 3:3, Isa 3:11-14, Phil 2:2-3.

Do not live as someone who is lawless you should follow the example of our lord Jesus. Roman 13:5

Make it a policy within your level and income even by your faith Phil 4:11, Hebrew

13:5, 6:12 Rom 1:17. His required adequate self-disciple.

The above recommendations can be made practicable if federal ministry of education should make it mandatory that moral education should be taught at all levels of education in Nigeria with sanction on the defectors. Religious institutions like churches and mosques should continue to emphases on teaching on moral education on children and youths.

Conclusion

In conclusion, from the above discussion, it is important to note that there is no significant different between the roles of Christian ethic in pastor, the church and Christian organizations. it is seen here that people's expectations of ethical teaching is as high as that of a follower of Christ. It is therefore expected of all Christians or believers of Christ to put in his or her best by trusting God to help them live according to people's expectations in the church in the society whether in the area of economy, politic, culture or religious beliefs since he or she is regarded as a pace setter. Therefore in this paper one will observe that, the paper itself is an embodiment of recommendation if every individual can endeavor to imbibe the fundamental principle guiding the ethical teaching or Christian ethics.

References

- Adebisi, A. C. (2018). Moral decadence among youths in Nigeria. *Nigeria Journal of Social Science*. Retrieved from <https://njss.org.ng>.
- Dyaji, D. M. (2002). Moral decline among youths in the society; its causes, effects and remedies. A paper presented at campus light vol. 1 maiden edition of Christian Religious Education.
- Ehimidu, W. (2006). The Role of Teacher Education in combatting cultism in Nigeria Educational Institution.
- Etete, C. A (2003). Moral Philosophy made easy for tertiary institution Zaria Faith Printers International.

- Nirupama, M. and Souza, D. J. (2021). Values and Ethics in Education. *International Research Journal of Modernization in Engineering Technology and Sciences* 3 (2) PP 731-741.
- Nwizu, S. C. (2018). Ethics, values and higher education policy and curriculum reform. *Globe lhic Education. Net Ethics Series 2*
- Onyekwere, O. C. (2018). History of moral decadence in Nigeria.
- Oyetubo, O. K. (2021), Ethical issues in school management in Somolu Local Govt. Area of Lagos state. *International Journal of Innovative Business Strategies, Volume 7(1)* PP: 497-504.
- Sherman, F. (2020). Ethical Principles in the workplace. *Careertrend. Com.* <http://Careertrend.com>.
- Yildirin, I., Canan, A. and Durdaji, A. (2020). Unethical Behaviours of Teachers in their relationship with schools stakeholders. *International Journal of Education and Literacy Studies. Vol 8 (1) PP: 152-166.*

**PROVISION OF INFORMATION AND COMMUNICATIONS TECHNOLOGY AND
ENTREPRENEURSHIP EDUCATION IN SECONDARY SCHOOLS AS STRATEGY FOR
SUSTAINABLE YOUTH EMPOWERMENT IN CALABAR METROPOLIS, CROSS RIVER STATE,
NIGERIA**

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Abstract

The study focused on provision of Information and Communications Technology (ICT) and entrepreneurship education in secondary schools as strategy for sustainable youth empowerment in calabar metropolis, cross river state, Nigeria. The purpose of the study was to determine wheather provision of ICT and entrepreneurship education in secondary schools relate to sustainable youth empowerment in Calabar Metropolis, Cross River State. Two hypotheses were formulated to guide the study. Survey research design was adopted for the study. The population of the study is 2,349 which comprised 1,245 SS2 students, 1,080 teachers and 24 principals in the 24 public secondary schools in Calabar Metropolis. A multistage sampling technique involving Purposive and simple random techniques was adopted in selecting 200 students that formed the sample of the study. A questionnaire titled " ICT and entrepreneurship education in secondary schools for sustainable youth empowerment questionnaire, (ICTEESSSYEQ)" was used for data collection. The data collected were analyzed using simple linear regression. Results showed that provision of ICT and entrepreneurship education in secondary schools significantly predicts sustainable youth empowerment in Calabar Metropolis. Based on the results, it was concluded that the sustainable empowerment of youths in calabar metropolis can be achieved through the provision of ICT and integration of entrepreneurship education in secondary schools. it was recommended among others that government and other stakeholder should endeavour to provide ICT facilities for use in schools..

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Introduction

Education at any level is believed to be crucial to the overall growth and development of any nation. Consequent upon this, managing secondary education is very pertinent with its broad goals of preparing the youth for useful living in the society and for higher education. Nevertheless, youth empowerment and job creation tendencies are clear indicators of achievable secondary education goals and objectives especially in this era of post Covid-19 pandemic. This calls for an enriched school curriculum to embellish in the students or youth full potentials so as to function well in virtually every aspect of human endeavor.

Before the advent of the covid-19, the Federal Republic of Nigeria (2019) in the National Policy on Education had provided for the infusion of more subjects into the school curriculum as a way of preparing the education system to deliver to the youths, the skills and knowledge that can make them relevant and competitive in the modern era of digitalization. For instance, Civil Education metamorphosed into National values comprising of Civic education, Security Education, Social Studies and Religion. Agricultural Science fragmented into Animal Husbandry and Horticulture. Computer Science fragmented into word and data processing. Home Economic fragmented into Food and Nutrition, Fashion and Designing, Cosmetology, and Hair Dressing. Besides, students were also seriously engaged in workshops as well as other youth empowerment programmes for their outshining performance within and outside the school community. All these were also geared towards empowering the youths so as to be able to create job for themselves. The document further acknowledged the dignity of labour and the acquisition of appropriate skills, abilities and competences as

equipment for the individual \to live in and contribute to the development of his society.

In this wise, youth empowerment refers to all proactive opportunities which nurture young minds so as to fully develop their potentials. In essence, students get enrolled into school to gain knowledge, skills and competences to better their lives. An Empowered youth mainly showcases creativity and innovative abilities as product of having had contact with the school system. Therefore, reaching an enviable height in this era may not be unconnected with emerging technologies and innovations (Uruo, 2022). Mark (2020) remarked that the future survival of teeming youths and students at secondary schools can be possible through the acquisition of entrepreneurial skills and technological skills. Looking at both sides of the coin, the role of the administrator as well as stakeholders in education remains sacrosanct. Obviously, if Nigeria youths are empowered through entrepreneurship right from the secondary school level, they are likely to create jobs for themselves as a boost to their survival in the society and higher educational pursuit especially in this post Covid 19 pandemic era. Entrepreneurship is therefore an educative cycle which enables the learner to develop positive attitude, innovative and creative skills for self-reliance, employment and actualization of individual's dreams rather than waiting for the government for employment (Uko and Nnaji, 2015).

Provision of information and communication technology (ICT) facilities is the process of making available to schools current sophisticated technological tools for effective teaching and learning. According to Adams (2022), Information and Communication Technologies refers to all electronic tools and resources used to generate, process, analyze, store and disseminate information. Undoubtedly, ICTS provide scope for opening new sources of

information and empowering individuals for the sustenance of individualized learning at one's own pace and comfortability. Ugwu (2022) asserted that thriving schools are fast embracing ICT because of its numerous benefits. Hence, the need to employ several ICT tools in the post Covid-19 era is very crucial. Some of these ICTs include; computers, smart phones laptop, electronic notice boards, closed circuit television, projectors, modems, internet and other software and hardware resources. Recently information and communication technology has made the world a global family, as such, every face of the school at this is time depends strongly on technology for its sustainability (Ukeh, 2021)

According to the National Policy on Information and Communication Technologies in Education (2010), the teachers and trainers use technology to support all learning, access the curriculum, function as mentors, coaches, advocates and managers of information. In addition, at the declaration of lockdown during the pandemic, students were provided with ICT tools for learning in order to minimize the risk of infection. For instance, power point and computer has the potential to transform how learning occurs in the post Covid 19 pandemic era. At this point, power points and other computer resources if sustained aids in uncovering current events, outlining step by step instructional delivery, visualization of content, reading and writing activities using images and pictures for students to understand. Nnaji et al (2023) asserted that ICT is a tool of empowerment for both students and their teachers. Provision of information and technology tools in educational institutions brings about unique improvements in the teaching and learning process and empowers the learners for lifelong learning (Jekwu,2021). This implies that ICT has provided great improvement in the teaching and learning process. Nevertheless, the role of computer assisted

instruction (CAI) in the stimulated model of teaching has often been over looked.

Omtinari (2023) investigated the impact of ICT on the academic achievement of students in secondary schools in Benue state and discovered that ICT enhances learners understanding of concepts. The study which employed a survey research design and a sample of 500 students and 150 teachers concluded that use of ICT in schools will enhance students acquisition of digital skills for modern jobs. Another empirical study carried out by Sule (2022) in Lagos state revealed that teachers in secondary schools that were provided with ICT facilities are more effective in their lesson delivery, academic advising and counselling of students. The study employed survey research design and used a sample of 600 teachers that were purposively selected. The study concluded that provision of ICT in schools holds the key to knowledge and skill retention. This is a pointer to the significance of ICT in schools.

Provision of ICT facilities and entrepreneurship education are innovative strategies that visionary governments should embrace (Oleu,2020). Innovation requires creative ideas to make a difference. Innovation could be seen as an effective and efficient implementation tool for creative ideas within the school. Nnaji and Ogban (2017) opined that sustainable national development could be achieved if innovative ideas are integrated in the management of functional secondary education. They further recommended that government should organize capacity building training programmes for principals and teachers to orientate them on how best to enhance their creative and innovative capacities.

In Nigeria, one of the hurdles facing secondary education is how to make it responsive to the needs of the society, labour market and

individual students. Secondary school students or graduates need to possess entrepreneurial skills for survival and self-sufficiency while the society and the labour market needs them be functional and contributing members of the social system. This calls for enhancement of entrepreneurship at all levels of education especially at the secondary education level. Entrepreneurship here refers to an act of embellishing entrepreneurial skills, attitudes and competencies in the learners, so as to make them self-reliant and contribute immensely towards the overall growth and development of the country. By so doing youth unemployment and poverty will reduce drastically.

Worried about the lack of skills and inability of products of secondary schools to independently sustain themselves economically in selected local government areas in Kogi State, Adams (2023) carried out a study to find out whether the introduction of entrepreneurship studies in educational institutions has any relationship with youth survival skills. 300 youths who completed secondary education three years before the year of the study were selected as sample for the study. Results from the analysis of data collected revealed that entrepreneurship studies correlates with youth empowerment. In a related study, Ovie (2020) investigated the perception of teachers on the introduction of entrepreneurship education in secondary schools in Lagos State. 800 teachers formed the sample of the study and findings from the study showed that teachers agreed that introduction of entrepreneurship education will empower students with skills of self reliance and resilience for success. According to Mark (2020) the future survival of the teeming youths in the society and the students still at the secondary schools is the acquisition of entrepreneurial skills. Remesi (2022) noted that incorporating ICT education in

schools is an exercise that will equip students for jobs of tomorrow.

However, managing secondary education for youth empowerment and job creation in this post covid 19 era seems to be a herculean task to educational managers. As such it may be wise to redirect the system to recognize the significance of ICT tools and entrepreneurship education in changing the prevalence of youth unemployment in Calabar Metropolis.

Statement of the problem

The goal of secondary education is to prepare individuals for useful living, self-sufficiency and higher education by inculcating in them relevant skills and knowledge. It is quite worrisome that products of secondary schools seem not to possess these skills, making it difficult for them to attain independence and self sufficiency. Hence, unemployment and social vices among youths is on the increase. Most youths are also failing external examinations such as the ones conducted by the joint admission and matriculation board (JAMB), West african examination council (WAEC) and National examination council (NECO), making it difficult for them to gain admissions into tertiary institutions because Most of these examinations are computer based and they lack the digital skills to cope with this online examinations. Most of the youths are also unemployed because they lack digital skills which is highly needed in most jobs of today. Some others do not also possess the entrepreneurial skills to start up their own businesses to become self employed and job creators so they remain unemployed.

Government has embarked on a rapid transformation as new curriculum evolved and more teachers employed to cater for these deficiencies amongst youths. However, the problem still persists. It is on this premise that

the present study is carried out to ascertain the extent to which provision of ICT facilities and entrepreneurship education in secondary schools will result to sustainable youth empowerment in Calabar metropolis, Cross River State.

Purpose of the study

The purpose of the study was to determine whether provision of ICT, and entrepreneurship education in secondary schools relate to sustainable youth empowerment in Calabar Metropolis, Cross River State. Specifically, this study sought to find out whether: .

1. provision of ICT facilities in schools significantly predict youth empowerment in Calabar Metropolis of Cross River State.
2. Integration of entrepreneurship education in secondary significantly predict sustainable youth empowerment in Calabar Metropolis of Cross River State.

Statement of hypotheses

The following hypotheses guided the study

1. The provision of ICT facilities in schools does not significantly predict youth empowerment in Calabar Metropolis of Cross River State.
2. Integration of entrepreneurship education in secondary schools does not significantly predict sustainable youth empowerment in Calabar Metropolis of Cross River State.

Methodology

The study area was in Calabar Metropolis, Cross River State. The research design used for this study was the correlational design. The population of the study was 2,349 which comprised 1,245 SS2 students, 1,080 teachers and 24 principals in the 24 public secondary schools in

Calabar Metropolis. The choice of SS2 students is because they were considered to be an advanced class that may not be biased in their responses. Multi-stage sampling procedure involving simple random sampling and purposive sampling was used for this study. In the first stage, random sampling technique was used to select 6 schools which represented 25 percent of the 24 schools in the study area. At the second stage, purposive sampling technique was used to select 25 percent of SS2 students and teachers from each of the 6 selected schools which gave 125 students and 75 teachers. At the final stage, purposive sampling technique was also used to select the 6 principals in the 6 selected schools. This gave a total of 206 study sample.

The instrument for data collection is a research questionnaire titled “ICT and entrepreneurship education in secondary schools for sustainable youth empowerment questionnaire” (ICTEESSSYEQ)”. The instrument was validated by three research experts and the reliability was established at 0.80 using Cronbach coefficient Alpha. The coefficient proved that the instrument was reliable and was used for the study. Copies of the instruments were administered on the study respondents and the obtained data were analyzed with simple linear regression .This tool was used in order to predict the relationship between the dependent and independent variables.

Results and findings

Hypothesis One

Provision of ICT facilities' do not significantly predict sustainable youth empowerment Calabar metropolis, Cross River State.

Table 1

Linear Regression analysis of provision of ICT in secondary schools as significant predictor of sustainable youth empowerment

R-value = .272			Adjusted R-squared = .074		
R-squared = .074			Standard error = 4.3456		
Source of variation	Sum of squares	df	Mean square	F-value	R-value
Regression	1498.608	1	1498.608	15.710*	.000
Residual	18887.716	204	95.393		
Total	20386.324	204			
Predictor variable	Unstandardized coefficient		Std coeff	t-value	p-value
	B	Std error			
Constant	20.585	.872		23.603*	.000
Youth empowerment	.194	.043	.093	4.488*	.000

* Significant at .05 level $P < .05$

The results in Table 2 show that the R-value of .272 was obtained, resulting in an R-squared value of .074. This means that the variation in provision of ICT facilities accounted for about 7.4% of the total variation in youth empowerment in Calabar Metropolis of Cross River State. The p-value (.000) associated with the computed F-value (15.710) was less than .05. As a result, the null hypothesis was rejected. This means that the provision of ICT facilities significantly predict

youth empowerment, with both the regression constant (20.585) and coefficient (.194) contributing significantly in the prediction model (t=23.603 & 4.488 respectively, $p = .000$ & $.000 < .05$).

Hypothesis two

Integration of entrepreneurship education in secondary schools does not significantly predict sustainable youth empowerment in Calabar metropolis, Cross River State.

Table 2

Linear Regression analysis of entrepreneurship education as significant predictor of sustainable youth empowerment

R-value = .289			Adjusted R-squared = .083		
R-squared = .082			Standard error = 4.5643		
Source of variation	Sum of squares	df	Mean square	F-value	R-value
Regression	1675.875	1	1675.875	17.745*	.000
Residual	18710.449	204	94.497		
Total	20386.324	206			
Predictor variable	Unstandardized coefficient		Std coeff	t-value	p-value
	B	Std error			
Constant	25.786	.987		26.126*	.000
Youth empowerment	.256	.093	.123	2.753*	.000

*Significant at .05 level. $P < .05$

The results in Table 2 show that the R-value of .289 was obtained, resulting in an R-squared value of .083. This means that the variation in infusion of entrepreneurship accounted for about 8.3% of the total variation in job creation. The p-value (.000) associated with the computed F-value (17.745) was less than .05. As a result, the null hypothesis was rejected. This means that the infusion of entrepreneurship significantly predict youth empowerment among students, with both the regression constant (25.786) and coefficient (.256) contributing significantly in the prediction model ($t=26.126$ & 2.753 respectively, $p=.000$ & $.000 < .05$).

Discussion of findings

The result of the first hypothesis stated that, the provision of ICT facilities' significantly predicts youth empowerment in Calabar Metropolis, Cross River State. The utilization of ICT facilities in teaching and learning at the secondary school level remain vital. This is due to the fact that technology empowers the youths (students) to meet the challenges of the day. This finding is in line with that of Omtinari (2023) who investigated the impact of ICT on the academic achievement of students in secondary schools in Benue state and concluded that use of ICT in schools will enhance students acquisition of digital skills for modern jobs. The study also agrees with Sule (2022) who concluded in a study that provision of ICT in schools holds the key to knowledge and skill retention among the students This shows that provision of ICT in schools will help teachers to effectively deliver their services while student can use ICT resources such as computers and other hard and softwares to acquire various digital skills.

This finding is also in line with Remesi (2022) who noted that incorporating ICT

education in schools is an exercise that will equip students for jobs of tomorrow. This confirms that ICT is a tool of empowerment for the students.

The result of the second hypothesis showed that the integration of entrepreneurship education in secondary schools significantly predicts youth empowerment. This implies that integrating entrepreneurial education in secondary school curriculum can enhance the empowerment of students. Empowering students in entrepreneurial skills is a way of making students self-reliant or potential job creators. Entrepreneurship is therefore an educative cycle which enables the learner to develop positive attitude, innovative and creative skills for achieving self-reliance, self employment and actualization of an individual's dreams rather than waiting for the government for employment. This finding aligns with Adams (2023) whose study revealed that entrepreneurship studies correlated with youth empowerment. This shows that entrepreneurship education will go a long way in empowering youths with the skills of problem identification and problem solving in order to become self employed and job creators after leaving secondary school. This study is also in line with that of Ovie (2020) whose investigation of the perception of teachers on the introduction of entrepreneurship education showed that teachers agreed that introduction of entrepreneurship education will empower students with skills of self reliance and resilience for success. This is an indication that a school that succeeds in inculcating entrepreneurial skills in students is sure to produce active citizens. This finding is also in agreement with Uko and Nnaji (2015) who stated that it is obvious that if Nigeria youths are empowered through entrepreneurship right

from the secondary school level, they are likely to create jobs for themselves as a boost to their survival in the society and higher educational pursuit especially in this post Covid 19 pandemic era.

Conclusion

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

Provision of ICT facilities and integration of entrepreneurship education in secondary schools are significant predictors of sustainable youth empowerment in Calabar Metropolis.

Youth unemployment, youth vices and other depravities by youths will be greatly curbed if ict facilities are provided for use in secondary schools and entrepreneurship education integrated into secondary school curriculum.

Recommendations

On the basis of study finding, the following recommendations were made

- Entrepreneurship programme should be introduced into secondary school curriculum in order to promote job creation among students.
- Government and educational stakeholders should endeavour to provide adequate ICT facilities in secondary schools so as to improve students' creativity.

References

- Adams, O. T (2022). *Issues in Nigerian Education*. Ilorin: Tristar ventures Ltd
- Federal Government of Nigeria (2019). *National Policy on Education*. Lagos: Government Press.
- Federal government of Nigeria(2010). *National Policy on Information and Communication Technologies in Education*: Abuja: NITDA

- Jekwu, N C. (2021). An assessment of the influence of Information and Communication Technologies (ICT) on secondary school goal attainment. *Journal of Education and Training*. 4(2),29-38
- Mark, R. (2020), Contributions of technology to educational development *Journal of Educational Technology*.5(2)56-72
- Nnaji, E. S. & Ogban, O. N. (2017). Integrating strategic planning in the management of functional secondary education: Pamacea for sustainable National Development in Cross River State, Nigeria. *Journal of Educational Administrative and Planning*. 17(3).
- Nnaji, E. S, Onabe, D. B, Kazon, I & Garba, M. A (2023). Upskilling teachers in the digital era: Panacea for the sustainability of secondary education in Calabar education zone, cross river state. *International journal of educational research* 12(2),296-306
- Oleu, J (2020) Innovation in education: the new paradigms. *Journal of social interactions*. 4(3) 56-72
- Omtinari, P.U (2023), Impact of ICT on the academic achievement of students: a case of selected secondary schools in akwa ibom state, Nigeria. *Victory journal of humanities*. 1 (2), 56-68
- Ovie, D (2020), Management of entrepreneurship education for skill acquisition in secondary schools in Lagos state. *Journal of vocational and business education*. 3 (1),67-79.
- Remesi, A. (2022) *Essentials of educational administration*. Lagos: Bolaji Press
- Sule, M.E (2022), Assessment of information and communications technology utilization in secondary schools in Delta

- state. *Journal of interdisciplinary education*. 5(1), 54-69
- Ugwu, I. O (2022). Impact of application of information and communication technology in classroom instruction. *International Journal of Computer Science and Educational Technology*. 3(3), 115-128.
- Ukeh, I. (2021). Technology and educational development. *Journal of Education and Social Sciences Research*.2(2)45-61
- Uko, E. S and Nnaji E.S(2015). Assessment of ICT resource availability and utilization among secondary school administrators in Calabar Metropolis, cross river state. *International journal of Educational Administration ,planning and research*.7(2), 185-194
- Uruo, J. P. (2022). Education and National Development. *Paper presented at the 2nd Eastern Regional Conference of Nigeria Young Researchers Association*. Enugu: 12th -14th February.

**ASSESSMENT OF THE RELATIONSHIP BETWEEN THE ATTITUDE OF STUDENTS TOWARDS
CHRISTIAN RELIGIOUS STUDIES AND THEIR ACADEMIC PERFORMANCE IN CHRISTIAN
RELIGIOUS STUDIES IN FEDERAL COLLEGE OF EDUCATION, ZARIA**

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Abstract

The potential of Christian Religious Studies to assure spiritual and moral wellness within a given society justifies its availability at the primary, secondary, and tertiary institutions. The approach of students to the course is important since it affects how well they perform in the subject. Therefore, this study entitled “Assessment of the Relationship between the Attitude of Students towards Christian Religious Studies and their Academic Performance in Christian Religious Studies” became imperative. The objective was to examine the impact of attitude of students on the choice and performance in the course in Federal College of Education, Zaria. The research questions are: to what extent has the attitude of CRS students impacted the choice of the course in Federal College of Education, Zaria; and to what extent has attitude of CRS students impacted their performance in the course in the college. Correlational design adopted for this study with the use of questionnaire in data collection using purposive sampling to select a sample of 60 students from a population of 84 NCE II students. Descriptive statistics (standard deviation) was used to analyse the data. The study reveals among others, that students’ attitude towards CRS affect their performance negatively in the course hence, it was concluded that majority of the students do not offer CRS because of personal interest, motivation and for self-fulfillment. It was therefore, recommended among others, to re-orientate the students and instill the right attitude in them and that government should make CRS compulsory at secondary school level.

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Introduction

One of the primary subjects that missionaries brought to the Nigerian education system when they established schools in the 19th century was Christian Religious Studies, which has since been taught in our schools since the establishment of Teacher Training schools in Nigeria by the church missionary society (CMS), which began teacher training. Njoku and Njoku in Anyebe and Anyebe (2017), noted that the Church Missionary Society (CMS), started teacher training after building a facility in

Abeokuta in 1833 and the founding of a missionary school in Badagry by Christian Missionaries in 1842 came shortly after that, then followed by the establishment of Saint Andrew’s College, Oyo by CMS in 1896. Since that time, Christian Religious Studies (CRS) has continued to be a relevant subject in our academic program and is currently one of the important courses taught in our schools both at primary, secondary and tertiary institutions. Its importance, therefore, in the Nigerian educational system cannot be overemphasized

because of its moral values. Despite the fact that each subject taught in schools has a special value and significance to the overall educational process, CRS is unique in the sense that its dual purpose of developing students' moral character and intellectual ability simultaneously cannot be overlooked. Similarly CRS assist in restoring sanity to society and lessens all societal ills because human behaviour is frequently influenced by spiritual concern rather than by outside factors.

Aiyedogbon (2023) asserts that a man's mindset determines everything about who he is and what he becomes in life. This, along with the level of effort he possesses and displays, determines the man's chances of success or failure. The potential of CRS to explain paranormal events has made and will continue to make the study of CRS of utmost relevance to humanity. Despite the value of CRS to both individuals and society as a whole, research shows that the field has experienced low patronage and academic performance. Poor academic performance is one of the main problems of Nigeria educational system. For students to perform well in their academic pursuit, they need to have right attitude towards the course as academic performance and attitude are associated hence, attitudes and ability usually goes together. Student who are forced to take a course that they have negative attitude to, may find it difficult to perform well. Majority of students we have today view CRS as a hard course while some feel that they were pushed to read the course because it was not their first choice while looking for admission and this seems to have resulted in a negative attitude towards the course. It has, been observed that majority of students have negative attitude towards CRS thereby leading to poor academic performance. In recent times, reports of large scale academic failures leading to the production

of half-baked and unemployable graduates from our higher institutions have become a subject of concern for stakeholders hence, the need to embark on this study to investigate the impact of CRS students' attitude on their academic performance.

Aaron, Ibemeji and Sunday (2021) opined that attitude has to do with the cognitive, affective and psychometric domains of learning that are very complicated and special concept. The term "attitude" has been defined in a variety of ways by authors. Yahaya (2020) for example, described attitude as a person's emotional propensity, which can be positive or negative. It depends on the student's attitude toward forming learning habits in a classroom whether they will do so favourably or not. According to Yahaya's point of view, one might state that attitude is a collection of emotions and beliefs that lead to a propensity to respond positively or negatively to objects or ideas.

Ebuoh, (2011), accepting the aforementioned viewpoint clarified that attitude is a state of readiness or predisposition to respond in a particular way when faced with a task. He emphasised further that it is a mental, neutral state of preparedness that has been organised by experience and that directs and dynamically influences how people react to all relevant things and circumstances. In a nutshell, a learner's attitude is their mental state as it relates to their personal behaviour. In general, attitude describes how a person tends to feel, believe or prefer something depending on their ideas about it. It is connected to likes and dislikes and can be positive or negative. On this note, a person's perception of an object influences whether they believe it to be essential or inconsequential, pleasant or unpleasant, beneficial or destructive, to be good or bad. As a result, students who have a good attitude stimulate the parts of their thinking, feeling, and

behavior that support performance, whereas students who have negative attitude which is brought on by limiting beliefs and pessimistic thinking lose motivation and impede their ability to advance academically.

The academic performance of students in CRS is influenced by a wide range of elements, which have been identified by multiple research conducted by various authors. The most important factor is the attitude, which Adebisi (2006) defined as the positive and negative thoughts that a person has regarding ideas or topics. Additionally, it was stressed that although attitudes are frequently thought of as taught rather than innate, they can be altered by instruction or experience. The author continues by highlighting the importance of a student's attitude towards the subject in determining how well they achieve academically. It follows that most people think that being optimistic will result in improved academic performance.

In conjunction with the aforementioned study, Aiyedogbon (2023) conducted a study on secondary students' attitudes toward the study of Christian religious studies in tertiary institutions in Ibadan South-West Local Government Area of Oyo State and discovered that the majority of students are pursuing CRS not out of a genuine interest in the field but rather to earn a certificate because some of them are there not because they applied for the course but due to the mode of admission. However, this has affected their academic performance due to lack of interest and dedication. The work of Aiyedogbo above has demonstrated clearly that the connection between attitude of students who studies Christian Religious studies and their academic performance cannot be neglected because students develop either negative or positive attitude towards a course due to some factors which could be the mode of admission as the case may be in the tertiary institutions.

EtseDiaka et al (2021) conducted a research on the challenges facing administration of Christian Religious Studies program in higher institutions in Nigeria and affirmed that negative attitude of students towards Christian religious studies is a major challenge affecting not only the administration of Christian Religious program in the Nigerian higher institutions but also the academic performance of the students. According to them, there is a negative attitude of students toward the study of Christian religious studies as a course across most Nigerian higher institutions. The reason being that many students demonstrate lack of interest in the study of CRS therefore, don't want to offer it as a course and even those who manage to choose it as a course hardly attend lectures. This leads to poor academic performance at the end of their semester examinations. Stressing further the effect of attitude on students' academic performance, Malala et al (2021), highlighting the impact of attitude on students' academic performance, claim that attitude can affect all facets of a person's life, including education. The attitude of the student affects their ability, interest, and readiness to learn. In reality, if the problem of negative attitude is not effectively handled, a student is more likely to perform poorly in a subject since it will continue to restrict student performance because academic performance is impeded when motivation to learn is derailed.

Statement of problem

The way that students approach CRS as a course is crucial since it affects how well they succeed because a good attitude yields good performance. Despite the importance accorded to CRS, students seem not to be interested in this subject but just to pass (Kalu, 2012). This is reflected in low enrolment and poor performance of students in this subject at the primary, secondary and tertiary levels as pointed

out by Mensah (2019). He further added that most students studying this subject in schools seem to attend CRS classes just because it is a course given to them. The above notion was supported by Melad (2022) who noted that researchers have generally agreed that interest acts as a very powerful motive to an individual's behavior that energetically determines choices made. This motive influences the learner's knowledge, skills, abilities and competencies possessed in this subject and others.

Despite the importance of Christian Religious studies to the individual and nation in imparting moral values and behavioural change, it is worthy to note that the performance of students in the subject especially in our tertiary institutions keeps going down by the day. In Federal College of Education, Zaria, the researcher has noticed that there is a yearly drop in performance and many students yearn for a change of course. Teachers are becoming increasingly concerned about this students' startlingly high failure rate in C.R.S. In spite of deliberate efforts to enhance students' performance in C.R.S in F.C.E Zaria through counselling, the researcher has found that poor academic performance is still a persistent issue and that students still struggle to perform well academically, as demonstrated by their results on end-of-semester examinations. This poor performance according to Ojong and Ejar (2017) and Lawal (2012) implies that in the near future, the educational system will be staffed by inept teachers who will undermine the effectiveness of the teaching and learning process. This will have negative effects on the achievement of the national objectives which is dependent on the quality and quantity of teaching personnel. The relationship between students' attitudes and academic achievement has been extensively studied in a various fields, however, the impact of attitudes on CRS students' academic

performance appears to have received little attention. Why are we having this state of affairs? Therefore, this study attempted to investigate student attitudes such as personal interest, engaging in self-study after regular class work, their motivation to learn and excel in the course and how they impact CRS students' academic performance in Federal College of Education, Zaria.

Objectives of the study

The research objectives include:

- To examine the impact of the interest of CRS students on the choice of CRS as a course in Federal College of Education, Zaria.
- To investigate the impact of CRS students' attitudes on their academic performance in Federal College of Education, Zaria.

Research questions:

- To what extent has interest of CRS students impacted the choice of the course in Federal College of Education Zaria?
- To what extent has the attitude of CRS students impacted their performance in the course in Federal College of Education, Zaria?

Methodology

The correlational design was adopted for this study because it analyses relationships between variables without the researcher influencing any of them. This is in line with the findings of Devi and Lepcha (2023), who stated that it is a non-experimental method that investigates the relationship between two variables using statistical analysis without the researcher manipulating any of them. A questionnaire was designed to access and describe how the attitude of students towards Christian religious studies has impacted their academic performance in Federal College of Education, Zaria. The primary source of data in

this study was made up of all N.C.E II students with the total number of eighty-four (84). NCE II students were chosen because they were the only students in session at the time of the study. Purposive sampling was used to select sixty (meaning 71.4% out of a population 84 students which was considered adequate). Out of the sixty respondents, fifty seven (or 95%) of the respondents completed and returned the copies of the questionnaire entitled “Attitude of students towards Christian Religious Studies and their academic performance in federal

college of education, Zaria” which was developed by the researcher for this purpose after subjecting it to a pilot study to establish its validity and reliability.

The responses were rated on 5-point Linkert scale: Agree (A), Strongly Agree (SA), Undecided (UD), Disagree (D), and Strongly Disagree (SD). Descriptive statistics (simple percentages, mean and standard deviation) were used to analyse the data.

Results

Table 1

Impact of interest of Christian Religious Studies’ students on their choice of CRS in Federal College of Education, Zaria

S/N	Items	Response					Total number	Mean	Standard Deviation
		A	SA	UD	D	SD			
1	Personal interest influences my choice of Christian Religious Studies most	9 (21.0%)	12 (15.8%)	0 (0.0%)	26 (45.6%)	10 (17.5%)	57 (100%)	2.7719	1.46406
2	I feel motivated to learn and excel in Christian Religious Studies	15 (26.3%)	13 (22.8%)	1 (1.7%)	20 (35.0%)	8 (14.0%)	57 (100%)	3.0877	1.45505
3	Christian Religious Studies is always interesting to me	13 (22.8%)	15 (26.3%)	2 (3.5%)	20 (35.0%)	7 (12.2%)	57 (100%)	3.1579	1.46128
4	I don’t feel fulfilled each time I am in Christian Religious Studies class	11 (19.29%)	13 (22.8%)	2 (3.5%)	27 (47.3%)	4 (7.0%)	57 (100%)	3.0351	1.37536
5	I feel good whenever I hear the word Christian Religious Studies, but I don’t like it as a course	38 (66.6%)	17 (29.8%)	0 (0.0%)	2 (3.5%)	1 (1.7%)	57 (100%)	4.1579	.75094

Field Survey, 2024 & SPSS Output

Responses from table 1 are in respect of the impact of interest of Christian Religious Studies' students on their choice of CRS in Federal College of Education, Zaria.

The mean and standard deviation of 2.7719 and 1.46406 indicate that the level of agreement on whether personal interest influences the choice of Christian Religious Studies most is below average which means majority of the respondents disagree with that view point.

Regarding question on whether the respondents feel motivated to learn and excel in Christian Religious Studies, the mean and standard deviation are 3.0877 and 1.45505. It implies that the level of agreement is also below average which means majority of the respondents are not in agreement with that point of view.

The mean and standard deviation of 3.1579 and 1.46128 are on responses on whether Christian Religious Studies is always interesting to the respondents. This implies that the level of agreement is as well below average which means that majority of the respondents do not view it that way.

The mean and standard deviation of 3.0351 and 1.37536 are in respect of whether the respondents don't feel fulfilled each time they are in Christian Religious Studies class. By implication, this means that the level of agreement is below average. The standard deviation of 1.37536 indicates a better spread of the responses in comparison with the

responses in relations to personal interest, motivation and keen interest on the course.

The mean and standard deviation of 4.1579 and 0.75094 are in respect of whether the respondents feel good whenever they hear the word Christian Religious Studies but they don't like it as a course. It implies that the level of agreement is well below average. Hence, majority of the respondents as reflected in the mean and standard deviation feel excited to hear the title of the course but do not consider it as their favourite course of study.

The findings suggest that the interest of CRS students does not really influence the choice of the course in Federal College of Education, Zaria.

This result above seems to agree with findings of earlier studies such as Aiyedogbon (2023) who carried out a research on "Secondary Students' Attitudes Towards the Study of Christian Religious Studies in Tertiary Institutions in Ibadan South-west Local Government Area of Oyo State". It was revealed in that study that a good number of students who are studying CRS are not there because they are interested in the course but just to obtain a certificate. This is so because they did not apply for the course in the first place but were forced to study the course because of the mode of admission. He further added that this has affected their academic performance since interest and dedication are not there.

Table 2

Impact of attitudes of CRS students on their academic performance in Federal College of Education Zaria

S/N	Items	Response					Total number	Mean	Standard Deviation
		A	SA	UD	D	SD			
1	I have positive attitude towards Christian Religious Studies	15 (26.3%)	10 (17.5%)	0 (0.0%)	20 (35.1%)	17 (29.8%)	57 (100%)	2.5789	1.51124
2	My attitude towards Christian Religious Studies has not affected my academic performance	4 (7.0%)	2 (3.5%)	1 (1.7%)	30 (52.6%)	20 (35.1%)	57 (100%)	1.9123	0.98707
3	I often participate in class discussion related to Christian Religious Studies	7 (12.2)	9 (21.0%)	1 (1.7%)	25 (43.8%)	15 (26.3%)	57 (100%)	2.4737	1.41554
4	I always engage in self-study or revision outside regular class work in Christian Religious Studies	5 (8.77%)	8 (14.0%)	2 (3.5%)	27 (47.3%)	15 (26.3%)	57 (100%)	2.3684	1.34472
5	I attend Christian Religious Studies class with the feeling of hesitation	10 (17.5%)	18 (31.57%)	4 (7.0%)	19 (33.3%)	6 (10.5%)	57 (100%)	3.2281	1.47621

Field Survey, 2024 & SPSS Output

The responses in table 2 are in respect of the effect of attitudes of CRS students' on their academic performance in Federal College of Education Zaria.

The mean and standard deviation of 2.5789 and 1.51124 are in relation to whether the respondents have positive attitude towards Christian Religious Studies. This shows that the level of agreement is low. Hence, the standard deviation suggests that most of the responses concentrated above the mean which indicates disagreement.

The mean and standard deviation of 1.9123 and 0.98707 is in relation to whether

the attitude towards Christian Religious Studies has not affected the academic performance of the respondents. It implies that the level of agreement is around average as majority of the respondents have the belief that there is correlation between their attitude towards the course and their academic performance.

The mean and standard deviation of 2.4737 and 1.41554 is on how often the respondents participate in class discussion related to Christian Religious Studies. It implies that the level of agreement is below average, hence, majority of the respondents

were passive as they did not participate in the class discussion.

The mean and standard deviation of 2.3684 and 1.34472 is related to how always the respondents or representative samples engage in self-study or revision outside regular class work in Christian Religious Studies. It implies that the level of agreement is below average which means there is not much agreement among the respondents.

The mean and standard deviation of 3.2281 and 1.47621 on whether the respondents, have attended Christian Religious Studies class with the feeling of hesitation. The above mean and standard deviation shows that the level of agreements is average as only slight majority did not hesitate to attending the Christian Religious Studies class.

Based on the above result, it is evident that some students are of the view that their attitude towards CRS does not really affect their performance in the course. However, a slight majority of the students are of the view that their negative attitude towards the course really affects their performance. This is in consonance with the results of studies conducted by Kalu (2012) which revealed that students' approach to a course is crucial since it affects how well they succeed because a good attitude yields good performance. Also, Mensah (2019) demonstrated that most students studying CRS seem to attend CRS classes just because it is a course given to them which negatively affects their performance.

Conclusion

It is therefore concluded from the study that the perception of the students about CRS as a course varies, however, majority of the students do not choose CRS as a course of study because of personal interest, motivation, and for self-fulfillment. This definitely, has

implication for low enrolment in the program and also their performance in the course. This situation should be looked into critically.

Recommendations

The following recommendations were made:

There is need to re-orientate and motivate our Christian youths to develop interest and right attitude towards CRS because of its moral values. This can be done during students' orientation and teaching in the class.

There is also the need for teachers to inculcate the right attitude and spirit in the students' studying the course.

Reference

- Aaron, K., Ibemeji, G., & Sunday, E. I. (2021). Effect of Attitude on Student's Academic Performance in Biology in Senior Secondary School in Rivers State. Available at www.researchgate.net. Retrieved on 10/05/2024.
- Anyebe, A., & Anyebe, A.A. (2017). Study Habit and Academic Performance of Christian Religious Studies Students in Federal College of Education, Zaria, Nigeria. *Integrity Research Journals*, 1(3). www.researchgate.net. Retrieved on 15/02/2022.
- Aiyedogbon, J. S. (2023). Attitude of Secondary School Students Towards the Study of Christian Religious Studies in Tertiary Institutions in Ibadan South-West Local Government Area of Oyo State. *British Journal of Contemporary Education*, 6(1).
- Bangkok, M. J., Dino, E. V., & Aspacio, J. M. (2019). Student's Attitude and Perceived Level of Success. *International Journal of Novel Research in Education and Learning*, 6(1). www.noveltyjournals.com

- Ebuoh, C. N. (2011). Influence of gender on students' attitude towards biology in Enugu East Local Government Area of Enugu State. *The Nigerian Journal of Research and Production*, 18(1), 1-9.
- EtseDiaka, P., Jegede, D., & Jacob, O. N. (2011). Challenging Facing Administration of Christian Religious Studies Programme in Nigerian Higher Institutions and the Way Forward. *Cultural Asian Journal of Literature, Philosophy and Culture*, 2(6).
- Devi, B., & Lepcha, N. (2023). Application of Correlational Research Design in Nursing and Medical Research. *Journal of xi'an Shiyou University*, 56(11), 60-69. Accessed on 16/06/2024.
- Lawal, B.O. (2012). Factors Affecting Academic Achievement of Students in Senior School Certificate Examination (SSCE) in Christian Religious Knowledge. *African Research Review*, 4(4).
- Mensah, E. (2019). Attitude of Students Towards Religious Issues: Do Demographic Characteristics Matter? *International Journal of Humanities and Social Studies*, 7(5), 248-256. www.theijhss.com. Retrieved on 30/03/2024.
- Melad, A. F. (2022). Student's Attitude and Academic Achievement in Statistics: A Correlational Study. *Journal of Positive School Psychology*, 6(2). <http://journalpphs.com>. Retrieved on 24/04/2024.
- Ojong, F., & Ejar, B. F. (2017). Factors Affecting Academic Achievement of Students in Senior School Certificate Examination (SSCE) in Christian Religious Knowledge. *International Journal of Advanced Scientific Research*, 2(2).
- Ushie, N. G., Emeka, O. E., & Michael, M. F. (2016). Student's Variables and Academic Performance in Christian Religious Studies in Calabar Municipality, Nigeria. *International Journal of Social Sciences and Humanities Invention*, 3(1). <http://valleyinternational.net>
- Yahaya, S. T. (2020). Self-Concept, Attitude to Course of Study and Academic Performance Amongst Students in Umaru Musa Yar'Adua University, Katsina. *Prestige Journal of Counselling Psychology* 3(2).

**SCHOOL PHYSICAL LEARNING ENVIRONMENT AND THE PSYCHOMOTOR DEVELOPMENT
OF PRESCHOOLERS IN EARLY CHILDHOOD EDUCATION CENTRES IN RIVERS EAST
SENATORIAL DISTRICT OF RIVERS STATE**

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Abstract

The study examined the relationship between the school's physical learning environment and the psychomotor development of preschoolers in Early Childhood Education Centres in Rivers East Senatorial District of Rivers State. Three specific objectives are as follows: To determine the extent to which classroom arrangement relates to preschooler's psychomotor development in public early childhood centres in Rivers East Senatorial District, to determine the extent to which playgrounds in the school physical environment relate to the preschooler's psychomotor development in public early childhood education centers in Rivers East Senatorial District and to determine the extent to which school facilities relates to preschooler's psychomotor development in early childhood education centers in Rivers East Senatorial District. The study employed a correlational research design. The study population was 3,102 preschool children, out of which 620 were sampled using cluster and simple random sampling techniques. The researcher designed a "School Physical Environment and Preschoolers' Psychomotor Development Questionnaire (SPEPPDQ)" questionnaire for data collection. Data was analyzed using the Pearson product-moment correlation coefficient. The findings revealed that there is a significant relationship between classroom arrangement and preschooler's psychomotor development in public early childhood education centres in Rivers East Senatorial District in Rivers State; there is a significant relationship between the playground and preschooler's psychomotor development in public early childhood education centres in Rivers East Senatorial District in Rivers State; there is a significant relationship between the school facilities and preschooler's psychomotor development in public early childhood education centres in Rivers East Senatorial District in Rivers State. Based on the findings of the study, recommendations were made which include that the government through the MOE needs to make proper and adequate provision of facilities according to the developmental stages of children that will enhance the overall development of the children in public early childhood centers.

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Introduction

From the time the fetus is in the mother's womb until the infant is born, the most evident thing to see is usually the child's movement. Humans are always moving; this includes our hands, necks, feet, waists, jaws, and so forth. Exercise involving bodily movement is as old as the body itself. Moving and using motor

abilities are all that is involved in the psychomotor domain. This covers posture and coordination. The mental events that precede, occur during, and follow physical movement are included in the psychomotor component of body movement. The psychomotor domain includes reading music while playing the saxophone and hand-eye coordination.

According to Laws (2015), psychomotor development is defined by Elizabeth J. Simpson's taxonomy as learning that is manifested in physical skills. Coordination, dexterity, manipulation, grace, strength, and speed are some of these abilities. Preschoolers' psychomotor development is notably influenced by acts that show off their big motor skills, such as using their bodies for dance or sports performance, or their fine motor skills, such as using tools or precise instruments.

According to Angerra, psychomotor development encompasses both mental and physical movement (2004). It is the mentality connected to an activity or motion. For instance, someone may find it difficult to remember to sit correctly, which makes it difficult to keep the right posture. An environmental cue that reminds people to sit up straight can be included, though. The idea of the psychomotor domain is useful for enhancing both mental and physical well-being.

The changes in a person's physical characteristics, ability to communicate, cognitive abilities, and social skills throughout the course of their lifetime are referred to as psychomotor development. The development of cognitive, emotional, symbolic, and sensory-motor interactions that influence children's ability to express themselves in a psychosocial context is known as psychomotor development, which is crucial to preschoolers' overall development (Cueto, Mariga, Xavier, Marth, 2017). According to Larrey, López-García, Mozos, and López-Baena (2009), psychomotor development is a crucial and intricate process where physical change is influenced by social-cognitive development.

Preschoolers are becoming more autonomous in their exploration of the world,

which helps them develop as learners and improves their psychomotor abilities. This entails enhancing their motor skills and taking on more independent tasks. Preschoolers acquire psychomotor skills in a variety of ways related to their fine and gross motor (movement) abilities. In the middle of a child's natural tendencies, motor skills are an essential requirement that emerges from birth and takes time to give an individual identity.

According to Uribe (2010), a preschooler's motor abilities are essential for adapting to their surroundings, forming relationships, and interacting with other kids. According to Rigal (2006), the term "motor skills" also refers to the collection of abilities that guarantee a living thing's self-generated motions. The coordination of physical and cognitive abilities is required for these voluntary motor activities, and it gets better with age for the learner.

The preschooler's noteworthy psychomotor development is contingent upon the caliber of psychomotor abilities to which the learner is exposed and able to adjust. One of the main locations where a preschooler can receive the nurturing they need to build psychomotor skills is the Early Childhood Education Center. It lays the groundwork for learning that influences the learner's psychomotor, emotional, and cognitive domains. Preschoolers respond to their physical learning environment in Early Childhood Education centers in different ways depending on their developmental stage. ECE centers need to be able to help children develop their psychomotor skills. School physical environments have been recognized as important components of both qualitative and quantitative preschool education. The effects of teaching and learning are significant.

The French word "Environia," which means to surround, is where the word "environment" originated. The term "environment" can be used to refer to anything that is directly influencing an object at a certain moment and place. Both live and non-living objects can be found in the environment, both in micro and macro forms. It has also been shown to regulate all living things, including humans. The environment is defined as the general conditions, objects, and structures that surround an individual. Agusigbe (2004) proposed that the environment is confirmed by all elements that exist around an individual and that these elements exert some influence on him. These elements may possess biological, physical, or social qualities. Okoro (2004) defined the environment as a structure in which living organisms interact with physical elements.

The environment, with which humans interact, offers all the means of living a comfortable life. There are two categories for the macro environment: the biotic and physical environments. The macro environment refers to all of the biotic and physical circumstances that surround the organism from the outside, whereas the micro environment refers to the organism's immediate surroundings. The biotic environment is made up of all living things, such as plants, animals, and microorganisms, whereas the physical environment is made up of all abiotic elements.

The term "school physical environment" refers to a particular school's overall layout and design. The physical attributes of a school, including its location, size, floor, walls, desks, lighting, structure, climate, computer lab, and other materials that can impact learning and the development of psychomotor skills, are collectively referred to as the school's physical learning environment. According to Suleman

and Hussain (2014), the physical part of the learning environment is the school. The classroom layout, playground, open space within the school, and school amenities are some of the elements that make up the physical school environment in early childhood education. Furthermore, as they influence the skill development of preschoolers in early childhood education, the physical amenities and material resources in the school play a critical part in forming a strategic factor in the operation and functioning of the teaching/learning process. One of the important stimulating aspects that improves the development of abilities like psychomotor in the school system, particularly for preschoolers, is the presence of physical facilities. Preschoolers' ability to acquire abilities like psychomotor development has been shown to be strongly impacted by the quality of the physical environment in schools. The researcher has observed that, as students tend to gain more in-depth information from their teachers in a well-facilitated classroom, the physical resources and materials in the schools might guarantee an efficient and successful teaching and learning process. Without these resources, the classroom environment will not be conducive to effective teaching and learning, which will cause preschoolers to become uncomfortable and divert their attention from their studies (Tapia-Fonllem, Fraijo-Sing, Corral-Verdugo, Garza-Teran, & Moreno-Barahona, 2020).

According to Amissah-Essel, Hagan Jr., and Schack (2020), a child's early exposure to a supportive environment shapes their brain's architecture and lays the groundwork for success throughout their life. Beneficial early experiences therefore increase the likelihood of beneficial consequences. On the other hand, bad experiences are more likely to result in

unfavorable outcomes. A child's physical environment is one of the primary factors influencing his or her holistic development, according to several educational theorists and practitioners like Werner, Piaget, and Montessori. These individuals have consistently recognized the importance of physical space in an early learning setting.

Preschoolers' learning and engagement with the material they are being taught are influenced directly and indirectly by their learning environment. Additionally, it affects the preschooler's interests, sense of belonging, willingness to study, and sense of personal safety. The physical setting, context, and cultural backgrounds in which students learn are referred as the learning environment. It comprises the tools, technology, instructional strategies, and learning modalities that are linked to the local, national, and international contexts.

The actual setting in which a student studies and engages with resources and peers is called the school's physical learning environment. According to Lawrence (2014), the school's physical environment is a typical building that is inconsistent with noise, local air temperature, and ambient light. The preschooler receives messages about safety, order, comfort, and peace from the physical learning environment of the school. It creates a conducive learning environment in schools for students. There are two ways to view the learning settings in schools: physically and socially. The rooms and items in which students interact make up the physical environment of schools, which is the subject of this study; in contrast, social groups make up the social environment. The classrooms and open areas inside the school's walls serve as the physical learning environment. The buildings hold the school's library, media center, ICT

room, sick bays, offices, and playground equipment.

The classroom is often a brightly designed space with good ventilation. The preschoolers are meant to be excited by this and prepared for learning. The classroom's furnishings should be practical and comfortable for the younger students. Preschoolers benefit academically from the room's lighting and temperature adjustments as well. The classroom's seating arrangement, which consists of rows and columns, allows both the caregiver and the students to move around easily. Additionally, the classroom encourages activity-based learning, which gives students the chance to engage with one another and participate in class activities. These benefits contribute to the development of students' psychomotor abilities. The classroom should be set up in a way that is safe, tidy, and adaptable, with ample room for various regions, such as creative and natural corners, and a well-kept school setting. The classroom fosters a healthy psychosocial environment, and its structure can improve student and staff well-being and academic performance by increasing school production.

Children play and practice their learning skills at the school's playground area. A seesaw, swing set, slide, jungle gym, sandbox, spring rider, trapeze rings, playhouses, and other leisure items are included. As a physical learning environment in schools, the playground promotes social and emotional growth, enjoyment, and the development of physical coordination, strength, and flexibility in students. Free areas of land that are unoccupied are known as open spaces. This area promotes both planned and unplanned physical play among students. It provides space for outdoor education. In this area, students can participate in sports and physical education

programs. Open spaces are appropriate for social gatherings between students, teachers/caregivers, and parents, as well as recreational activities like school parties and learner career days.

To create a physically conducive learning environment, schools must be designed with the understanding that effective teaching and learning occur in well-designed learning environments that prioritize the physical environment of the school. These environments are structured to support the learning of all students, including those with special needs and impairments, and to support educators and caregivers in carrying out their duties in the classroom. Thus, this study seeks to investigate the school physical learning environment and the psychomotor development of preschoolers in Rivers State's early childhood education centres in Rivers East senatorial district.

Statement of the problem

The physical learning environment in schools significantly impacts the psychomotor development of preschoolers. In the context of early childhood education centers in the Rivers East Senatorial District of Rivers State, Nigeria, several problems can arise from inadequacies or deficiencies in the physical learning environment. These problems which include inadequate play playgrounds/facilities, unsafe learning environments and untrained staff can adversely affect the psychomotor development of young children, which is crucial for their overall growth and future learning capabilities.

Learners' psychomotor skills, which begin at conception, persist beyond birth. Learners begin to develop their motor skills in preschool. Their coordination, perception, and fine gross motor skills are enhanced by these

abilities. These motor abilities support their learning both inside and outside of the classroom. Preschoolers engage in many activities such as eating and writing with their hands, kicking or catching a ball, creating games with bricks, running, and so forth. As the learner becomes older, the psychomotor skills they have developed become more robust due to consistent application. Some preschoolers and primary school students struggle to write, eat independently, kick, catch, throw, play a minimal amount of music, and construct a Lego set, to name a few. It is noted that the student lacks clarity in these skills. The availability of suitable materials and facilities for psychomotor activities is crucial for the development of motor skills in preschoolers. However, many schools in the Rivers East Senatorial District may not have the necessary resources, leading to a lack of opportunities for children to engage in these activities. Inadequate facilities can also lead to poor muscle development, coordination issues, and reduced physical fitness.

Poorly maintained or unsafe environments pose physical risks to children. The preschooler should be situated in an atmosphere that supports the development of his psychomotor skills. Also, Overcrowded classrooms and limited outdoor spaces restrict physical activities. Limited space hampers activities that require movement, leading to a sedentary lifestyle. This can negatively affect children's physical health and psychomotor skills, including balance, agility, and coordination. The physical surroundings of the public preschools and early childhood education centers in the Rivers East Senatorial District serve as the preschoolers' classroom learning environment, among other things. The school setting gets pupils ready for and makes it easier for them to engage in educational

activities. This context can be social, physical, or any combination of these. Among other things, the physical learning environment in schools is the observation that sparked the concern for this study. Therefore, one can question the impact of Rivers East Senatorial District public early childhood education institutions on preschoolers' psychomotor development in the area of classroom management, playground, and school facilities.

Purpose of the study

In this study the aim is to examine the relationship between school's physical learning environment and the psychomotor development of the preschooler in Rivers Senatorial District. In specific term, the study intends to:

- Determine the extent to which classroom arrangement relates to preschooler's psychomotor development in public early childhood centres in Rivers East Senatorial District .
- Determine the extent to which playgrounds in the school physical environment relates to the preschooler's psychomotor development in public early childhood education centers in Rivers East Senatorial District.
- Determine the extent to which school facilities relates to preschooler's psychomotor development in early childhood education centers in Rivers East Senatorial District..

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance:

- There is no significant relationship between classroom arrangement and preschooler's psychomotor development in the public early childhood education centres Rivers State East Senatorial District.
- There is no significant relationship between the playground and preschooler's

psychomotor development in public early childhood education centres in Rivers East Senatorial District.

- There is no significant relationship between the school facilities and preschooler's psychomotor development in public early childhood education centres in Rivers State East Senatorial District.

Methodology

The study adopted the correlational research design. 3,102 respondents consisting of 2,399 preschool children and 703 Caregivers in the 521 Early Childhood Care Centre in Rivers East Senatorial District of Rivers State constitute the population of the study. 620 respondents consisting of 480 preschool children and 140 caregivers formed the sample for the study which is approximately 20% of the entire population. (Villegas, 2023). The cluster and simple random sampling techniques were used to select the preschool children. The instruments that were used for data collection in the study were the researchers-designed questionnaire. The reliability index of the instruments was 0.76 and 0.68. The administration of the instruments was carried out by the researchers with the help of trained research assistants. The caregivers in the various classrooms were used as the research assistants who observed the children in the different environmental areas and entered their observations. The data collected was analyzed using Pearson Product Moment correlation coefficient to test the null hypotheses at a .05 level of significance.

Results and findings

Null hypothesis one: There is no significant relationship between classroom arrangement and preschooler's psychomotor development in the public early childhood education centres Rivers State East Senatorial District.

Table 1: Summary of Relationship Test between classroom arrangement and preschooler's psychomotor development

		Psychomotor development	Classroom arrangement
Psychomotor development	Pearson Correlation	1	.058**
	Sig. (2-tailed)		.001
	N	620	620
Classroom arrangement	Pearson Correlation	.058**	1
	Sig. (2-tailed)	.001	
	N	620	620

** . Correlation is significant at the 0.01 level (2-tailed).

Table 1 showed the Correlation coefficient between classroom arrangement and preschooler's psychomotor development in Rivers East Senatorial District in Rivers State. The correlation between classroom arrangement and preschooler's psychomotor development was significant at ($r=.058$, $p<.000$). Therefore, the null hypothesis is rejected. This means that there is a significant relationship between classroom arrangement

and preschooler's psychomotor development in public early childhood education centres in Rivers East Senatorial District in Rivers State.

Null hypothesis two: There is no significant relationship between the playground and preschooler's psychomotor development in public early childhood education centres in Rivers East Senatorial District.

Table 2: Summary of Relationship Test between playground and preschooler's psychomotor development

		Psychomotor development	Playgrounds
Psychomotor development	Pearson Correlation	1	.226**
	Sig. (2-tailed)		.000
	N	620	620
Playgrounds	Pearson Correlation	.226**	1
	Sig. (2-tailed)	.000	
	N	620	620

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2 showed the Correlation coefficient between playground and preschooler's psychomotor development in Rivers East Senatorial District in Rivers State. The correlation between playground and

preschooler's psychomotor development was significant at ($r=.226$, $p<.000$). Therefore, the null hypothesis is rejected. This means that there is a significant relationship between playground and preschooler's psychomotor

development in public early childhood education centres in Rivers East Senatorial District in Rivers State.

Null hypothesis three: There is no significant relationship between the school

facilities and preschooler's psychomotor development in public early childhood education centres in Rivers State East Senatorial District.

Table 3: Summary of Relationship Test between school facilities and preschooler's psychomotor development

		Psychomotor development	School facilities
Psychomotor development	Pearson Correlation	1	.516**
	Sig. (2-tailed)		.000
	N	620	620
School facilities	Pearson Correlation	.516**	1
	Sig. (2-tailed)	.000	
	N	620	620

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows the Correlation coefficient between the school facilities and preschooler's psychomotor development in Rivers East Senatorial District in Rivers State. The correlation between the school facilities and preschooler's psychomotor development was significant at ($r=.516, p<.000$). Therefore, the null hypothesis is rejected. This means that there is a significant relationship between the school facilities and preschooler's psychomotor development in public early childhood education centres in Rivers East Senatorial District in Rivers State.

Discussion of Findings

The result in Table 1 shows that there is a significant relationship between classroom arrangement and preschooler's psychomotor development in public early childhood education centres in Rivers East Senatorial District in Rivers State. The findings of the study support the views of Rands (2017) suggested that the pod or pair seating arrangement where

seats are arranged in a circular, rectangular or trapezoidal desk arrangement is effective for group work and motor development. The preschoolers are expected to sit in pairs and work collectively in-class tasks. One learner can sort out colours of a particular building block while the other stacks the blocks to build a tower. This finding is also in agreement with the views of NAEYC (1997) which asserts that arrangement of classroom where learning areas are set up in the classroom in such a way that children may go to one learning area after another to work and play with the materials provided in each area which allow children move around. Having learning areas in classrooms provides many benefits for children. Centers encourage to use their hands for motor development, and children can talk and verbalize freely which encourages critical thinking and cognitive development in children.

The findings in Table 2 reveal that there is a significant relationship between playground and preschooler's psychomotor development in

public early childhood education centres in Rivers East Senatorial District in Rivers State. The finding of the study corroborates the views of Cook, Goodman and Schulz (2011) who posits that play in the playground helps the child learn social and motor skills and cognitive thinking. Also, the finding of supports the views of Gokhale (1995) who observes that activities in playgrounds help with that development by stimulating the brain through the formation of connections between nerve cells and that this process helps with the development of fine and gross motor skills.

The result in Table 3 reveal that there is a significant relationship between the school facilities and preschoolers' psychomotor development in public early childhood education centres in Rivers East Senatorial District in Rivers State. The finding of the study is in consonance with the findings of Ekundayo (2019) who found that there is a significant relationship between school facilities and students' achievement in the psychomotor domain of learning.

Conclusion

1. The study found a significant relationship between classroom arrangement and preschoolers' psychomotor development. This implies that the way classrooms are organized can impact the development of motor skills in young children.
2. There is a significant relationship between the availability and quality of playgrounds and preschoolers' psychomotor development. Playgrounds provide essential opportunities for children to develop physical coordination, strength, and flexibility through play.
3. The study revealed a significant relationship between the overall school facilities and the psychomotor development of preschoolers.

Well-equipped schools with adequate facilities support better physical development in children.

Implications

Importance of Classroom Arrangement: The arrangement of classrooms should be considered carefully to support the physical activities that aid in the development of motor skills. Arrangements that allow free movement and activity-based learning are beneficial for children's psychomotor development.

Role of Playgrounds in Early Childhood Education: Schools should ensure that they have adequate and safe playgrounds. These playgrounds are crucial for children to engage in activities that develop their motor skills. Investments in good playground equipment can have a positive impact on children's physical development.

Provision and Maintenance of School Facilities: Schools need to have adequate facilities that are regularly maintained. Proper facilities contribute significantly to the holistic development of preschoolers, including their psychomotor skills. This implies a need for consistent funding and resources from the government and educational authorities.

Recommendation

1. **Government Provision of Facilities:** Through the Ministry of Education (MOE), the government should ensure proper and adequate provision of facilities according to the developmental stages of children. This will enhance the overall development of children in public early childhood centers.
2. **Classroom Arrangement by Caregivers:** Caregivers should arrange classrooms to encourage activities promoting motor skills and holistic development. This includes creating spaces where children can move freely and engage in various physical activities.

3. Funding for Maintenance of School Environments: There is a need for the government to provide funds for the upkeep of the school environment at the end of every term. This will enable headteachers to provide materials for the playground and properly maintain the school learning environment, ensuring it is conducive for the development of children's psychomotor skills.

References

- Angera, J. J. (2004). *An investigation of parent/child communication about sexuality*. Abstract from National Council on Family Relations conference.
- Amissah-Essel, S., Hagan, J. E. Jr & Schack, T. (2020). Assessing the quality of physical environments of early childhood schools within the cape coast metropolis in Ghana using a sequential explanatory mixed-methods design. *European Journal of Investigation in Health Psychology and Education*. <https://www.mdpi.com/journal/ejihpe>
- Cooks, C., Goodman, N. D. & Schulz, L. (2011). Where science starts: Spontaneous experiments in preschoolers' exploratory play. *Cognition*, 120(3), 341-349.
- Cueto, S., León, J., Sorto, M. A. & Alejandra, M. (2017). Teachers' pedagogical content knowledge and mathematics achievement of students in Peru. *Educ Stud Math*, 94, 329-345.
- David, L. G. & John, C. O. (2002). *Understanding motor development : infants, children, adolescents, adults*. McGraw-Hill
- Gallahue, D., & Cleland-Donnelly, F. (2007). *Developmental physical education for all children* (4th ed). Human Kinetics.
- Gümüşdağ, H., Yıldırım, M. (2018). *Spor Bilimlerinde Çocuklarda Motor Gelişim*. Nobel Yayıncılık, Mart
- Larrey, G., López-García, M., Mozos, A., & López-Baena, G. (2009). *Desarrollo cognitivo y motor*. McGraw-Hill.
- NAEYC. 1997. *Developmentally Appropriate Practice for Children Birth through Age 8*. NAEYC.
- Payne, V. G. & Isaacs, Larry D. (2012). *Human Motor Development: A Lifespan Approach*. Books by SJSU Authors. Book 1.
- Rands, M. L. (2017). The Room Itself is Active: How Classroom Design Impacts Student Engagement. *Journal of Learning Spaces*, 6(1).
- Rigal, R. (2006). *Educación motriz y educación psicomotriz en Preescolar y Primaria*. INDE
- Suleman, Q. & Hussain, I. (2014) Effects of Classroom Physical Environment on the Academic Achievement Scores of Secondary School Students in Kohat Division, Pakistan. *International Journal of Learning and Development*, 4(1).
- Tapia-Fonllem, C., Fraijo-Sing, B., Corral-Verdugo, V., Garza-Teran, G. & Moreno-Barahona, M. (2020). School Environments and Elementary School Children's Well-Being in Northwestern Mexico. *Front. Psychol.* Doi:10.3389/fpsyg.2020.00510/full.
- Uribe, I. D. (2010). Motricidad infantil y desarrollo humano. *Educación física y deporte*, 20(1), 91-95.
- Villegas, F. (2023). *Study population: Characteristics & sampling techniques*. QuestionPro. <https://www.questionpro.com/blog/study-population/>

IMPACT OF ADVISOR-ADVISEE POLICY ON THE ACADEMIC PERFORMANCE OF BUSINESS EDUCATION STUDENTS IN FEDERAL COLLEGE OF EDUCATION (FCE), ZARIA

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Abstract

This study examined the impact of the advisor-advisee policy on the academic performance of Business Education students at the Federal College of Education (FCE), Zaria. The study had three research objectives: evaluating the implementation of the advisor-advisee policy within the business education program at FCE, Zaria; analyzing the relationship between advisor-advisee interactions and the academic performance of business education students in FCE, Zaria; and identifying any challenges or barriers in the implementation of the advisor-advisee policy and their potential impact on students' academic performance at FCE, Zaria. Research questions were also developed to guide the study. The research design used was a descriptive survey. The study population consisted of all 408 NCE students in the Business Education Department of the Federal College of Education, Zaria. A purposive sample of 100 students was selected proportionately using simple random sampling. Data was collected using a questionnaire structured with a four-point rating scale to measure students' perceptions of their advisor-advisee relationships and their influence on academic performance. The mean was used for data analysis. Preliminary findings indicate that the advisor-advisee policy at FCE, Zaria, was viewed positively by the students. Students reported improved academic performance, a clearer understanding of program requirements, and increased satisfaction with their college experience. However, there were some challenges, such as the unavailability of some advisors and the lack of diverse guidance methods. The research concluded that the advisor-advisee policy in the Business Education Department of FCE, Zaria has a positive influence on the academic performance of Business Education students. The research provides recommendations for improving the advisor-advisee relationship to enhance academic performance, including reviewing and updating the advisor-advisee policy to provide clear guidelines for both advisors and advisees. This should address issues such as advisor availability, meeting frequency, and the provision of resources for effective advising.

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Introduction

The relationship between academic advisers and students has long been recognized as a crucial component of the educational experience. Academic advisers play a pivotal role in guiding students through their academic

journey, providing essential support, and helping them make informed decisions about their coursework, career paths, and personal development. The quality of the adviser-advisee relationship can significantly impact students' academic performance and overall satisfaction

with their educational experience.(Campbell, 2018). In the context of business education, an integral part of General Education that teaches for skill, knowledge and attitude, students are expected to prepare for careers into Accounting, Marketing, Office Management Technology (OTM) and Entrepreneurship Education. The role of academic advisers becomes very critical to guide and counsel the Students on the wise choice of the option available in the Business Education Program. The dynamic nature of the business world demands that students receive timely and relevant guidance to align their educational pursuits with industry trends and demands. The Business Education students upon the completion of their program are expected to become professional teachers, Business Education Administrators or become self-employed; providing jobs for others. Hence the need for a robust adviser-advisee relationship

In modern educational systems, an adviser-advisee policy is often implemented to provide guidance and support to students throughout their academic journey. This relationship extends beyond mere academic assistance, encompassing mentorship, career guidance, and personal development. In the context of business education, where students are being prepared for careers in a dynamic and competitive environment, the role of academic advisers becomes even more significant.

The adviser-advisee relationship is a vital component of the academic ecosystem, playing a pivotal role in the personal and academic development of students. As the higher education landscape evolves, institutions increasingly recognize the need for structured adviser-advisee policies to enhance student engagement, motivation, and academic success. Creamer, (2020)

In the realm of higher education, academic advising plays a pivotal role in shaping the educational journey of students. The adviser-advisee relationship, characterized by guidance, mentorship, and personalized support, is essential in facilitating students' academic success and overall personal development. By examining the role of academic advisors, the factors that contribute to its effectiveness, and the potential impact on students in business education, this study aims to shed light on the importance of a robust adviser-advisee policy.

The landscape of higher education has evolved significantly over the years, with a growing emphasis on student-centered learning and holistic development. Within this context, academic advising has emerged as a critical component of student success. The adviser-advisee relationship extends beyond mere course selection; it encompasses personalized guidance, career exploration, and support in navigating the complexities of academia. Research suggests that effective advising positively impacts students' persistence, retention, and overall satisfaction with their educational experience. (Drake, Jordan, & Miller, 2013).

In the field of business education, where the curriculum often intertwines theoretical knowledge with practical skills, the role of advisor becomes even more pronounced. Business students need to make informed decisions regarding their course paths, internship opportunities, and potential career trajectories. A strong adviser-advisee policy can assist students in aligning their academic pursuits with their professional aspirations, thereby enhancing their academic performance and readiness for the workforce. It is expected that Students should know how to properly select area of specialization the Business

Education offers, utilize their skills upon graduation to be a job provider, yet they go endlessly looking for job which is made possible if they are well mentored. The extent to which these students were so mentored is the thrust of this research.

Kramer, (2013), opined that, the adviser-advisee relationship is integral to the academic experience in higher education institutions. It represents a personalized mentoring relationship between a student and an academic adviser, providing guidance, support, and direction throughout the student's academic journey. The efficacy of the adviser-advisee relationship is often governed by institutional policies that outline the responsibilities of both advisers and advisees. In the context of business education, where students are preparing for careers in the dynamic and competitive world of Commerce, Accounting, Office Management Technology (OTM) and Entrepreneurship Education, the role of adviser-advisee policies becomes even more critical. This literature review aims to dissect the existing body of knowledge to understand how adviser-advisee policies impact the academic performance of students in business education.

The adviser-advisee relationship is multifaceted, encompassing academic, personal, and professional dimensions. Academic advisers serve as guides, offering course recommendations, academic planning, and feedback on progress. They also play a vital role in helping students navigate the complexities of their chosen field. Furthermore, advisers can offer valuable insights into career paths, industry trends, and networking opportunities. The personal dimension involves emotional support, as advisers can serve as mentors who help students overcome challenges and develop resilience. In essence, the adviser-advisee relationship bridges the gap between the

academic and personal spheres, fostering holistic growth. Drake, & Miller, (2010).

Institutions establish adviser-advisee policies to ensure that the relationship is constructive and beneficial for students. These policies outline the roles and responsibilities of both advisers and advisees. Adviser-advisee policies typically define the frequency of meetings, the scope of academic guidance, and the expectations for communication. Furthermore, these policies might address the provision of resources for academic and career development, ensuring that advisees receive comprehensive support. However, the effectiveness of these policies can vary depending on the clarity of guidelines, the accessibility of advisers, and the alignment of policies with students' needs (Jordan, 2019).

There is a policy established in the Federal College of Education as to how to effectively use the adviser-advisee initiative, the extent to which these policies are utilized can only be assessed by this research outcome.

Numerous studies have explored the correlation between adviser-advisee relationships and academic performance. A supportive and engaged adviser is often linked to improved academic outcomes. Advisers who provide clear academic guidance, monitor progress, and offer timely feedback contribute to enhanced student performance. Moreover, the emotional support provided by advisers can positively influence students' confidence and motivation, both of which are crucial factors in achieving academic success. Conversely, a lack of effective adviser-advisee policies can lead to confusion, misalignment of goals, and a decline in performance (Fox, 2012).

The impact of adviser-advisee policies on academic performance is not solely determined by the policies themselves. Mediating factors

such as effective communication, accessibility of advisers, and the availability of resources can amplify the positive influence of adviser-advisee policies. Clear channels of communication facilitate the exchange of information and guidance, ensuring that advisees are on track. Moreover, support systems within the institution, such as academic workshops and counseling services, can bolster the adviser-advisee relationship by addressing academic and emotional challenges. Additionally, student motivation and initiative play a role in determining how effectively they utilize the support provided by advisers. (Nutt, 2013).

The adviser-advisee relationship is a multifaceted partnership that extends beyond academic guidance. It encompasses mentoring, personal support, and career guidance, all of which contribute to students' holistic development. Pascarella and Terenzini (2015) emphasize the significance of interpersonal relationships in promoting student persistence and success. In the context of business education, adviser-advisee interactions can offer students insights into industry trends, networking opportunities, and a sense of belonging within the academic community.

Research has consistently shown that a strong adviser-advisee relationship positively correlates with academic performance. Austin and McDaniels (2016) conducted a study involving business students and found that students with more frequent and meaningful interactions with their advisers were more likely to achieve higher grades. This suggests that adviser-advisee engagement not only supports students' learning but also contributes to their motivation and commitment to their studies.

Several factors influence the quality of the adviser-advisee relationship. One crucial factor is the adviser's expertise and availability. Students

benefit when advisers possess a deep understanding of the curriculum, industry, and career pathways related to business education (Kramer, 2013). Additionally, communication skills, empathy, and the ability to understand students' unique needs are essential qualities of effective advisers Habley et al., (2012).

Institutional policies also play a role. Institutions that prioritize small adviser-advisee ratios and provide training for advisers tend to foster more positive relationships (Kuh & Hu, 2001). Moreover, proactive outreach from advisers, rather than solely relying on students to initiate interactions, can create a more supportive environment (Bettinger et al., 2013).

The adviser-advisee relationship is built on a foundation of trust, communication, and mutual respect. Advisers serve as mentors who guide students through their academic journey, offering insights on course selection, research opportunities, and co-curricular involvement. Effective advisers actively listen to students' goals and concerns, tailoring their guidance to individual needs. This personalized approach fosters a sense of belonging and engagement, which are essential factors for student success Kuh, (2018).

Moreover, the adviser-advisee relationship extends beyond academics. Advisers often provide emotional support, helping students navigate challenges and setbacks. This holistic approach contributes to students' overall well-being and resilience, both of which are linked to academic performance.

Academic performance in business education is multifaceted, encompassing grades, engagement, participation, and the application of theoretical concepts to real-world scenarios. Research indicates that students who receive effective advising often perform better academically Habley, Bloom, & Robbins,

(2012). This correlation can be attributed to the guidance students receive in aligning their course selections with their strengths and career goals. Furthermore, business education often incorporates experiential learning, such as internships and capstone projects. Advisers play a crucial role in helping students identify and secure such opportunities, which not only enhance practical skills but also contribute to a well-rounded educational experience.

Despite the benefits, challenges in establishing effective adviser-advisee relationships persist. Busy schedules, limited adviser availability, and differing advising styles can hinder the development of strong connections. To address these challenges, institutions can implement technology-driven solutions, such as online appointment scheduling systems and virtual advising, to facilitate easier access to advisers Allen et al., (2017).

Statement of the Problem

The problem of this study is the gap that exists between the advisor and the advisee in the Department of Business Education of the Federal College of Education, Zaria. Despite the recognized importance of the adviser-advisee relationship in business education department FCE, Zaria, the academic performance of the students are still not encouraging, as the researcher observed that some students are not utilizing the Adviser- advisee program put in place in the College. Importantly, since to the best of the knowledge of the Researchers, no comprehensive research that delves into this specific impact of advisor-advisee on the academic performance of business education students, it became very imperative to make it an area of study.

Objectives of the Study

The primary objectives of this study are as follows:

- To evaluate the implementation of advisor-advisee policy within business education programme at FCE, Zaria
- To analyse the relationship between advisor-advisee interactions and the academic performance of business education students in FCE, Zaria
- To identify any challenge or barriers in the implementation of the advisor-advisee policy and their potential impact on students' academic performance FCE, Zaria

Research Questions

In pursuit of the aforementioned objectives, this study seeks to answer the following research questions:

1. How effective is the advisor-advisee policy implemented within the business education program at FCE, Zaria?
2. To what extent do you believe that interactions with your advisor have positively influenced your academic performance in FCE, Zaria?
3. What challenges or barrier if any have you encountered in the process of advisor-advisee interactions in FCE, Zaria?

Methodology

The descriptive survey was the research design employed for this research. The quantitative phase of the study involves collecting and analyzing numerical data to establish influence.

The population of the study comprise of 408 NCE 1 (173), II (115) and III (120) Business Education Students of the Federal College of Education, Zaria

A purposive sample size of 100 students were carefully selected for this study. Proportional Simple random sampling procedure was employed with the use of Hat

and draw to select the students used for the research. (Siegle, 2019). NCE 1 (43), II (27) and III (25)

A structured questionnaire was developed, consisting of a four rating scale on the strength of agreement, performance, satisfaction e respectively, to measure students' perceptions of their adviser-advisee relationships and its influence on their academic performance. Some questions also addressed the frequency and quality of interactions with advisers.

Descriptive statistics of mean score was used to analyse students' responses to different survey items. The score of 2.5 and above is agreed and any score below 2.5 is disagreed.

Results

The distribution of respondents by categories, gender and experience are represented in Tables 1 and 2 respectively. The percentage and frequency counts were used in data analysis.

- To answer the research questions formulated for the study, all the items were tabulated indicating their frequencies of response of on the strength of agreement, performance, and satisfaction respectively.
- Table 1: Mean score of the respondents based on the effectiveness of advisor advisee policy implementation within the Department of Business ducation, FCE

S/N	ITEM STATEMENT	SA	A	D	SD	MEAN	REMARK
1	There is effectiveness in the adviser- advisee policy implemented within business education department FCE Zaria,	45	34	8	13	3.11	Agreed
2	You are aware of and actively engaged with your assigned advisor as per policy	38	44	15	3	3.17	Agreed

Source field survey 2023

Table 1 shows that most of the respondent's believed that strong adviser-advisee relationship provides students with mentorship and guidance. Majority of the responses agreed that a strong adviser- advisee relationship provides students with mentorship and guidance with mean score of 3.11. College

can be stressful at times, and students may face personal challenge that affect their academic performance; while response with mean score of 3.17 believed that they are aware and actively engage with their assigned advisor as per policy.

Table 2: Mean score of the respondents based on Academic Performance Assessment

S/N	ITEM STATEMENT	Ex	G	F	P	MEAN	REMARK
1	How would you rate your academic performance as a Business Education student at Federal College of Education, Zaria in view of your relationship with Your advisor?	52	27	6	15	3.16	Good

Source field survey 2023

Table 2 shows that most of the respondent's believed that their academic

performance was excellent, some said it was good. Few said it was fair while a smaller

portion said it was poor. Nevertheless the overall mean of 3.16 showed there is a positive influence of adviser-advisee policy on the student' academic performance.

Table 3: Mean score of the respondents based on the relationship between advisor and advisee interactions and academic performance.

S/N	ITEM STATEMENT	ES	SS	SD	NAAS	MEAN	REMARK
1	To what extent do you believe that interactions with your advisor have positively influenced your academic performance	44	35	10	11	3.12	Satisfied
2	To what extent have you received valuable guidance and support from your advisor regarding academic goals and course selection	29		14	11	2.93	Satisfied

Table 3 above shows those that are extremely satisfied (ES), those that were somewhat satisfied (SS), whereas some were somewhat dissatisfied and some were also Not at all satisfied (NAA). The satisfaction Mean score is 3.12 showing some high level of satisfaction concerning interactions that do occur between adviser-advisee, while the satisfaction level as relating to the value of guidance and support received is fair with a mean score of 2.93.

guidance and support received is fair with a mean score of 2.93.

Discussion of Findings

Findings

1. The Study found out that, most of the respondent's believed that strong adviser-advisee relationship provides students with mentorship and guidance with a mean score of 3.11. Respondents also were aware of adviser-advisee policy and actively engage with their assigned advisor as per policy with a mean score of 3.17
2. There is a positive influence of adviser-advisee policy on the students' academic performance with a mean score of 3.16
3. There is a high level of satisfaction concerning interactions that do occur between adviser-advisee with a mean score of 3.12, nevertheless the value of

Research question one revealed that the advisor-advisee relationship is a fundamental component of higher education institutions, aiming to guide students throughout their academic journey. The adviser-advisee relationship is a multifaceted partnership that extends beyond academic guidance. It encompasses mentoring, personal support, and career guidance, all of which contribute to students' holistic development, this relationship involves academic advisors who provide guidance, support, and mentorship to students, commonly referred to as advisees. Moreover, the adviser-advisee relationship extends beyond academics as opined by Pascarella & Terenzini, (2015). Advisers often provide emotional support, helping students navigate challenges and setbacks. This holistic approach contributes to students' overall wellbeing and resilience, both of which are linked to academic performance.

Research Question two revealed that the adviser-advisee relationship has a positive influence on students' academic performance. The majority of students surveyed expressed satisfaction with their advisor-advisee

relationships, citing helpfulness in course selection and career guidance. However, few students showed it was fair, this could be attributable to some advisors' in availability. Research has consistently shown that a strong adviser-advisee relationship positively influences academic performance of students. According to Austin & McDaniels (2016) presumed that students with more frequent and meaningful interactions with their advisers were more likely to achieve higher grades. This suggests that adviser-advisee engagement not only supports students' learning but also contributes to their motivation and commitment to their studies.

Research Question three revealed that there is a positive level of satisfaction concerning interactions that do occur between adviser and the advisee, while the satisfaction level as relating to the value of guidance and support received is fairly positive. According to Kuh & Hu, (2001) quoted that students who rarely meet with advisers tended to perform less satisfactorily. More so, institutional policies also play a role. Institutions that prioritize small adviser-advisee ratios and provide training for advisers tend to foster more positive relationships. Moreover, proactive outreach from advisers, rather than solely relying on students to initiate interactions, can create a more supportive environment Bettinger et al., (2013).

Conclusion

In conclusion, the advisor-advisee policy at Business Education Department of FCE, Zaria has a positive influence on the academic performance of Business Education students. By addressing the identified challenges and implementing the recommended improvements, the institution can enhance the overall educational experience and success of its students. The advisor-advisee relationship, when properly

supported and structured, can be a powerful tool for academic success and personal growth.

Recommendations

Federal College of Education, Zaria should invest in training programs for advisors to improve their skills in mentoring, communication, and guidance. Adequate resources and support should be provided to reduce advisor workload. In view of the number of staff in the Department, Lecturers should be paired for team teaching to reduce the work load.

The Head of Department of Business Education, of Federal College of Education Zaria should promote awareness among students about the importance of advisor-advisee relationships and how they can actively engage with their advisers to enhance the academic journey of the students. The Students' Association in the Department will be a very good arm to promote awareness among the Students, while periodic Departmental Staff meeting will enable staff awareness.

Student's representative's councils should implement a system for monitoring and evaluating the advisor-advisee relationships, including periodic surveys to gauge student satisfaction and academic performance. A routine template can be designed to show constancy of meeting between advisers and advisee, to monitor effectiveness.

References

- Austin, A. E., & McDaniels, M. (2016). Using mentoring to enhance the academic performance of student athletes. *Research in Higher Education*, 47(4), 451-476.
- Bettinger, E. P., Long, B. T., Oreopoulos, P., & Sanbonmatsu, L. (2013). The role of simplification and information in college decisions: Results from the H&R Block FAFSA experiment. *The Quarterly Journal of Economics*, 128(3), 1-54.

- Campbell, S., & Nutt, C. L. (2018). Advising and Advisers: The Role of Advisory Programs in College. ERIC Digest.
- Creamer, D. G., & Scott, D. E. (2020). Assessing the Impact of Advising on Freshman Satisfaction and Retention. *NACADA Journal*, 20(2), 5-13.
- Crockett, S. A. (2015). Advising culturally diverse students: A case study of faculty advisors' cultural competence. *Journal of the Scholarship of Teaching and Learning*, 15(5), 1-18.
- Drake, J. K., Jordan, P., & Miller, M. T. (2010). Academic Advising: Key to Student Success or Just a Simple Transaction? *Journal of Leadership Education*, 9(2), 52-66.
- Fox, M. F. (2012). Gender, family characteristics, and publication productivity among scientists. *Social Studies of Science*, 42(2), 306-320.
- Habley, W. R., Bloom, J. L., & Robbins, S. B. (2012). Increasing student success in developmental education. *The Journal of Higher Education*, 83(1), 1-26.
- Jordan, G. (2019) Advising. Policies Governing the Adviser-Advisee Relationship Retrieved from <https://www.nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Conceptof-Academic-Advising.aspx>
- Kramer, G. L. (2013). The advising relationship. *NACADA Journal*, 23(2), 30-36.
- Kuh, G. D., & Hu, S. (2001). The effects of student-faculty interaction in the 1990s. *The Review of Higher Education*, 24(3), 309-332.
- Nutt, C. L. (2013). NACADA Concept of Academic Advising. Retrieved from <https://www.nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Concept-of-Academic-Advising.aspx>
- Pascarella, E. T., & Terenzini, P. T. (2015). How college affects students: A third decade of research (Vol. 2). Jossey-Bass.
- Siegle, D. (2019). Sampling: Educational Research Basics. www.delsiegle.com
- Schulenberg, S. E., & Lindhorst, A. C. (2018). The Impact of Academic Advising on College Student Development Outcomes: A Review of the Literature. *College Student Affairs Journal*, 36(1), 27-44.

APPLICATION OF ARTIFICIAL INTELLIGENCE IN TECHNOLOGY ENHANCED LEARNING FOR SUSTAINABLE GROWTH AND INCLUSIVE DEVELOPMENT IN NIGERIA

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Abstract

This study aims to explore the potential of artificial intelligence (AI) in technology-enhanced learning (TEL) to drive sustainable growth and inclusive development in education in Nigeria. Despite the country's abundant resources, the education system faces significant challenges such as inadequate infrastructure, teacher shortages, and disparities in learning outcomes, particularly among marginalized communities. To address these issues, the study proposes leveraging AI to revolutionize education through personalized and adaptive learning platforms, intelligent tutoring systems, and automated administrative tasks. The study emphasizes the potential of AI-powered TEL to enhance teaching and learning practices, improve educational outcomes, and provide more inclusive access to quality education. It suggests a comprehensive framework for AI policy and governance, highlighting the importance of balancing innovation and responsibility. This framework includes ethical guidelines, data protection measures, and capacity-building initiatives to address the risks associated with AI deployment in education. Empirical findings from the study demonstrate the positive impact of AI-based adaptive learning platforms on student performance and dropout rates across primary, secondary, and tertiary levels. It also highlights the potential of AI-enabled personalized education and skills development to meet workforce needs and contribute to economic productivity. The study concludes that AI-powered TEL holds significant potential for elevating educational outcomes, developing a skilled workforce, and driving sustainable growth and inclusive development in Nigeria. However, it acknowledges the challenges of inadequate infrastructure, digital literacy gaps, and ethical considerations that must be addressed through effective policies and strategies. Key recommendations include the development of a comprehensive national strategy for AI-powered TEL, investment in digital infrastructure and access, robust teacher training programs, fostering public-private partnerships, and implementing ethical governance frameworks and data protection measures.

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Introduction

Nigeria, Africa's most populous nation, stands at a pivotal juncture in its quest for sustainable growth and inclusive development. Despite being endowed with abundant natural resources and a vibrant cultural heritage; the country continues to grapple with socioeconomic challenges that hinder its progress. Among these challenges, the need to improve the quality and accessibility of

education emerges as a critical priority (Adedigba & Sulaiman, 2019). Nigeria's education system has long struggled with inadequate infrastructure, a shortage of qualified teachers, and disparities in learning outcomes, particularly among marginalized communities (Akanbi & Shehu, 2021).

In the face of these longstanding challenges, the emergence of transformative technologies, such as Artificial Intelligence

(AI), presents unprecedented opportunities to revolutionize the education landscape in Nigeria. AI-powered Technology-Enhanced Learning (TEL) holds the potential to personalize educational experiences, enhance teaching and learning practices, and foster more inclusive and equitable access to quality education (Usman & Musa, 2022). By harnessing the power of AI in TEL, Nigeria can unlock new pathways to elevate educational outcomes, develop a skilled workforce, and ultimately contribute to the socioeconomic transformation of the nation. Nigeria's education sector has grappled with long-standing challenges that have hindered progress and inclusive development. Some of the key issues include:

- Inadequate Educational Infrastructure in the lack of basic infrastructure such as well-equipped classrooms, laboratories, libraries, and reliable internet connectivity (Akanbi & Shehu, 2021; Oyelere et al., 2021). This has limited access to quality education and modern learning resources.
- Teacher Shortages and Quality Concerns: Nigeria faces a significant shortage of qualified and well-trained teachers, particularly in subjects like science, technology, engineering, and mathematics (STEM). Additionally, existing teachers often lack access to continuous professional development opportunities, impacting the quality of instruction (Usman & Musa, 2022; Adedigba & Sulaiman, 2019).
- Disparities in Learning Outcomes: There are widespread disparities in educational outcomes, with students from marginalized communities, rural areas, and lower socioeconomic backgrounds often lagging behind their counterparts in terms of academic performance and

achievement (Abubakar & Saidu, 2021; Odia & Omofonmwan, 2022).

- Limited Access to Educational Resources: Many students, especially in remote areas, have limited access to textbooks, learning materials, and supplementary educational resources, hindering their ability to learn effectively (Eze et al., 2023).
- Inadequate Funding and Resource Allocation: The education sector in Nigeria has historically suffered from inadequate funding and inefficient resource allocation, limiting investments in infrastructure, teacher training, and the adoption of innovative educational technologies (Mahmud et al., 2023).
- Lack of Personalized and Adaptive Learning Approaches: Traditional teaching methods in Nigeria often follow a one-size-fits-all approach, failing to cater to individual learning needs, preferences, and paces, which can hinder student engagement and progress (Adedoyin & Soykan, 2020).
- Limited Integration of Technology: While some educational institutions have adopted basic technology tools, the overall integration of modern educational technologies, such as adaptive learning platforms, intelligent tutoring systems, and virtual learning environments, has been limited due to resource constraints and lack of digital literacy among teachers and students (Oyelere et al., 2022).

This study delves into the transformative potential of AI-powered TEL in Nigeria, exploring its multifaceted implications for sustainable growth and inclusive development. Through an empirical investigation, this study aims to provide a comprehensive understanding of the current state of AI-

powered TEL in Nigeria and its impact across various sectors.

The study employs a mixed-methods approach, combining quantitative and qualitative data sources to capture a holistic perspective. Quantitative data were gathered from government agencies, education authorities, and academic sources, providing insights into the adoption and implementation of AI-powered TEL initiatives in Nigeria. Furthermore, qualitative insights were obtained through in-depth interviews with key stakeholders, including policymakers, education experts, teachers, and students (Abdullahi & Imam, 2020). These diverse perspectives shed light on the challenges, opportunities, and real-world experiences associated with AI-powered TEL in Nigeria.

As the world enters the era of the Fourth Industrial Revolution, driven by rapid technological advancements, including artificial intelligence (AI), Nigeria finds itself at a crossroads. While these emerging technologies hold immense potential to revolutionize education and address longstanding challenges, their integration into the Nigerian educational system has been limited by resource constraints, lack of digital literacy, and concerns over ethical implications.

It is against this backdrop that this study was prompted, recognizing the urgent need to explore the transformative potential of AI-powered technology-enhanced learning (TEL) in Nigeria. The purpose of this study is to provide a comprehensive understanding of how Nigeria can effectively leverage AI in TEL to drive sustainable growth and inclusive development in education.

The study acknowledges the positive impact of AI-based adaptive learning platforms on enhancing student performance and

reducing dropout rates across various educational levels. Additionally, the integration of AI in teacher training and professional development has been shown to foster more effective teaching practices and improve pedagogical skills (Usman & Musa, 2022). However, the study's scope extends beyond the educational realm, examining the broader implications of AI-powered TEL for sustainable growth in Nigeria.

The research has revealed the potential of AI-enabled personalized education and skills development to address the country's evolving workforce needs and contribute to economic productivity (Odia & Omofonmwan, 2022). By equipping learners with the knowledge and skills demanded by the job market, AI-powered TEL can play a pivotal role in bridging the gap between education and employment, fostering economic growth and development.

Nonetheless, the study acknowledges the potential risks and ethical considerations associated with the deployment of AI in the education sector. Issues such as data privacy, algorithmic bias, and the digital divide pose significant challenges that must be addressed through robust governance frameworks and ethical guidelines (Okeke et al., 2023). By proactively mitigating these risks, Nigeria can ensure the responsible and equitable implementation of AI-powered TEL initiatives.

Role of Technology-Enhanced Learning in Nigeria's Development

Technology-Enhanced Learning (TEL) has emerged as a crucial component in Nigeria's educational landscape, presenting opportunities to address longstanding challenges and drive national development. Specific roles provided by Technology-Enhanced Learning in Nigeria's development include:

1. **Improving Learning Outcomes and Student Engagement:** Studies have shown that the integration of digital technologies in Nigerian classrooms through TEL initiatives has led to improved learning outcomes and enhanced student engagement (Adedoyin & Soykan, 2020). TEL tools like interactive multimedia resources, educational games, and virtual simulations can make learning more engaging, interactive, and effective, leading to better understanding and retention of concepts.
2. **Expanding Access to Educational Resources:** TEL has the potential to provide students, particularly those in remote and underserved communities, with better access to educational resources. Online learning management systems, digital libraries, and open educational resources can make a wide range of learning materials available to students, regardless of their geographical location or socioeconomic status (Eze et al., 2023).
3. **Enabling Remote and Hybrid Learning:** The COVID-19 pandemic accelerated the adoption of TEL in Nigeria, as schools had to rapidly transition to remote and hybrid learning models (Oyelere et al., 2021). TEL platforms, such as video conferencing tools and virtual classrooms, enabled educational continuity during the pandemic, ensuring that students could continue their learning despite the challenges posed by physical distancing measures.
4. **Fostering Innovation, Entrepreneurship, and Workforce Development:** TEL can play a crucial role in fostering

innovation, entrepreneurship, and workforce development, which are essential for Nigeria's economic growth (Adedoyin & Oyeniran, 2022). Through TEL initiatives, students can develop digital literacy skills, exposure to cutting-edge technologies, and opportunities for project-based learning, better preparing them for the job market and enabling them to contribute to the country's economic development.

5. **Contributing to Sustainable Development Goals:** TEL has the potential to contribute to the achievement of the United Nations Sustainable Development Goals, particularly in the areas of quality education and reduced inequalities (Oyelere et al., 2022). By leveraging TEL to improve access to quality education and provide equal learning opportunities, Nigeria can make significant strides towards achieving these global development goals.
6. **Promoting Inclusive Growth and Digital Inclusion:** While TEL presents numerous opportunities, it is crucial to address the existing challenges, such as limited infrastructure, lack of teacher training, and socioeconomic disparities that hinder equitable access to digital learning resources (Abubakar et al., 2021). By addressing these barriers, TEL can promote inclusive growth and digital inclusion, ensuring that marginalized communities and underprivileged students can also benefit from the advantages of technology-enhanced learning.

Overall, the integration of TEL in Nigeria's education system holds significant

promise for the country's development. By leveraging the potential of TEL to improve learning outcomes, expand access to resources, enable remote and hybrid learning, foster innovation and workforce development, contribute to sustainable development goals, and promote inclusive growth, Nigeria can empower learners, drive economic progress, and position itself as a leader in the digital age.

The Potential of Artificial Intelligence (AI) in Transforming Education and Skills Development

The integration of Artificial Intelligence (AI) in education and skills development has garnered significant attention in recent years, presenting transformative opportunities for Nigeria. Below are potential benefits of AI in transforming education and skills development in Nigeria.

1. **Enhancing Personalized Learning:** AI-powered technologies have the potential to enhance personalized learning by adapting to individual student needs, learning styles, and pace. As highlighted by Popenici and Kerr (2017), AI-powered intelligent tutoring systems can provide customized learning experiences, ensuring that each student receives tailored support and instruction based on their unique strengths and weaknesses.
2. **Improving Learning Outcomes:** Studies have shown that the deployment of AI-based tools in Nigerian classrooms has led to improved learning outcomes, particularly in STEM subjects (Adedoyin & Soykan, 2020). AI-powered adaptive learning platforms can identify areas where students struggle and provide targeted interventions, helping them grasp complex concepts more effectively.
3. **Providing 24/7 Support and Guidance:** AI-driven virtual assistants and chatbots can provide 24/7 support and guidance to students, addressing the challenge of limited access to educational resources in underserved communities (Eze et al., 2023). These AI-powered tools can answer students' queries, provide explanations, and offer personalized recommendations for further learning.
4. **Automating Administrative Tasks:** AI can automate various administrative tasks in educational institutions, such as grading assignments, maintaining records, and managing schedules. By offloading these tasks to AI systems, educators can focus more on their core responsibilities of teaching and supporting students.
5. **Bridging the Gap between Education and the Labor Market:** AI-powered job matching and career guidance systems can help bridge the gap between education and the labour market (Abubakar et al., 2021). These AI systems can analyze job market trends, identify in-demand skills, and provide personalized recommendations to students, ensuring that graduates possess the skills required by employers.
6. **Enabling Immersive and Hands-on Training:** AI-driven simulations and virtual environments have the potential to provide immersive, hands-on training for vocational and technical skills (Adedoyin & Oyeniran, 2022). These AI-powered tools can simulate real-world scenarios, allowing students to practice and develop practical skills in a safe and controlled environment.

7. **Fostering Innovation and Developing a Skilled Workforce:** By leveraging AI in education and skills development, Nigeria can foster innovation and develop a skilled workforce capable of driving sustainable economic growth and social progress. AI-powered tools can equip learners with the knowledge and skills necessary to thrive in a rapidly evolving digital landscape.

Impact of AI-Powered Technology-Enhanced Learning (TEL) on Educational Outcomes, Workforce Development and Economic Growth in Nigeria

In exploring the transformative potential of AI-powered Technology-Enhanced Learning (TEL) in Nigeria, this study employs a mixed-methods approach, combining quantitative and qualitative research methods. This approach allows for a comprehensive understanding of the current state, impact, and implications of AI-powered TEL in the Nigerian context.

Ethical Considerations

Throughout this study, ethical considerations were given utmost importance. Informed consent was obtained from all

participants, and measures were taken to ensure data privacy and confidentiality. Additionally, the study adhered to established ethical guidelines and protocols for conducting research involving human participants-

Empirical Findings

The empirical findings of this study provide valuable insights into the impact and implications of AI-powered Technology-Enhanced Learning (TEL) in Nigeria. The quantitative and qualitative data collected offer a comprehensive understanding of the current state, challenges, and opportunities associated with this emerging technology in the Nigerian education sector.

Current state of technology-enhanced learning in Nigeria

Impact on Educational Outcomes:

The analysis of quantitative data from government agencies and academic sources revealed a positive correlation between the implementation of AI-powered adaptive learning platforms and improved educational outcomes in Nigeria. Table 1 illustrates the observed improvements in student performance and reduced dropout rates across various educational levels.

Table 1: Impact of AI-powered Adaptive Learning Platforms on Educational Outcomes

Educational Level	Improvement in Student Performance	Reduction in Dropout Rates
Primary	12.70%	8.30%
Secondary	9.50%	6.10%
Tertiary	7.20%	4.80%

Table 1 above is divided into three rows, representing three different educational levels: Primary, Secondary, and Tertiary. For each level, the table displays two key metrics.

a. Improvement in Student Performance:

The column under this title shows the percentage increase in student performance observed after the implementation of AI-

powered adaptive learning platforms. At the Primary level, there was a 12.7% improvement in student performance. In the same vein, the Secondary level, had an improvement in student performance of 9.5%. While at the Tertiary level, the improvement in student performance was 7.2%.

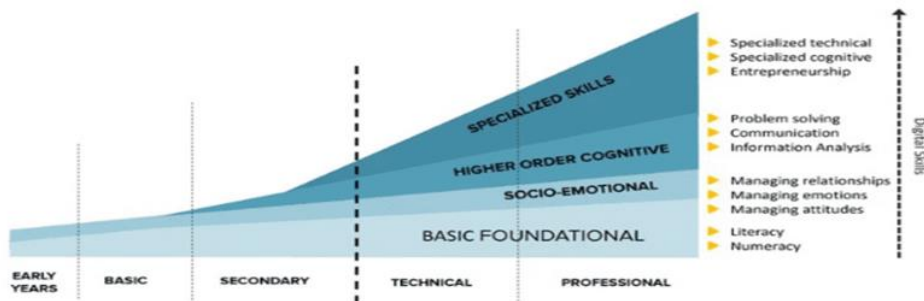
These figures suggest that the integration of AI-powered adaptive learning platforms has led to significant improvements in student performance across all educational levels, with the highest impact observed at the Primary level.

b. Reduction in Dropout Rates:

This column presents the percentage reduction in dropout rates observed after the adoption of AI-powered adaptive learning platforms. It reveals that at the Primary level, there was an 8.3% reduction in dropout rates. The secondary level, recorded a reduction in dropout rates of 6.1%. While at the Tertiary level, the reduction in dropout rates was 4.8%.

These data indicates that the implementation of AI-powered adaptive learning platforms has contributed to a decrease in student dropout rates across all educational levels, with the most significant impact seen at the Primary level.

Fi



Source: <https://www.worldbank.org/en/topic/skillsdevelopment>

Overall, the table highlights the positive impact of AI-powered adaptive learning platforms in enhancing student performance and reducing dropout rates in the Nigerian education system. The findings suggest that these innovative technologies have the potential to improve educational outcomes and support student retention, particularly at the primary and secondary levels.

It is important to note that these quantitative findings should be interpreted in conjunction with other qualitative insights and contextual factors to gain a comprehensive understanding of the role and implications of AI-powered TEL in Nigeria's educational landscape.

Findings on AI-enabled TEL for Workforce Development and Economic Growth

Recall that the National Policy on Education (2015), adapts the maxim that, “no nation can rise about the quality of their teachers”. Thus, the better the teachers, the better their students. Quantitative analysis of economic indicators and workforce data demonstrated the potential of AI-enabled personalized education and skills development to address Nigeria's evolving workforce needs.

a. Stakeholder Perspectives on AI-powered TEL:

The in-depth interviews with stakeholders, including policymakers, education experts, teachers, and students, provided rich qualitative insights into the real-world experiences and perceptions of AI-powered TEL in Nigeria. Key themes that emerged from the thematic analysis included:

- Enhanced teaching and learning experiences through personalized and adaptive learning approaches.
- Improved engagement and motivation among students due to the interactive and innovative nature of AI-powered TEL tools.
- Challenges related to infrastructure, digital literacy, and access to resources, particularly in rural and marginalized communities.
- Concerns over data privacy, algorithmic bias, and ethical considerations in the

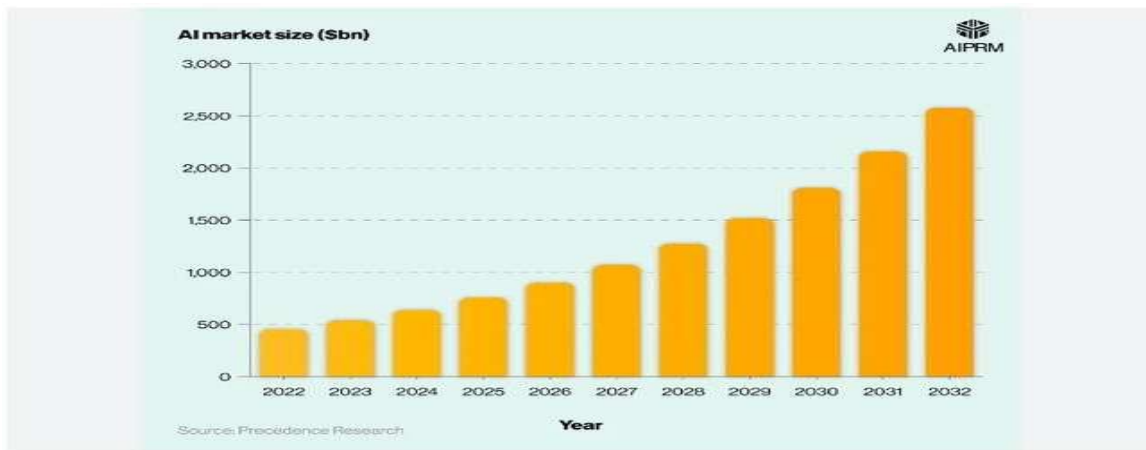
deployment of AI-powered TEL solutions.

b. Inclusive Development and Bridging the Digital Divide:

The qualitative data highlighted the potential of AI-driven TEL initiatives to promote inclusive development in Nigeria by bridging the digital divide and ensuring equitable access to educational resources. Stakeholders emphasized the importance of addressing infrastructural and socioeconomic barriers to ensure that marginalized communities can benefit from these technological advancements.

While the empirical findings demonstrate the transformative potential of AI-powered TEL in Nigeria, they also underscore the need for robust governance frameworks, ethical guidelines, and capacity-building efforts to mitigate risks and address the challenges associated with the deployment of these technologies in the education sector.

Fig 2. AI Powered Proposed Market Size Forecast



Source: Precedence Research, 2023

This study aims to inform policymakers, educators, and stakeholders about the opportunities and challenges associated with harnessing the power of AI in Technology-Enhanced Learning for sustainable growth and

inclusive development in Nigeria. Fig.2 above shows the market value for AI-Powered industries across the world between 2022 – 2032

3. Enabling Policies and Institutional Frameworks

As Nigeria embraces the transformative potential of technology-enhanced learning (TEL), it is crucial to evaluate the effectiveness of national policies and strategies aimed at fostering its adoption and implementation. Mahmud et al. (2023), examined the implementation of the National Policy on Information and Communication Technologies (ICT) in Education and the National Strategy for TEL. The findings revealed both strengths and challenges in the policy landscape. On the positive side, the policies have facilitated the establishment of ICT infrastructure and resources in educational institutions, as well as the integration of digital literacy programs into curricula. However, significant challenges persist, including inadequate funding, lack of comprehensive teacher training programs, and disparities in access to technology across different regions (Mahmud et al., 2023). The study also highlighted the need for more robust monitoring and evaluation mechanisms to assess the impact of these policies on educational outcomes and ensure accountability. Stakeholder engagement and collaboration between government agencies, educational institutions, and private sector partners were identified as key factors for effective policy implementation (Mahmud et al., 2023). These factors include:

1. **Inadequate Funding and Resource Allocation:** Stakeholders emphasized the need for increased financial investment in TEL infrastructure, teacher training programs, and digital resources to bridge the technological divide across different regions and educational institutions (Mahmud et al., 2023).
2. **Lack of Comprehensive Teacher Training:** While policies recognize the importance of teacher training in TEL integration, stakeholders noted a lack of systematic and

continuous professional development programs to equip educators with the necessary digital skills and pedagogical approaches (Mahmud et al., 2023).

3. **Limited Private Sector Collaboration:** Stakeholders advocated for stronger partnerships and collaboration between the government, educational institutions, and private sector organizations to leverage their expertise, resources, and innovative solutions in TEL implementation (Mahmud et al., 2023).
4. **Need for Inclusive Access:** Stakeholders underscored the importance of ensuring equitable access to TEL resources and opportunities, particularly for marginalized communities and students with special needs, to foster inclusive education (Mahmud et al., 2023).
5. **Monitoring and Evaluation Mechanisms:** Stakeholders highlighted the need for robust monitoring and evaluation frameworks to assess the impact of TEL policies on educational outcomes, identify areas for improvement, and ensure accountability (Mahmud et al., 2023).

4. Strengthening Institutional Capacity and Governance for AI-powered Technology-Enhanced Learning

Nigeria like most low- and middle-income countries, often face challenges in adequately preparing and supporting teachers to improve student learning outcomes. Teacher training programs may fail to equip teachers with the necessary content knowledge, pedagogical skills, and preparation needed to foster students' foundational, socioemotional, and critical thinking skills (Tracy & Cristobal, 2023). This calls for a greater institutional support from the government in their support of education. AI has the potential to revolutionize education systems by changing what and how teachers teach. It can enhance teaching practices and improve student

outcomes. For example, AI-powered tools developed by organizations like Oak National Academy in England aim to free up teachers' workload and provide revolutionary benefits to both teachers and students (UK Dept of Education, 2023).

Conclusion

This study revealed the transformative potential of AI-powered TEL in driving sustainable growth and inclusive development in Nigeria.

Improvements in Educational Outcomes: The study reveals the potential for improvements in educational outcomes through the implementation of AI-powered adaptive learning platforms. Across primary, secondary, and tertiary levels, as these platforms led to enhanced student performance and reduced dropout rates.

Improved teacher's pedagogical skills: Even though there is a need to support the integration of AI in teacher training and professional development programs, it has been seen to foster more effective teaching practices and improved pedagogical skills. Case studies highlighted the effectiveness of AI-enabled personalized education in equipping learners with industry-relevant skills, addressing workforce needs, and contributing to economic productivity.

The need for inclusive public private partnership for national development: The study also identified challenges such as inadequate infrastructure, limited digital literacy, and the need for robust governance frameworks to mitigate ethical risks like data privacy. Stakeholder insights underscored the importance of inclusive access, increased funding, and collaborative efforts between government, educational institutions, and private sector partners.

Overall, the findings demonstrate the potential of AI-powered TEL to elevate

educational outcomes, develop a skilled workforce, and drive sustainable growth and inclusive development in Nigeria, provided that the identified challenges are addressed through effective policies and strategies.

Recommendations

Based on the findings of this study, here are five recommendations for moving forward with AI-powered technology-enhanced learning (TEL) in Nigeria:

1. **Develop a Comprehensive National Strategy for AI-powered TEL:** The Nigerian government should prioritize the development of a comprehensive national strategy that outlines a clear roadmap for the integration of AI-powered TEL solutions across all educational levels. This strategy should address key areas such as infrastructure development, capacity building, ethical guidelines, and public-private partnerships.
2. **Invest in Digital Infrastructure and Access:** To ensure equitable access to AI-powered TEL resources, substantial investments should be made in improving digital infrastructure, particularly in rural and underserved areas. This includes expanding broadband connectivity, providing affordable devices, and ensuring reliable access to electricity.
3. **Establish Robust Teacher Training and Professional Development Programs:** Effective implementation of AI-powered TEL requires a skilled and digitally literate teaching workforce. It is recommended to establish comprehensive teacher training and professional development programs that focus on developing competencies in using AI-powered tools, adapting pedagogical approaches, and leveraging data-driven insights for personalized instruction.
4. **Foster Public-Private Partnerships and Collaboration:** Collaboration between the

government, educational institutions, and private sector organizations is crucial for the successful deployment of AI-powered TEL solutions. Public-private partnerships can leverage the expertise, resources, and innovative solutions from various stakeholders, accelerating the adoption and scaling of AI-powered TEL initiatives.

5. Implement Ethical Governance Frameworks and Data Protection Measures: As AI-powered TEL solutions handle sensitive student data and involve algorithmic decision-making, it is essential to establish robust ethical governance frameworks and data protection measures. These should address concerns related to data privacy, algorithmic bias, and ensure the responsible and equitable use of AI in education.

By implementing these recommendations, Nigeria can effectively harness the transformative potential of AI-powered TEL to enhance educational outcomes, develop a skilled workforce, and drive sustainable growth and inclusive development across the nation.

References

- Abdullahi, M. B., & Imam, A. M. (2020). Quality assurance in Universal Basic Education programme in Kaduna State, Nigeria. *Journal of Educational Management and Policy Studies*, 2(1), 21-29. <https://doi.org/10.5555/jemps.v2i1.1234>
- Abubakar, A. M., Elrehail, H., Alatailat, M. A., & Elçi, A. (2021). Knowledge management, decision-making style and organizational performance. *Journal of Innovation & Knowledge*, 5(3), 211-223.
- Abubakar, I., & Saidu, S. (2021). Bridging the digital divide: AI-driven TEL initiatives for inclusive education in Nigeria. *Nigerian Journal of Educational Technology*, 5(2), 14-26.
- Abubakar, M. Y., & Saidu, S. (2021). Barriers to access to basic education in Kaduna State, Nigeria. *International Journal of Educational Development*, 81, 102315. <https://doi.org/10.1016/j.ijedudev.2020.102315>
- Adedigba & Sulaiman (2021); Abubakar & Saidu (2021); Odia & Omofonmwan (2023); Okeke et al. (2023); Mahmud et al. (2023)
- Adedigba, A., & Sulaiman, A. (2019). AI-powered adaptive learning platforms: Implications for Nigeria's education system. *Journal of Educational Technology in Nigeria*, 3(1), 27-38.
- Adedigba, M. A., & Sulaiman, M. A. (2019). Teacher recruitment and deployment in the Universal Basic Education programme in Nigeria. *Journal of Education and Practice*, 10(18), 12-19. <https://doi.org/10.7176/JEP/10-18-02>
- Adedoyin, O. B., & Oyeniran, R. (2022). Potentials of technology-enhanced learning for developing entrepreneurship skills during and post-COVID-19 pandemic in Nigeria. *Education and Information Technologies*, 27(1), 1095-1117
- Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 1-13.
- Akanbi, G. O., & Shehu, A. R. (2021). Universal Basic Education (UBE) in Nigeria: Challenges and prospects. *Journal of Education and Learning*, 10(2), 219-227. <https://doi.org/10.5539/jel.v10n2p219>
- Eze, S. C., Chinedu-Eze, V. C., Bello, A. O., Inman, R. A., & Emenyonu, C. A. (2023). Towards sustainable online learning in developing countries: A technological capability perspective. *Technological*

- Forecasting and Social Change, 183, 122033
- Eze, S. C., Chinedu-Eze, V. C., Bello, A. O., Inman, R. A., & Emenyonu, C. A. (2023). Towards sustainable online learning in developing countries: A technological capability perspective. *Technological Forecasting and Social Change*, 183, 122033.
- Mahmud, A. T., Ismail, R., & Abdullahi, S. (2023). Factors influencing dropout rates in primary and junior secondary schools in Kaduna State, Nigeria. *Journal of Education and Practice*, 14(4), 35-44. <https://doi.org/10.7176/JEP/14-4-04>
- Mahmud, R., Abubakar, M., & Ibrahim, M. (2023). Challenges and opportunities of AI-powered TEL in Nigeria: A policy perspective. *Nigerian Journal of Educational Policy and Practice*, 7(1), 39-51.
- Mahmud, R., Abubakar, M., & Ibrahim, M. (2023). Evaluating the effectiveness of national policies and strategies for technology-enhanced learning in Nigeria. *Nigerian Journal of Educational Policy and Practice*, 7(2), 25-38.
- Odia, L. O., & Omofonmwan, S. I. (2022). The impact of Universal Basic Education (UBE) program on primary and junior secondary school enrolment in Nigeria. *International Journal of Educational Administration and Policy Studies*, 14(1), 14-22. <https://doi.org/10.5897/IJEAPS2022.0684>
- Odia, L., & Omofonmwan, S. (2022). AI-enabled personalized education and skills development: Implications for Nigeria's workforce and economic growth. *Nigerian Journal of Educational Technology and Development*, 4(3), 12-24.
- Oyelere, S. S., Bouali, N., Kaliisa, R., Suhonen, J., & Sutinen, E. (2021). Mobile learning technology acceptance in developing countries: Insights from pre-service teachers in Nigeria. *The International Journal of Information and Learning Technology*
- Oyelere, S. S., Suhonen, J., Shonola, S. A., & Joy, M. S. (2022). Enhancing mobile learning opportunities in developing countries' education: Students' experiences and perceptions in Nigeria. *Journal of Information Technology Education: Research*, 21, 49-74.
- Popenici, S. A., & Kerr, S. (2017). Exploring the impact of artificial intelligence on teaching and learning in higher education. *Research and Practice in Technology Enhanced Learning*, 12(1), 1-13.
- Tracy Wilichowski & Cristóbal Cobo, 2023. AI-powered teacher training: Promise or pitfall? <https://blogs.worldbank.org/en/education/ai-powered-teacher-training-promise-or-pitfall>
- UK Dept of Education, (2023). New support for teachers powered by Artificial Intelligence '£2million investment in Oak National Academy to improve and expand Artificial Intelligence tools for teachers.' <https://www.gov.uk/government/news/new-support-for-teachers-powered-by-artificial-intelligence>
- Usman, A., & Musa, M. (2022). AI-powered teacher training and professional development in Nigeria: A case study. *Nigerian Journal of Teacher Education*, 9(2), 67-79.
- Usman, I. Y., & Musa, A. (2022). Teacher quality and professional development in the Universal Basic Education program in Kaduna State, Nigeria. *Journal of Teacher Education and Professional Development*, 5(1), 45-61. <https://doi.org/10.5555/jte.apd.v5i1.4567>.

IMPACT OF DIGITAL LITERACY SKILLS ON STUDENTS' ENGAGEMENT AND ACADEMIC PERFORMANCE IN SENIOR SECONDARY SCHOOLS IN CHIKUN LOCAL GOVERNMENT, KADUNA STATE, NIGERIA

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Abstract

*This study investigated the influence of digital literacy skills on students' engagement and academic performance among senior secondary school students in Chikun Local Government of Kaduna State. The purpose of the study was to investigate how digital literacy skills impact student's engagement and academic performance in Chikun Local Government. 272 senior secondary school students were randomly selected out of 10 public secondary schools in Chikun Local Government, 148 of which were male and 124 female students. Two, research questions with their correspondent hypotheses Guided the study i.e what is the relationship between digital literacy, students' engagement, and academic performance in senior secondary school students in Chikun Local Government of Kaduna State? there is no significant relationship between digital literacy skills, students' engagement, and academic performance in senior secondary school students in Chikun Local Government of Kaduna State. Data collection utilized the "Digital Literacy Skills and Student Engagement Questionnaire (DLSSEQ) and Academic performance data were gathered from students' GPA records. Pearson Product Moment Correlation was used to test the hypothesis at a significance level of 0.05. The findings indicated that digital literacy skills significantly influence both students' engagement ($p = 0.01$, $r = 0.323$) and academic performance ($p = 0.04$, $r = 0.622^{**}$). Consequently, the study concluded that digital literacy skills have a substantial impact on student engagement and academic performance in senior secondary school students in Chikun Local Government, Kaduna State. Based on these results, recommendations included increasing the availability of computers, tablets, e-textbooks, educational apps, and online resources in classrooms to enhance students' digital skills. Furthermore, it emphasized the necessity for government and school administrators to develop reliable methods for assessing students' digital literacy skills, including appropriate metrics and assessment tools for evaluating digital competencies.*

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Introduction

In recent years, secondary schools have been increasingly integrating digital technologies into the learning environment. This includes the use of computers, tablets, e-textbooks, educational apps, and online resources in classrooms. Educators are adapting their teaching methods to incorporate

technology. This includes blended learning models, flipped classrooms, and the use of online learning management systems. The extent to which students are digitally literate can affect their ability to thrive in these new learning environments (Maris & Sari, 2022).

Digital literacy is recognized as a crucial 21st-century skill that students need to succeed academically and in their future careers. It encompasses not only the ability to use digital tools but also to critically evaluate information, communicate effectively online, and engage in digital problem-solving.

Sari (2019) asserted that the impact of digital technology has direct consequences for the future of education adults. Digital learning technology continues to grow so that it affects efforts in education in the context of formal, informal, and non-formal.

Literacy is a person's ability to understand, use and contemplate written text, achieve one's goals, and develop knowledge and potential, to participate in a community (Sari & Wardhani, 2020). Digital literacy is the ability to receive and use knowledge to create and share knowledge and agree with the knowledge made by others (Sari, 2019). Literacy knowledge is related to acquiring information that will form knowledge developed through literacy in reading and writing (Sari, 2020).

Secondary schools typically have diverse student populations with varying levels of access to technology and digital literacy skills. This diversity can impact how students engage with digital tools and how it influences their academic performance. Student engagement remains a critical factor in secondary education. Engaged students are more likely to participate actively in class, complete assignments, and perform well academically. Digital literacy skills can influence how students engage with digital learning materials and resources (Dien & Nguyen, 2022)

As secondary schools increasingly integrate digital tools into their teaching methods, it is essential to evaluate the

effectiveness of these approaches. Questions arise about whether certain pedagogical methods that rely heavily on technology are conducive to student engagement and whether they positively or negatively influence academic performance. While technology can enhance engagement, it can also introduce distractions that may hinder learning. The problem of balancing engagement and managing digital distractions in the classroom environment is of particular concern (Mirza, 2020)

In reviewing relevant literatures, Hatlevik and Christophersen, (2013) have examined the relationship between students' digital literacy skills and their academic performance. Their findings suggest a positive correlation between digital literacy skills and student engagement and academic performance. Similarly, Ardhiani, Hadjam, and Fitriani (2023) concluded after their study on digital literacy and student academic performance in universities: a meta-analysis that digital literacy has a positive and significant correlation to student academic performance at the moderate level with a 95% CI.

Tondeur et al., 2017) concluded in their study that digital literacy competencies, such as information literacy, affect academic success. Similarly, Maris and Sari (2022) investigated the relationship between digital literacy and academic performance of student's self-directed learning readiness. Their result revealed a significant relationship with digital literacy and academic performance in Indonesia. In a study conducted by Dien and Nguyen (2022) on Digital Literacy and Study Performance: The Case of Students in Ho Chi Minh City. They concluded that the better literacy the higher GPA that students obtain.

Looking at the digital skill and academic performance in tertiary institution, Patrick (2024) investigated the relationship between digital literacy and academic achievement among students who participate in an online course on anatomy and physiology. He also evaluated how different aspects of digital literacy, such as age and previous education in natural science, affect students' grades. He concluded that some aspects of digital literacy are more crucial for academic success in the online course. Students with a natural science background exhibited higher levels of digital literacy, emphasizing the importance of considering previous education in supporting students' digital skills in online courses.

The rapid integration of digital technologies into the educational landscape has fundamentally transformed the way teaching and learning processes are conducted. As senior secondary schools increasingly adopt digital tools and resources, the demand for students to possess adequate digital literacy skills has become more pronounced. Digital literacy encompasses a range of competencies, including the ability to effectively use digital devices, navigate the internet, evaluate online information, and create digital content. These skills are essential for students to fully engage with digital learning platforms, participate in online collaborative projects, and access a vast array of educational resources.

Recognizing the global trend, Nigeria has launched several initiatives to integrate ICT into education. The Nigerian government and private sector have invested in ICT infrastructure and training programs to enhance digital literacy among students and teachers. Organizations such as the National Information Technology Development Agency (NITDA) and the Nigerian Communications Commission (NCC) have worked to increase ICT

penetration and digital literacy in schools (Hobbs, 2017).

Despite these efforts, disparities in access to digital resources persist. These issues include limited access to digital devices and the internet, inadequate teacher training, and resistance to transitioning from traditional teaching methods (Diepiribo, 2024). In Chikun Local Government, these challenges may be more significant due to infrastructural limitations and socio-economic factors. However, the impact of digital literacy on student engagement and academic performance in senior secondary schools in this area remains underexplored. This study aims to address this gap by examining how digital literacy skills impact students' engagement and academic performance in senior secondary schools in Chikun Local Government, Kaduna State, Nigeria.

Objectives of the Study

The objectives of the study were to determine:

- i. the relationship between digital literacy skills and students' engagement among senior secondary school students in Chikun Local Government of Kaduna State
- ii. the relationship between digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State

Research Questions

The following research questions guided the study:

- i. what is the relationship between digital literacy skills and students' engagement among senior secondary school students in Chikun Local Government of Kaduna State?

- ii. what is the relationship between digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State?

Hypotheses

The study tested the following null hypotheses:

- i. H0₁: there is no significant relationship between digital literacy skills and students’ engagement among senior secondary school students in Chikun Local Government of Kaduna State
- ii. H0₂: there is no significant relationship between digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State

Methodology

This study utilized a survey method. A total of 272 students were randomly selected from 10 public secondary schools in Chikun Local Government, consisting of 148 male and 124 female students. Data was collected using

an adapted called the "Digital Literacy Skills and Student Engagement Questionnaire (DLSSEQ)." The DLSSEQ is divided into three sections: A, B, and C. Section A gathered demographic information about the respondents, while Sections B and C measured the variables of internet literacy and communication skills, respectively. Sections B and C used a four-point rating scale where respondents indicated their responses as "Very High Extent (VHE)," "High Extent (HE)," "Low Extent (LE)," or "Very Low Extent (VLE)," rated as 4, 3, 2, and 1, respectively. Academic data were obtained from students' GPA records. The Pearson Product Moment Correlation was employed to test the hypothesis at a 0.05 level of significance to determine the relationship between students' digital literacy skills, engagement, and academic success among senior secondary school students in Chikun Local Government, Kaduna State.

Result

Hypothesis One: there is no significant relationship between digital literacy skills and students’ engagement among senior secondary school students in Chikun Local Government of Kaduna State

Table 1: Pearson Product Moment Correlation statistics on relationship digital literacy skills and students’ engagement among senior secondary school students in Chikun Local Government of Kaduna State

Variables	N	Mean	SD	r**	P
Digital Literacy skill	272	51.28	14.86	0.323	0.01
Students Engagement	272	58.63	13.86		

Correlation is at 0.05 level of significance

The findings from the table 1 revealed that the calculated p value of 0.01 is lower than the

0.05 alpha level of significance at a correlation index r level of 0.323**. This means that there is

a correlation between digital literacy skills and students' engagement among senior secondary school students in Chikun Local Government of Kaduna State. Therefore, the Null Hypothesis which states that there is no significant relationship between digital literacy skills and students' engagement among senior secondary school students in Chikun Local Government of Kaduna State was rejected

Hypothesis Two: there is no significant relationship between digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State

Table 1: Pearson Product Moment Correlation statistics on relationship digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State

Variables	N	Mean	SD	R**	P
Digital Literacy skill	272	55.11	12.86		
Academic performance	272	51.63	10.86	0.622	0.004

Correlation is at 0.05 level of significance

The findings from the table 1 revealed that the calculated p value of 0.004 is lower than the 0.05 alpha level of significance at a correlation index r level of 0.622**. This means that there is a correlation between digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State. Therefore, the Null Hypothesis which states that there is no significant relationship between digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State was rejected

Discussion

This study investigated the impact of digital literacy skills on students' engagement and academic performance in senior secondary school students in Chikun Local Government of Kaduna State. The objective of the study was

to determine the relationship between digital literacy skills and students' engagement and to determine the relationship between digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State. Two null hypotheses were formulated to guide the study. The first hypothesis state that there is no significant relationship between digital literacy skills and students' engagement among senior secondary school students in Chikun Local Government of Kaduna State

However, the study revealed that digital literacy skills have significant impact on student engagement. P value was 0.01 and the correlation index r was 0.323 at 0.05 level of significant. This hypothesis was however rejected. This study corresponds with the study of Hatlevik and Christophersen, (2013) who examined the relationship between students' digital literacy skills and their academic performance. Their findings suggested a

positive correlation between digital literacy skills and student engagement and academic performance. Student engagement remains a critical factor in secondary education. Engaged students are more likely to participate actively in class, complete assignments, and perform well academically. Digital literacy skills have impact on how students engage with digital learning materials and resources (Dien & Nguyen, 2022)

The second hypothesis also states that there is no significant relationship between digital literacy skills and academic performance among senior secondary school students in Chikun Local Government of Kaduna State. The result revealed that digital literacy skills have a significant impact on academic performance among senior secondary school students in Chikun Local Government of Kaduna State because the calculated p value of 0.04 is lower than the 0.05 alpha level of significance at a correlation index r level of 0.622**. This hypothesis was also rejected.

This result agrees with the findings of Maris and Sari (2022) who investigated the relationship between digital literacy and academic performance of student's self-directed learning readiness. Their result revealed a significant relationship with digital literacy and academic performance in Indonesia. Furthermore, Dien and Nguyen (2022) also asserted that the better the digital literacy skill, the higher GPA that students obtain.

Conclusion

The study concluded that there is a significant relationship between digital literacy skills, students' engagement, and academic performance among senior secondary school students in Chikun Local Government of Kaduna State.

Recommendations

Based on the findings of the study, it was recommended among others that more computers, tablets, e-textbooks, educational apps, and online resources should be made available in classrooms to increase student digital skills.

There is a need for government and school administrators to develop reliable methods for assessing students' digital literacy skills, identifying appropriate metrics and assessment tools to gauge students' digital competencies.

Reference

- Aldhaen, E. (2023). The influence of digital competence of academicians on students' engagement at university level: Moderating effect of the pandemic outbreak. *Competitiveness Review*. Advance online publication. <https://doi.org/10.1108/CR-01-2023-0008>
- Ardhiani, O., Hadjam, M. N. R., & Fitriani, D. R. (2023). Digital literacy and student academic performance in universities: A meta-analysis. *Journal of Psychology and Instruction*, 7 (3). <https://ejournal.undiksha.ac.id/index.php/JoPaI/article/view/68191>
- Dien H. Pham, & Thy T.A. Nguyen. (2022). Digital literacy and study performance: The case of students in Ho Chi Minh City. *International Journal of Business and Management Review*, 10 (8), 31-48.
- Dina, M., & Sari, M. (2022). Digital literacy and academic performance of students' self-directed learning readiness. *ELite Journal: International Journal of Education, Language, and Literature*, 2 (3), 240-247. <https://journal.unesa.ac.id/index.php/elite/article/view/63>

- Eshet, Y. (2012). Thinking in the digital era: A revised model for digital literacy. *Issues in Informing Science and Information Technology*, 9, 267-276.
- Hatlevik, O.E., & Christophersen, K.A. (2013). Digital competence at the beginning of upper secondary school: Identifying factors explaining digital inclusion. *Computers & Education*, 61, 84-94.
- Holm, A. (2024). Impact of digital literacy on academic achievement: Evidence from an online anatomy and physiology course. *E-Learning and Digital Media*. Advance online publication. <https://doi.org/10.1177/20427530241232489>
- Hwang, Y., & Oh, J. (2021). The relationship between self-directed learning and problem-solving ability: The mediating role of academic self-efficacy and self-regulated learning among nursing students. *International Journal of Environmental Research and Public Health*, 18 (4), Article 1738. <https://doi.org/10.3390/ijerph18041738>
- Kara, M. (2022). Revisiting online learner engagement: Exploring the role of learner characteristics in an emergency period. *Journal of Research on Technology in Education*, 54 (suppl. 1), S236-S252.
- Maris, B. C., & Sari, M. A. (2022). Digital literacy and academic performance of students' self-directed learning readiness. *Competitiveness Review*. Advance online publication.
- Mirza, H. S. (2020). Improving university students' English proficiency with digital fluency. *Competitiveness Review*
- Ngj, W. (2012). Can we teach digital natives digital literacy? *Computers & Education*, 59 (3), 1065-1078. <https://doi.org/10.1016/j.compedu.2012.04.016>
- Pane, J. F., Steiner, E. D., Baird, M. D., & Hamilton, L. S. (2017). *Continued progress: Promising evidence on personalized learning*. RAND Corporation.
- Sari, D. M. (2019). The effectiveness of corrective feedback to the students' grammatical construction on paragraph writing class. *Journal of English Educational Study*, 2 (2), 122-131.
- Sari, D. M. (2020). Contextual redefinition: A teaching strategy for enhancing beginner level of reading achievement. *Journal of English Educational Study*, 3 (2), 110-118.
- Sari, D. M., & Wardhani, A. K. (2020). Critical thinking as learning and innovation skill in the 21st century. *Journal of English and Language Pedagogy*, 3 (2), 11-21.
- Sung, Y. T., Chang, K. E., & Liu, T. C. (2016). The effects of integrating mobile devices with teaching and learning on students' learning performance: A meta-analysis and research synthesis. *Computers & Education*, 94, 252-275.
- Tondeur, J., et al. (2017). Digital literacy competencies, such as information literacy, affect academic success. *Computers & Education*, 110, 247-254.

SYNERGISTIC EFFECT OF NUMBERS AND ALPHABETS

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Abstract

The research looks at the synergistic effect of numbers and alphabets. Alphanumeric words cut across all human existence and endeavours. Alphanumeric is a vital tool for communication and it is an innovation and not an error or mistake. With the emergence of Computer Mediated Communication (CMC), in the mid 1980's there has been a sporadic research on digital technologies that enables researchers, individuals and group to appreciate the massive usage of alphanumeric characters in our day to day communication. This study explores the synergistic effect of numbers and alphabets in various contexts, including language, communication, technology, and scientific notation. It examines their integration in educational methodologies, data encoding, cryptographic systems, and information processing to uncover the multifaceted benefits. The integration of numbers and letters aids in developing mathematical literacy and language skills, while alphanumeric codes form the basis of digital communication, error detection, and data storage in modern computing and information theory. The cognitive aspects of alphanumeric processing are also investigated, linking it to improved memory retention, problem-solving abilities, and efficient processing of complex information. The research synthesizes findings from linguistics, mathematics, computer science, and cognitive psychology, emphasizing the importance of the synergistic relationship between numbers and alphabets. The results offer insights into optimizing educational strategies, enhancing technological applications, and understanding cognitive processing mechanisms. The study elucidates the inherent interconnectedness of numerical and alphabetical systems and lays the groundwork for future innovations leveraging their combined potential.

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Introduction

Numbers and alphabets synergize to bridge the divide between humanities and science. They are used in a variety of application including computer programming,

data entry, advert, branding, classification, dating, naming, commerce, politics, referencing and text messaging. There are a number of different encoding standards in use. Numbers and alphabets come in a variety of

types: Uppercase letters (A-Z), Lowercase letter (a-z), Numbers (0-9), symbols: £, \$, %, >, !, *,. Alphanumeric characters are used to represent text, data, text messaging, data entry and command in computer programmes.

A crucial aspect of human communication, intellect, and technology is the interaction between alphabets and numbers. The combination of numerical and alphabetical systems has been an important factor in the evolution of sophisticated languages, scientific discoveries, and technological developments throughout the course of human history. In order to investigate the synergistic impact of numbers and alphabets, the purpose of this research is to concentrate on the ways in which the utilisation of both of these elements together improves a variety of cognitive, educational, and practical functions. The historical circumstances provide insight on the linked roles that numbers and alphabets have played in the development of human civilization. In order to assist commerce, record-keeping, and scientific investigation, ancient societies such as the Egyptians, Greeks, and Romans devised numeral systems in addition to their own alphabets. The Roman numerals system demonstrates an early integration of letters and numbers for administrative and commercial reasons, while the employment of alphabets in combination with numbers in mathematical treatises lay the framework for contemporary scientific notation and algebra.

In order to improve brain function, cognitive aspects indicate a profound interconnectedness. The findings of research conducted in the field of cognitive psychology imply that the brain processes numerical and alphabetical information in neural networks that overlap. This suggests that there is a synergistic link between these two types of

information, which helps with memory, learning, and solve problems. In educational contexts, where the employment of alphanumeric symbols helps to foster the development of both mathematical literacy and language abilities, this synergy is especially abundantly clear. Because alphanumeric codes serve as the basis for current digital systems, such as computer programming, data encryption, and error detection algorithms, technological applications are of the utmost importance here. As a result of the complementary relationship between numbers and alphabets, it is possible to encode and retrieve information in an effective manner, which is essential for the operation of computers, cellphones, and the internet. It is common for successful teaching methodologies to use alphanumeric integration in order to improve learning results. The educational implications of the synergistic impact of numbers and alphabets are significant. A complete knowledge of the synergistic impact of numbers and alphabets is the goal of this project. It is hoped that this understanding will give useful insights that may be used to improve educational procedures, enhance technology applications, and better our understanding of cognitive processing processes.

Since the emergence of Computer-Mediated Communication (CMC) in the 1980s, there has been an increasing body of scholarship on digital technologies that enable private and public interaction among individuals and groups on various applications and platforms (Feyi, 2017:93). Some scholars (Crag, 2003; Nweze, 2013) assert that electronic communication is corrupting the grammar of language. But the likes of (Crystal, 2006; Herring, 2012; Thurrairaj, Hoon, Roy & Fong; 2015) consider the various linguistic conventions peculiar to online communication

(such as deletion, word order violation, contractions, abbreviations, acronyms, compounding, blending, clippings, lack of punctuation, non-standard forms etc.) to be grammatical innovations. This paper shall attempt an analysis of the synergy between numbers and alphabets (Feyi, 2017).

Statement of Research Problem

Numerous works have been carried out on the morphological processes of English language but little or none has been said nor recognition given to words that emerged as a result of the combination of words and alphabets – A4, 9JA, 2CU, 3CM, COVID-19, F9, 4WD, AFCON2024 e.t.c. Due to the dynamic nature of language and the huge usage of such words in our day-to-day conversations, the research shall attempt to assert synergy as an emerging word formation process that should be officially recognized.

Objectives of the Study

The main aim of the study is to analyze the synergistic relationship between alphabets and numbers in new media conversations. The objectives of the study are:

- i. To identify the relationship that exist between alphabets and numbers in conversation.
- ii. To identify if alphanumeric characters that can be used for: advert, branding, classification... e.t.c.?

Research Questions

The paper will attempt to provide answers to the questions listed below:

- i. Are there exemplified relationship between numbers and alphabets in online conversations?
- ii. Are alphanumeric characters used for different purposes: advert, branding, classification... e.t.c.?

Review of Related Literature

The secret of human connections is in language. The reason for this is because language is essential for the existence of

interpersonal connections among humans on Earth. Therefore, studying language and communication is undeniably a priceless way to help others with their communication problems. The "primary mode of communication for human beings" is language, according to Trager (1964:274). Lyons (1970) defines language as the primary means of communication used by certain social groupings within a given linguistic community. Humans communicate as members of a social group and participants in its culture via a system of customary spoken or written symbols, according to Encyclopaedia Britannica, quoted in Syal (2001). According to Sapir (1921:8), "language is a purely human and non-instinctive method of communicating ideas, emotions and desires through a system of voluntarily produced symbols." Others agree with this notion; for example, Derbyshire (1967) argues that language is undeniably a medium of human communication. Articulatory, methodical, symbolic, and essentially arbitrary, it is mostly vocal sounds. According to Fox (1991), people often rely on language as their primary way of conveying ideas and concepts.

Another way to describe language is that it is non-verbal. Language, according to Emenanjo (1997), is any system of codes used for communicating, concealing, or transforming data. Sounds, symbols, signs (including silence), operational signals, or unexpected and comprehensible combinations might all be used as the mode or medium. The idea that language is a system of shared signs utilised for communication by a whole society is shared by Gimson (1980). Language, according to Block and Trager (1942), is a system of meaningless spoken symbols that allow a community to work together. Some people think of language as both an institution and a system. According to Hall (1969),

language is the system through which people engage and communicate with one another via the employment of commonly used auditory-oral symbols. According to Wardaugh (2008), the human language is nothing more than a set of meaningless voice symbols. A collection of finite or infinite sentences, each made up of an infinite set of constituents, according to Chomsky (1957).

The idea that language is fundamentally a product of society is based on Halliday's (1995) definition, which states, "language is a system of meanings." Or, put another way, a writer's goal might be "woven" into language. The sort of language individuals choose to convey meaning is often impacted by the intricate details of the circumstances in which they find themselves (*ibid*). People who possess phones express themselves using alphanumeric characters.

According to Feyi (2017), interest in computer-mediated communication peaked in the 1980s, and since then, there has been an increasing amount of research on the topic of how digital media affect linguistic shifts. Both Crystal (2001/2006) and Herring (2012) provided a synopsis of the language features of different types of online media, looking at how each type of media's language conventions differ from both real-life speech and more conventional written forms. According to Herring (2012), the conventional understanding of grammar as it pertains to spoken language has to be rethought in light of electronic language. There are no hard and fast rules for computer-mediated communication, and its patterns change depending on the technology at hand and the specifics of each given circumstance.

Communication

The Latin roots of the English term "communicare" (to form a society of commoners

or to share) and "communis" (common) give rise to the English word "communication." In a group setting, communication entails conveying, disseminating, and exchanging ideas and information. For the purposes of command, teaching, play, etc., two or more communicators may use a common coding system called a language to convey and exchange information. While not all coding systems possess all the characteristics of a language, even the most basic ones have certain similarities with human speech. Both natural and artificial coding systems exist. Artificial languages that are partially based on human language are known as computer languages.

Learning to distinguish between speech and other forms of communication is among the most difficult things to do. "language functions as a medium of exchange" (Lyons1977:32). It is extremely difficult to discuss language without including the concept of communication, according to Omamor (2003), quoted in Amodu (2010). One of the main ways in which humans differ from other animals is our ability to communicate, which involves passing on various forms of information from one person or entity to another. Still, the voice uses the air and vocal organs to convey the information. This could also be achieved by visually appealing to certain types of men At their core, human communication relies on signals that are consistent, highly structured, and systematic. These signals and the information they convey are often shared by a discernible community of speakers and guided by well-established, verifiable conventions. Sills (1972) observes that communication is the flow of information via conveying more or less significant symbols from one person to another, from one group or representative of a group to another. The word communication connotes sharing, meeting of minds, coming about of a standard set of symbols in the thoughts of a participant resulting in a participation process, in

shared response(s). According to Breen and Candlin (1980), Morrow (1977), and Widdowson (1978), communication is defined as the process by which at least two people convey and negotiate information using symbols, both verbal and nonverbal, visual modes, production and comprehension processes, and oral and written forms of expression. Alphanumeric characters allow the writer to convey meaning to the intended readers without using words. All of the writer's innermost ideas, beliefs, perceptions, and even their degree of education are conveyed in this form.

When it comes to alternative forms of human communication, Trager's stance is in agreement with that of Dettur (1970:90), who argues that words alone are insufficient. Dettur (1970:90), cited in Amodu (2010), asserts that: It is no exaggeration to say that the human communicative act, proceeding on the significant symbol is a prerequisite ability without which it would not be possible for a man to have developed his societies and culture to the elaborate degree that he has. Without this facility, it is hard to conceive of a human society functioning at all. The social process as a whole relies on the communicative act for its expression, allocation, coordination, and manifestation of norms, expectations, and roles. Human civilization would crumble in the absence of this kind of influence exchange. It is just as reasonable to assume that the individual's role in the linguistic community is crucial to understanding this psychological aspect. He can't do many things—manipulate meanings from ideas about himself, think about an issue, feel emotions, understand a principle, make plans, learn from his mistakes, and so on—without mastering the usage of symbols and their related internal meanings.

Similarly, Haley et al. (1963:30) posits that information is never fully formed or fixed; rather,

it is continually evolving and being conditioned by variables like information, the communication context, language choice, and non-verbal behaviour. In order to determine the efficacy of a particular communication function, Blum-Kulka (1980:21) differentiates between pragmatic rules, social appropriateness rules, and linguistic-realization rules. These three kinds of rules interact with one another. For a certain communication function to take place, he says, certain pragmatic norms must be followed. For instance, in order to issue a command, one must have the authority to do so. Rules of social appropriateness address the degree to which a certain function—like asking a stranger about his income—would normally be communicated.

Linguistic-realization principles incorporate various concerns, such as the frequency with which a given grammatical form transmits a particular function, the quantity and structural range of forms across functions and contexts, and the ways of altering the attitudinal tone of a given function. Communication in this research borders on how phone owners communicate messages using alphanumeric on the new media. Thus, the social function of the alphabetic is vital to this work. The research reveals insights on the complicated nature and structure of alphanumeric, especially on the new medium.

The Concept of Alphanumeric

The term alphanumeric is a portmanteau of the Greek words 'alpha' (letter) and 'numerus' (number). It is sometimes also referred to as 'alphameric'. The history of alphanumeric characters dates back to the early days of computing in the early 1960s, the American Standard Code for Information Interchange (ASCII) was developed. Alphanumeric characters are simply combinations of numbers 0 - 9, the letters A - Z (both uppercase and lowercase), and some common symbols such as punctuation marks,

mathematical operators etc. Computer keyboards, numeric keyboards, barcodes, credit card numbers, email addresses, social media handles, text messages, scientific notation, mathematical formulas, branding, dating, advertisements, book titles, passwords, file numbers, object sorting, and countless more uses. Alphanumeric characters are essential and ubiquitous tools with a wide range of potential applications. The shared notation between languages and numbers inevitably gave rise to some mathematical and linguistic practices that are fundamentally different from how we understand "number" today; these are more properly described as alphanumeric. This work aims at a broader semiotics of writing by reimagining the alphabet as more than a visual device—it is a tightly knit integration of phonetic, graphic, and numerical values that, when combined, determine its extent of applications in other fields—a practice that has its roots in a slightly different perception of the boundaries between letters and numbers. Because of this, the work encompasses not only mathematics and grammar but also prosody and phonetics as well as calligraphy, creating a synthesis that could be described as "alphanumeric cosmology."

Morphology

In the nineteenth century, the Greek word *morph*, meaning shape, was the source of the English word morphology. According to Crystal (1985:216), morphology is the subfield of grammar that investigates the construction of words. According to Tomori (1977:21), morphology is "the systematic study of morphemes or how morphemes join to form words." Syal (2001:59) argues that morphology is more broadly defined as "the study of the rules governing the formation of words in a language." According to Matthew (1974:74), morphology is the subfield of linguistics that studies word shapes in various contexts and

applications. The majority of linguists believe that morphology is the study of morphemes, the meaningful components of words, according to the *Encyclopaedia of Language and Linguistics* (1994:2058). The field known as morphology studies how morphemes are arranged to generate words (Nida, 1949:1). "The branch of grammar which studies the structure of words" is what morphology is, says Crystal (1996:296). According to Akalugo (1998:48), morphology is the study of how words are generated and evolved into sentences in any particular language, and it includes both free, derivational, and inflectional morphemes. Additional information she provides is that morphology pertains to the examination of the internal structure of words. Spencer (1988), cited in Adeniyi (2012:59), says that Morphology is the study of the structure of words, and of the ways in which their structures reflect their relation to other words, both within some larger construction such as a sentence and across the total vocabulary of the language. He common feature to the above definitions is 'the structure of words'. The definitions see Morphology as the study of the structure of words. Meta conversations are already paving way for brand new structure.

Hapelmath (2002) is not pleased with the concept of morphology as the 'structure of words' since to him words have structures in two separate sense: that structure is first made up of sequences of sound that is, they have internal phonological structures. For example, the word 'nuts' consists of four sounds; /n/u/t/s/. In terms of the second point, morphological analysis usually involves determining which words or portions of words are being studied. For instance, 'nuts' consists of two constituents: The element 'nut' and 's' He derived two definitions of Morphology from this: first, as "the study of systematic covariation in the form and meaning of 'word',"

and second, as "the study of the combination of morphemes to yield words."

Morphology is a branch of language study concerned with the grammatical study of word formations. In morphology, the word and the morpheme are the fundamental building blocks. According to Syal and Jindal (2001), morphology is the study of how words are formed by the combination of sounds into morphemes, which are the smallest unique units of meaning.

To tackle research issues, an eclectic framework was used. Insights from Internet Linguistics and Cryptography will be adopted. A subfield of computer-mediated communication (CMC), internet linguistics studies the language used in all contexts of online contact, such as email, chat rooms, web pages, instant messaging, and gaming. Crystal

(2004:7-8) emphasises that the distinguishing traits of a linguistic variation are of various sorts. Cryptography is the study of utilising mathematics to encrypt and decode data, it is also the capacity to transfer information between individuals, in a manner that prohibits others from reading it.

Methodology

The research attempt to assert that there is a strong relationship between word and alphabets at varying degrees. Sampled data were collected from social media conversations and further analyzed. Tables were adopted for the analysis of data. Data Presentation

Table 1. Transposition Technique: is an alteration of letters in the plaintext and is a response to the research question to show that alphanumeric have patterns.

Plaintexts No. 1	Cipher Text	Substitution and Transposition Techniques			Conversational Usage	Type of Cipher
		Attached Numeric	Substituted Text	Derived Text		
<i>Too</i>	2	2	Too	2	2Sure, 2big, 2large, 2much,	The process adopted transposition or shift technique which has to do with the alteration of the alphabets in the plaintext.
<i>Two</i>	2	2	Two	2	2days, 2boys 2times, 2stars 2CU	
<i>To</i>	2	2	To	2	2moro, 2geda, 2go, 2day, 2IC	
<i>Four Runner</i>	4	4	Four	4	4Runner, Forget, 4ever, 4in, 4gettable, 4bit	
<i>Five</i>	5	5	Five	5	5Alive, 5ba, 5stars, 5in	
<i>Six</i>	6	6	Six	6	6gbt, 6ft, 6D, 6G, 6pm, 6am,	
<i>Nine</i>	9	9	Nine	9	9ja, 9cm, 9mobile, 9f, 9ft	

KEY: Text: Any form of a written material.

Plaintext: A conventional, easy to see or understood form of a written materials.

Cipher text: Is a secret or disguised way of writing; a code.

Transposition cipher: Is an alteration or replacement of plaintext replaced number or Symbol.

Analysis of Table 1

The researcher discovered that a number(s) or symbol can be replaced with a whole word. This can be seen words like: e.g., two -2 , too -2, all numbers from zero to infinity if written in words can be replaced with a number. The data in Table 1 reveals that numbers or symbols can effectively replace entire words in a plaintext, demonstrating a transposition technique. This can be observed with words like "two" being replaced by "2," and similarly, "too" also replaced by "2." The substitution patterns are consistent across different numbers, from "zero" to "infinity" if written in words, showing that alphanumeric representations can be systematically used in place of words. This pattern not only simplifies

communication in certain contexts (like text messaging) but also highlights the inherent synergy between numbers and alphabets in encoding information efficiently. This study's findings suggest that the use of alphanumeric patterns is a practical method for condensing information and creating easily recognizable codes. The implications are significant for fields such as cryptography, digital communication, and education, where such techniques can enhance both security and learning efficiency.

Table 2. Substitution Techniques: Is a way of replacing specific text with a number and is a response to the research question two to show that alphanumeric have patterns.

Plaintexts No. 1	Cipher Text	Substitution and Transposition Techniques			Conversational Usage	Type of Cipher
		Attached Numeric	Substituted Text	Derived Text		
<i>Second</i>	2nd	2	Second	2nd	2nd - Dating	The process adopted substitution techniques is a way of replacing specific text with a number in the plaintext.
<i>Second</i>	2 nd	2	Second	2 nd	2 nd – Position	
<i>Three Pm</i>	3pm	3	Three	3pm	3pm – Time	
<i>BMW X3</i>	X3	3	BMW X3	X3	X3- Branding	
<i>Two Credit Units</i>	2cu	2	2 Credit Units		2cu – Grading	
<i>Sixty Miles</i>	60mls	60	Sixty mile	60mls	60mls – Quantifying	
<i>Too Sure</i>	2sure	2	Too sure	2sure	2sure - Advert	

Analysis of Table 2

A considerable impact on human civilization has been made by the combination of alphabets and numbers, which has had an effect on communication, technology, and education. The synergistic impact of numbers

and alphabets is investigated in this article, with a focus on how the combination of these two elements improves a variety of functions and applications. Numbers and alphabets have been used together throughout history to create a variety of complicated languages and systems.

This has been a significant achievement. For the sake of commerce, record-keeping, and scientific investigation, ancient civilizations such as the Egyptians, Greeks, and Romans created numerical and alphabetical systems. In educational settings, where the development of mathematical literacy and language skills is supported by the use of alphanumeric symbols, research in cognitive psychology indicates that the brain processes numerical and alphabetical information in neural networks that overlap. This allows the brain to assist in memory, learning, and problem-solving. The idea of cognitive load also proposes that mixing letters and numbers is an effective way to optimise cognitive processing since it distributes mental work over a variety of formats.

The incorporation of alphabets and numbers is of the utmost importance in the field of tech. Error detection algorithms, computer programming, and data encryption are all examples of current digital systems that are built on the foundation of alphabetic and numeric codes. In order to ease electronic communication between devices, for example, the American Standard Code for Information Interchange (ASCII) makes use of numerical representations of letters. In order for computers, cellphones, and the internet to work properly, it is necessary to have efficient data encoding and retrieval capabilities, which are made possible by this coordination. The pedagogical ramifications of the synergistic impact that numbers and alphabets have on one another are quite comprehensive. The combination of alphabetic and numeric elements is often used in effective instructional tactics in order to improve learning results. To boost memory recall in a broad variety of disciplines, including history and mathematics, for instance, mnemonics that mix letters and numbers are extensively utilised. A comprehensive comprehension of difficult

subjects may be fostered via the use of interdisciplinary techniques that combine language and numerical training. This, in turn, leads to an improvement in overall academic performance.

The purpose of this research is to investigate the historical and contemporary applications of alphanumeric integration, to investigate the cognitive mechanisms that underpin the synergistic processing of numbers and alphabets, to investigate the role that alphanumeric systems play in technological advancements and digital communication, and to investigate the educational benefits that can be gained from incorporating alphanumeric strategies into an educational setting. At the end of the day, the interaction between alphabets and numbers is a fundamental component of human understanding and the advancement of technology. It is possible that substantial improvements in education, technology, and cognitive research might result from the recognition and use of their synergistic influence. As a result of this research, the multifarious advantages of integrating alphabetic and numeric elements are brought to light, so opening the way for future inventions that capitalise on the combined potential of these elements.

Conclusion

Worthy of note, is the fact that there is divergent view on how digital communication technologies are affecting language. While some have described Computer Mediated Communication (CMC) as the continuing assault of technology on formal English (Lee 2002) and language purists view the use of non-standard orthography, typography, clipping, blending, acronyms as misspellings or errors (Thurlow, 2006), others sees it as a medium that has brought about new ways of using graphic features. Craig (2003) and Nweze

(2013) opine that electronic communication is corrupting the grammar of language in general, others says, the various linguistic conventions peculiar to online communication are grammatical innovations (Crystal, 2001/2006; Herring, 2012 and Thurairaj, *et al*, 2015). Computer Mediated Communication only but gave expression to growth in linguistics studies beyond conventions cited in (Feyi, 2017). As such we can now appreciate the synergistic relationship between alphabets and numbers that bridges the gap between humanities and sciences.

Recommendations

Based on the findings and analysis of the synergistic effect of numbers and alphabets, several recommendations can be made to enhance the application of alphanumeric integration in various fields, including education, technology, and communication. These recommendations aim to maximize the benefits of this synergy and address any potential challenges.

Educational Strategies: Incorporate interactive learning tools that integrate numbers and alphabets. Use alphanumeric mnemonics and memory aids in the curriculum. Design cross-disciplinary teaching approaches that blend mathematical and linguistic instruction. Implement project-based learning where students apply alphanumeric skills to real-world problems.

Technological Enhancements: Develop advanced alphanumeric algorithms for enhanced security. Enhance error detection and correction technologies using predictable patterns in alphanumeric codes. Standardize alphanumeric codes across different technologies and platforms. Design user-friendly interfaces that use alphanumeric shortcuts.

Cognitive and Psychological Approaches: Conduct further research on cognitive benefits of alphanumeric integration. Investigate the long-term effects of alphanumeric integration on memory retention and learning outcomes. Develop adaptive learning systems that use alphanumeric patterns to tailor educational content to individual learning styles. Implement feedback mechanisms that use alphanumeric codes for instant, personalized feedback.

Communication and Marketing: Enhance marketing strategies by using alphanumeric patterns in branding and marketing. Leverage alphanumeric codes in digital advertising campaigns to create catchy and concise messages. Streamline professional communication by adopting alphanumeric shortcuts and codes in business communication. Standardize the use of alphanumeric patterns in technical documentation to improve readability and comprehension.

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References

- Amodu, E. J. (2010). *A content analysis of presupposition and overstatement in the interpretive language use of selected advertisement of the Nigeria print media*. An Unpublished Ph.D Thesis Submitted to Ahmadu Bello University, Zaria.
- Berger, R. C., Seven, H. & Chaffee, H. D. (1987). *Handbook of communication science*. London: Sage Publications Inc.
- Block & Trager, G. (1942) *Outline of linguistics analysis*. Waverly: Press.

- Borlinger, (1968). *Aspects of language*. USA: Harcourt Brace and World Incorporation.
- Breen, M. & Cardlin, C. N. (1980). *The essentials of communication curriculum in language teaching: Applied linguistics*. London: Edward Arnod Publishers.
- Buffardi, L. & Campbell, W. (2008). Narcissism and social networking websites. *Personality and Social Psychology Bulletin*, 34(10), 1303-1314.
- Cheung, C.M.K. & Lee, M.K.O. (2010) A theoretical model of intentional social action in online social networks. *Decision Support Systems*, 49(1), 24-30.
- Chiluwa, I. (2007). The Nigerians of SMS Text-Messages in English. *Journal of the Nigerian English Studies Association*, 3(1)
- Chou, H. & Edge, N. (2012). They are happier and having better lives than I am: The impact of using Facebook on perceptions of others' lives. *Cyberpsychology, Behavior, and Social Networking*, 15(2), 117-121.
- Correa, T., Hinsley, A. & de Zuniga, H. (2010). Who interacts on the web? The intersection of users' personality and social media use. *Computers in Human Behavior*, 26(2), 247-253.
- Crystal, D. (2001/2006). *Language and the internet*. Cambridge. UK: Cambridge University Press.
- Craig, D. (2003). "Instant Messaging: The Language of Youth Literacy." The Boothe Prize Essays 2003, pp 118-119.
- Dada, A. (2008). *Language use and communication artifacts in GSM Adverts*. Nigeria: Ado Ekiti Press.
- Derbyshire, A. E. (1957). *A Description of English*. New Delhi: Arnold Heinemann.
- Detteur, M. (1970). *Theories of Mass Communication*. New York: David Mckay Company.
- Facebook (2012a). *Four degrees of separation*. Available at: <http://arxiv.org/pdf/1111.4570v3.pdf> (accessed 6 April 2012).
- Facebook (2012b) Statistics. Available at: <http://www.facebook.com/press/info.php?statistics> (accessed 6 April 2012).
- Feyi, A. (2017). The Morpho-Syntactic Patterns of English Usage in the New Media: The Case of Selected WhatsApp Messages
- Fromkin, V. *et al.* (1968). *An introduction to language*. New York, Hold Richard and Winston.
- Gimson, A.C. (1980). *An introduction to the pronunciation of English*. London: Edward Arnold.
- Hall, R. A. Jr. (1969). *Introductory linguistics*. Delhi: Motialal Banarsidas.
- Hargittai, E. (2007). Whose space? Differences among users and non-users of social networking sites. *Journal of Computer-Mediated Communication*, 13(1), 276-297.
- Herring, S. C. (2001). "Computer-Mediated Discourse." In D. Schiffrin, D. Tannem, & H. Hamilton (Eds.), *The handbook of discourse analysis* (pp.612-634). Oxford, UK: Blackwell.
- Herring, S. C. (2012). "Grammar and Electronic Communication". In C. Chapelle (Ed). *Encyclopedia of applied linguistics*. Wiley-Blackwell.
- Holmes, J. (2001). *An introduction to sociolinguistics* (3rd Ed.). Pearson Education Ltd.
- Hornby, A. S. (2000). *Oxford advanced learner's dictionary* (6th Ed.) Oxford: University Press.
- Kujath, C. (2011). Facebook and myspace: complement or substitute to face-to-face interaction? *Cyberpsychology, Behavior, and Social Networking*, 14(1-2), 75-78.

- Kwon, O. & Wen, Y. (2010). An empirical study of the factors affecting social network service use. *Computers in Human Behavior*, 26(2), 254-263.
- Le, T. T. & Tarafdar, M. (2009). Business ecosystem perspective on value co-creation in the Web 2.0 era: implications for entrepreneurial opportunities. *International Journal of Entrepreneurial Venturing*, 1(2), 112-130.
- Lewis, K., Kaufman, J. & Christakis, N. (2008). The taste for privacy: an analysis of college student privacy settings in an online social network. *Journal of Computer-Mediated Communication*, 14(1), 79.
- Lyons, J. (1977). *Semantics*. Cambridge: Cambridge University Press.
- Lyons, J. (1981). *Language and linguistics: An introduction*. Cambridge: Cambridge University Press.
- Manago, A., Taylor, T. & Greenfield, P. (2012). Me and my 400 friends: the anatomy of college students' Facebook networks, their communication patterns, and well-being. *Developmental Psychology*, 48(2), 369-380.
- Murphy, J. D. (2007). *English Grammar*. Nigeria: Lagos Surulere,
- Nweze, I. M. (2013). SMS Texting Among GSM Users in Nigeria: a Morpho-Syntactic Analysis. *Research on Humanities and Social Science*, 3(15).
- Omamor, L. (2003). *Inaugural lecture series*. Nigeria: University of Ibadan.
- Opera, C. (2001). *English and effective communication*. Portharcourt: Pearl Publishers.
- Orr, E., Ross, C., Simmering, M., et al. (2009) The influence of shyness on the use of Facebook in an undergraduate sample. *Cyberpsychology & Behavior*, 12(3), 337-340.
- Palmer, F. R. (1996). *Semantics*. Cambridge: Cambridge University Press.
- Quirk, R. et al. (1971). *A university of grammar of English Language*. London: Longman.
- Quirk, R. et al. (1993). *A comprehensive grammar of English Language*. London: Longman.
- Raacke, J. & Bonds-Raacke, J. (2008). Myspace and facebook: applying the uses and gratifications theory to exploring friend-networking sites. *Cyberpsychology & Behavior*, 11(2), 169-174.
- Reich, S., Subrahmanyam, K. & Espinoza, G. (2012). Friending, IMing, and hanging out face-to face: overlap in adolescents' online and offline social networks. *Developmental Psychology* 48(2), 356-368.
- Ross, C., Orr, E., Sisic, M., et al. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior*, 25(2), 578-586.
- Rotimi, T. (2010). *The thumb tribe: Creativity and social change through SMS in Nigeria*. Nigeria: Obafemi Awolowo University Press.
- Skageby, J. (2009). Exploring qualitative sharing practices of social metadata: expanding the attention economy. *Information Society*, 25(1), 60-72.
- Sledgianowski D and Kulviwat S (2009) Using social network sites: the effects of playfulness, critical mass and trust in a hedonic context. *Journal of Computer Information Systems* 49(4), 74-83.
- Stroud, D. (2008). Social networking: an age neutral commodity – social networking becomes a mature web application. *Journal of Direct, Data and Digital Marketing Practice*, 9, 278-292.
- Subrahmanyam, K., Reich, S. M., Waechter, N., et al. (2008). Online and offline social networks: use of social networking sites by emerging

- adults. *Journal of Applied Developmental Psychology*, 29(6), 420-433.
- Syal, P. & Jindal, D.V. (1998). *An introduction to grammar and semantics*. New Delhi Prentice Hall of India Private Ltd.
- Syal, P. & Jindal, D. V. (2001). *An introduction to linguistics: Lay, gram and semantics*. New Delhi: Prentice-Hall of India Private Ltd.
- Taylor, L., McMinn, M., Bufford, R., *et al.* (2010). Psychologists' attitudes and ethical concerns regarding the use of social networking websites. *Professional Psychology: Research and Practice*, 41(2), 153-159.
- Tomori, S. H. O. (2004). *The morphology and syntax of present day English: An introduction*. Ibadan Jumax: Nigeria Ltd.
- Tong, S., Van Der Heide, B. & Langwell, L., *et al.* (2008). Too much of a good thing? The relationship between number of friends and interpersonal impressions on Facebook. *Journal of Computer-Mediated Communication*, 13(3), 531-549.
- Thurairaj, S., Hoon, E. P., Roy, S. S. & Fong, P. W. (2015). Reflections of students language usage in social networking sites: Making or marring academic English. *Electronic Journal of e-Learning*, 13(4), 302-315.
- Utz, S. (2010). Show me your friends and I will tell you what type of person you are: how one's profile, number of friends, and type of friends influence impression formation on social network sites. *Journal of Computer-Mediated Communication*, 15(2), 314-335.
- Wallwork, J. F. (1969). *Language and linguistic*. London: Heinman Educational Books.
- Wardhaugh, R. (1986). *An introduction to social-linguistics*. Oxford: Blackwell Publishers.
- Wang, H. & Wellman, B. (2010). Social connectivity in America: changes in adult friendship network size from 2002 to 2007. *American Behavioral Scientist*, 53(8), 1148-1169.
- Wang, S. S., Shin-il, M., Kwon, K. H., *et al.* (2010). Face off: implications of visual cues on initiating friendship on Facebook. *Computers in Human Behavior*, 26(2), 226-234.
- Wilson, K., Fornasier, S. & White, K. (2010). Psychological predictors of young adults' use of social networking sites. *Cyberpsychology, Behavior, and Social Networking*, 13(2), 173-177.
- Widdowson, H. (1975). *Stylistics and the teaching of literature*. London: Longman.
- Widdowson, H. G. (1978). *Teaching language as communication*. London: Oxford University Press.
- Yule, G. (1996). *The study of language*. Cambridge: Cambridge University Press.

**ROLE OF LIBRARIES IN ASSESSING NETWORKING OF RESEARCH VISIBILITY IN FEDERAL
COLLEGE OF EDUCATION ZARIA**

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Abstract

This study role of libraries in facilitating research networking and enhancing the visibility of scholarly output within the Federal College of Education Zaria (FCE Zaria) in Nigeria. In the context of rapid technological advancements and evolving paradigms in scholarly communication, this study examines how libraries contribute to networking and research visibility at FCE Zaria. Through a comprehensive analysis of strategies, challenges, and opportunities, this research seeks to elucidate the dynamic interplay between libraries, researchers, endeavors undertaken by libraries to enhance research visibility and networking. By strategically utilizing social media platforms such as Twitter, Facebook, LinkedIn, and academic networking sites like ResearchGate and Academia.edu, libraries have expanded their outreach and improved the discoverability and accessibility of research materials user groups, including researchers, students, and the general public, has fostered greater visibility for scholarly works and facilitated increased collaboration and dialogue among scholars across disciplines.

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Introduction

In an age marked by the swift advancement of information and communication technologies, the role of libraries in academic institutions has greatly expanded beyond traditional limits. Libraries are no longer just places to store books; they have become vibrant centers for knowledge creation, dissemination, and collaboration. This is especially relevant in higher education institutions, where libraries are crucial in supporting research activities and increasing the visibility of scholarly work.

The Federal College of Education Zaria (FCE Zaria), nestled in the heart of Nigeria, stands as a beacon of academic excellence in the region. As the landscape of scholarly communication continues to undergo profound transformations, it becomes imperative to examine the role of its libraries in fostering networking and enhancing the visibility of research endeavors. This academic journal aims to delve into this pertinent issue, shedding light on the strategies, challenges, and opportunities encountered by libraries in leveraging networking mechanisms to amplify the visibility of research conducted within the confines of FCE Zaria.

With an emphasis on the interconnectedness of libraries, researchers, and the broader scholarly community, this journal seeks to explore various facets of the networking landscape within FCE Zaria. From the adoption of innovative information technologies to the cultivation of strategic partnerships, libraries are increasingly tasked with spearheading initiatives that transcend institutional boundaries and foster collaboration both locally and globally. Through this multidimensional exploration, we endeavor to unravel the intricate interplay between libraries and research networking, thereby offering insights that can inform policy, practice, and future research directions.

As we embark on this scholarly journey, it is our fervent hope that this journal serves as a catalyst for dialogue, collaboration, and innovation within the academic community of FCE Zaria and beyond. By illuminating the pivotal role of libraries in assessing networking and enhancing research visibility, we aspire to contribute to the advancement of scholarship and the realization of the institution's overarching academic mission.

In providing these automated services the networks, computers and information in digital form are suffering from various emerging threats that can be data loss, information leakage, network attacks, malicious attacks, spamming, identity theft that are now very common in library. It is now becoming essential to laid emphasis on network and information security in library through the use of numerous security process.

The current global advancement in Science, Technology and innovation (STI) metamorphose consciously and intellectually in colleges of Education through their triple mandate of producing requisite high skilled

manpower, knowledge and related services. There are ample evidence to show that Research and Development (R&D) generated by colleges of Education have contributed globally to the rise and expansion of knowledge which is becoming the most enduring and effective means of boosting sustainable economic development and re-enforcing competitiveness in the face of rapid growth taking place between industries, countries and people in the world.

The research output is a quantitative and measurable means by which academics contribute new knowledge to the existing body of knowledge. The above explains why the quantity and quality of research output has become the main factor or criterion for the recognition and advancement of academic staff as well as the ranking of world class colleges of Education.

Researches incubate policies that promote real and sustained economic growth and social development but the apparent stagnation in terms of development at the Local Government levels necessitated a look at whether or not there is the problem of research networking at that level as there are a lot of researches undertaken by scholars of various Nigerian colleges of Education as it relates to grass root development. (George et al. 2022)

Research networking integrates diverse perspectives for better understanding and appreciation of working together, thereby developing a sense of mutual respect, trust, purpose and understanding. These will enhance the maximization of scare resources and prevent duplication of effort. And to the students' research networking will serve as a training and employment opportunity.

Research networking in Nigerian libraries has been extensively explored in

literature. Scholars generally agree that understanding the political landscape and the stakeholders involved in policy-making is crucial for effective networking. Additionally, it's important to comprehend the types of connections formed and how knowledge is produced, disseminated, and utilized within institutions and communities (Omar M. 2004, Bako S. 2005, Aberman et al, 2009).

Networking in research encompasses various actors, both at individual and organizational levels, influenced by factors such as local and external dynamics, social and cultural norms, as well as institutional structures and capacities. Omar (2004) notes a lack of strong commitment from Nigeria's political leadership to allocate adequate resources for research in Science, Technology, and Innovation, consequently hindering the potential benefits of university research.

Abubakar, U. (2012), in his examination of the impact of structured curriculum on training programs Nigerian college of Education councils, found positive outcomes such as increased knowledge of local laws and behavioral changes regarding council procedures and leadership. However, the study failed to assess the training's influence on policy-making and networking. It also overlooked whether university researchers explored new thematic areas beyond the training's scope.

Bako (2005) identifies key reasons for the poor state of research in Nigerian college of Education, including a disproportionate focus on teaching over research, inadequate funding, and a lack of integration between research endeavors and the economy, state, and community.

Evolution of Libraries in the Digital Age

The digital transformation has propelled libraries beyond their traditional roles, prompting them to adapt to the changing landscape of information dissemination. The emergence of digital transformation has significantly reshaped the traditional roles of libraries, necessitating their adaptation to the evolving landscape of information dissemination (Smith, 2020). Libraries, once primarily regarded as physical repositories of knowledge, have now evolved into dynamic digital hubs (Jones & Brown, 2019). This transformation has been driven by the imperative to cater to the changing needs and expectations of users in an increasingly digitalized world.

Libraries are now actively harnessing the power of social media platforms to enhance the visibility of scholarly research (Gomez, 2018). Social media serves as a gateway for libraries to connect with diverse audiences, including researchers, students, educators, and the general public (Johnson, 2021). Through platforms such as Twitter, Facebook, LinkedIn, and Instagram, libraries can reach out to a broader demographic and engage them with relevant academic content.

The strategic adoption of social media by libraries has facilitated the dissemination of scholarly knowledge beyond traditional academic circles (Smith, 2019). By sharing research articles, event announcements, educational resources, and engaging in discussions on contemporary topics, libraries can attract attention to valuable scholarly content (Brown & Williams, 2020). This proactive engagement not only increases the visibility of research but also fosters a sense of community and collaboration among users (Gomez, 2017). Moreover, social media enables libraries to personalize their communication and tailor content to suit the

preferences and interests of their audience (Jones et al., 2018). By analyzing user engagement metrics and feedback, libraries can refine their social media strategies to effectively reach and resonate with their target demographic (Johnson & Garcia, 2021)

Enhancement of Research Visibility

Research visibility refers to the extent to which research findings and outputs are discoverable, accessible, and widely known within the academic community and beyond. High research visibility can enhance the impact and influence of research, increase citations, and facilitate collaborations and funding opportunities.

Publish in Open Access Journals: Open access publishing makes research findings freely accessible to anyone, which can increase visibility and citations. Many funding agencies and institutions now require open access publishing as a condition for funding.

Utilize Social Media: Researchers can use social media platforms such as Twitter, LinkedIn, and Research Gate to share research findings, network with other researchers, and engage with the wider community. Social media can increase visibility and citations and facilitate collaborations.

Participate in Conferences and Events: Attending and presenting at conferences and events can increase visibility and provide opportunities to network and engage with other researchers.

Collaborate with Other Researchers: Collaborating with other researchers can lead to co-authorship and increased visibility and citations.

Utilize Researcher Profiles: Creating researcher profiles on academic search

engines such as Google Scholar, ORCID, and Scopus can increase visibility and citations by making research findings and outputs easily discoverable.

Engage with Media Outlets: Working with media outlets such as newspapers, magazines, and radio stations can increase visibility and promote research findings to a wider audience.

Providing Access to Research Tools and Resources: Academic libraries at FCE Zaria offer access to a wide array of research tools and resources, including online databases, e-journals, and reference management software. By making these resources available, libraries support researchers in conducting high-quality research and increasing the visibility of their findings.

Supporting Open Access Publishing: Libraries assist researchers in publishing their work in open access journals by offering funding, guidance, and support. This ensures that research outputs are accessible to a broader audience, enhancing their visibility and impact.

Offering Workshops and Training Sessions: Libraries conduct workshops and training sessions on various research-related topics such as literature review, data management, and citation management. These sessions help researchers develop essential skills and improve the quality of their research outputs.

Creating Institutional Repositories: FCE Zaria libraries establish institutional repositories to store and share research outputs like articles, datasets, and conference papers. This increases the visibility of these outputs and facilitates collaboration among researchers.

Collaborating with Researchers: Libraries work closely with researchers to provide tailored support and resources. This collaboration ensures that research outputs are discoverable, accessible, and impactful.

Promoting Research Outputs: Libraries at FCE Zaria promote research outputs through newsletters, social media, and institutional websites. This broad dissemination enhances the visibility of research and encourages collaboration among scholars.

Overall, enhancing research visibility requires a proactive approach and a range of strategies that leverage both traditional and digital channels. By increasing visibility, researchers can increase the impact and reach of their research outputs and contribute to the advancement of knowledge in their respective fields.

Challenges and Opportunities

While social media offers immense opportunities for enhancing research visibility, it also presents challenges. This section discusses the hurdles faced by libraries, including issues of information credibility, managing diverse content, and evolving strategies to navigate the ever-changing social media landscape. It also outlines opportunities for libraries to innovate and collaborate in overcoming these challenges to further augment research visibility.

The literature review is on the interface of networking in the process of university research and its subsequent translation into finished products for the benefit of the nation (Yusuf, 2012)

Research addresses a problem or a problem area, to find out or investigate certain occurrences and tries to adduce reasons for such occurrences. While academic researchers are more conceptual and written with particular

style, administrative research or researches in local government are rather more flexible.

Most researches in the college of Education usually address any of the following issues separately or jointly:

- Collecting data of policy identification and design
- Policy formulation
- The implementation stage
- Monitoring and evaluation

Conclusion

The relationship between assessment networking and research visibility has significantly transformed the traditional role of libraries in disseminating information. Libraries, once the primary repositories of knowledge, have adapted to the digital era by leveraging social media platforms to enhance the visibility of research content. Through strategic utilization of assessment networking social media channels, libraries have expanded their reach, engaging with diverse audiences and promoting scholarly works beyond their physical confines. The integration of assessment networking into library practices has facilitated broader access to academic resources, fostering collaboration among researchers, students, and the public. By embracing innovative approaches to sharing information, libraries have amplified the impact of research findings, elevating the visibility of scholarly work on a global scale.

Libraries' role in curating, organizing, and promoting scholarly content through assessment networking social media platforms has enabled researchers to engage with a wider audience, thereby improving the dissemination of knowledge. This digital development has not only democratized access to information, but also facilitated interdisciplinary dialogue and knowledge exchange. However, challenges

remain, including concerns about information overload, trust, and the need for effective strategies to navigate the ever-evolving landscape of social media platforms. Libraries continue to play a critical role in organizing and vetting information to ensure its reliability and relevance in an era of digital content abundance.

Recommendations

1. **Expand Access to Digital Resources:** Increase investment in digital libraries and online databases to ensure researchers have access to the latest journals, books, and research tools. This can be achieved through partnerships with international academic institutions and consortia to provide comprehensive access to essential research materials.
2. **Strengthen Support for Open Access Publishing:** Develop a dedicated fund to support open access publishing, allowing more researchers to publish their work in open access journals. Additionally, provide workshops and one-on-one consultations to guide researchers through the open access publishing process, ensuring their work reaches a wider audience.
3. **Enhance Training and Professional Development:** Regularly organize workshops, webinars, and training sessions on emerging research tools, data management practices, and scholarly communication strategies. This will help researchers stay updated with the latest trends and improve the quality and impact of their research outputs.
4. **Increase Outreach and Collaboration Initiatives:** Actively promote research outputs through multiple channels, including social media, institutional websites, and newsletters. Establish a

dedicated team or office within the library to facilitate collaborations between researchers and external partners, fostering an environment of interdisciplinary research and increasing the institution's research visibility globally.

References

- Arberman, Mapping the Policy Process in Nigeria: Examining the Linkages between Research and Policy. International Food Policy Research Institute.
- Bako, S (2005) ‘‘Universities, Research and Development in Nigeria: Time for A Paradigmatic Shift Paper’’ presented at the 11th general assembly of COOESRIA, on Rethinking African Development: Beyond *impasse: Towards alternatives, Maputo, Mozambique, 6th – 8th December 2005*
- Brown, A., & Williams, B. (2020). Leveraging Social Media in Libraries: A Practical Guide. *Library Trends*, 68(3), 421-436.
- Bennett, L. S. (2019). "Social Media for Libraries: Strategies and Tactics for Utilizing Web 2.0". Rowman & Littlefield
- Chambers, R. 1993) *Challenging the Professions: Frontiers for Rural Development*. Intermediate Technology Publications, London
- Garrity L. et al, (2003) Land Care on the Poverty – Protection Interface in an Asian Watershed in Campbell, in B.M, Sayer J.A; (Eds), *Integrated Natural Resources Management: Linking Productivity, the Environment And Development*, CABI Publications, Cambridge
- George, T. M., Okwu, E., & Ogunbodede, K. F. (2022). Digital Literacy and Job Performance of Librarians in Rivers

- State University Libraries, Nigeria. *Library Philosophy & Practice*
- Gomez, C. (2017). Social Media Strategies for Libraries. *Journal of Library Administration*, 57(8), 819-827.
- Gomez, C., & Smith, J. (2019). Engaging Users through Social Media: Strategies for Academic Libraries. *Information Services & Use*, 39(1-2), 177-187.
- Johnson, R. (2021). Social Media in Libraries: Strategies for Community Engagement. *Public Library Quarterly*, 40(3), 298-311.
- Johnson, R., & Garcia, M. (2021). Enhancing Library Services through Social Media Analytics. *Journal of Academic Librarianship*, 47(3), 102301.
- Jones, E., & Brown, K. (2019). *The Digital Library: A Comprehensive Introduction*. Chicago: ALA Editions.
- Jones, E., Brown, K., & Williams, B. (2018). *Social Media Marketing for Libraries*. New York: Routledge.
- Smith, J. (2019). The Impact of Social Media on Library Services. *Library Management*, 40(6/7), 378-389.
- Smith, J. (2020). Digital Transformation in Libraries: Challenges and Opportunities. *Information Technology & Libraries*, 39(4), 188-198.
- Meltzer, Jed, and Scott Breivold. "Social Media: Opportunities and Challenges for Academic Libraries." *Library Hi Tech News* 27.4 (2010): 15-18.
- <http://e-ticaret.nazarmedya.com/g6hfo/social-aspects-of-marketing.html>
- <https://austin2013.sched.com/list/descriptions/type/Interactive>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9915628/>
- <http://ir.kabarak.ac.ke/bitstream/handle/123456789/302/LAMEK>
- <https://www.thefreelibrary.com/Adams+sends+mental+health+message%3b+RUGBY+LEAGUE.-a0618292556>.
- Zhang, Yin, et al. "Academic library use of Facebook, Twitter, and other social media: A survey." *The Journal of Academic Librarianship* 42.6 (2016): 636-651