

**TEACHERS' APPLICATION OF ONLINE CONTINUOUS
ASSESSMENT IN CURBING TEST MALPRACTICE AMONG
ECONOMICS STUDENTS IN SECONDARY SCHOOLS IN ANAMBRA
STATE**

OKONKWO, EUCHARIA CHINENYE (Ph.D.)

Department of Educational Management and Policy,
Faculty of Education, Nnamdi Azikiwe University, Awka
07038299271, ec.okonkwo@unizik.edu.ng

Obasi Hope Onyinyechi (Ph.D.)

(Business) Economic Department, School of Secondary Education
Federal College of Education Technical Asaba delta state,
08035462997, ohope411@gmail.com

Abstract

In this study, the researcher explored teachers' application of online continuous assessment tools in curbing test malpractice among Economics students in secondary schools in Anambra State. Two research questions were asked and two corresponding hypotheses were formulated and tested at 0.05 level of significance. The design is descriptive survey research design. The population is 263 principals in all the 263 public senior secondary schools in Anambra State. A sample of 263 principals which represented the entire population, hence no sampling technique was used. The instrument for data collection was a researchers' made rating scale titled "Teachers' Application of Online Continuous Assessment Tools in Curbing Test Malpractice among Economics Students Scale (TAOCATCTMESS) which contained 17 items using the 4 point Likert scale options of Very High Level (VHL), High Level (HL), Low Level (LL) and Very Low Level (VLL). In order to ensure that the instrument measure what it was supposed to measure, 3 research specialists from Anambra State University, Owerri validated the instrument. Cronbach Alpha statistics was used for the computation of reliability of the instrument which yielded a coefficient value of 0.86. Mean statistics and standard deviation were used to answer the research questions while the hypotheses were tested using t-test statistics. The result revealed that there is a low level of teachers' application of Computer-Based Tests (CBT) and biometric authentication in curbing test malpractice among Economics students in secondary schools in Anambra State. It was recommended among others that principals should provide teachers with comprehensive training and resources on designing, administering, and managing Computer-Based Tests (CBT) to effectively curb test malpractice among Economics students and enhance assessment integrity.

Keywords: Economics, Online continuous assessment tools, Students, Teachers and Test malpractice.

Introduction

Economics is a social science that studies the production, distribution, and consumption of goods and services, helping us understand how societies allocate resources to meet unlimited wants and needs. Its relevance in society is immense, as it informs decision-making on resource allocation, investment, and policy-making. Economics helps individuals and organizations make informed choices, maximizing benefits and minimizing costs. It also guides governments in formulating policies on taxation, employment, and trade, promoting economic growth and stability. Additionally, economics helps address social issues like poverty, inequality, and environmental degradation. On a personal level, economics empowers individuals to manage finances, make smart investments, and plan for the future. When societies apply economic principles, they can achieve sustainable development and improved well-being for citizens. However, despite its importance, challenges persist in achieving effective instruction and reliable assessment outcomes, particularly in light of issues like large class sizes, limited resources, and the pervasive problem of test malpractice, which fundamentally undermines the credibility of student performance data in schools.

Test malpractice refers to any actions or behaviors that violate the rules, regulations, or standards of a test or assessment, potentially compromising its validity, reliability, or fairness. Okafor (2022) opines that test malpractice, an unethical practice not only distorts students' true academic abilities but also devalues the certifications awarded by the education system, leading to a crisis of confidence among employers and tertiary institutions. Test malpractice remains a critical threat to the integrity and credibility of educational outcomes in Nigeria, manifesting in various forms ranging from copying during examinations and the illegal acquisition of question papers to outright impersonation. In Economics, which is pivotal for future academic pursuits, malpractice undermines the accurate diagnosis of proficiency levels, potentially allowing poorly prepared

students to advance (Eze & Okoro, 2021). Test malpractice among Economics students has eroded the quality of the educational system in Nigeria, leading to a decline in students' proficiency in Economics (Ogundele, 2015). For instance, a study by Adeyemi (2018) found that many students who excel in Economics examinations through malpractice often struggle with Economics terms and concepts in real-life situations. This has resulted in graduates who are not adequately equipped to compete in the global job market (Okebukola, 2019). Furthermore, the proliferation of test malpractice has undermined the validity and reliability of Economics assessments, making it challenging for teachers to accurately assess students' knowledge and skills (Ezeokoli, 2017). The traditional environment of paper-based tests and manual CA administration in secondary schools in Anambra State, like many other parts of Nigeria, provides fertile ground for these fraudulent activities. Hence, there becomes the need to look inwardly into the procedures and administration of continuous assessments.

Continuous assessment is an ongoing process of evaluating student learning, typically through a series of assessments, quizzes, or assignments, to monitor progress, provide feedback, and inform instruction. According to the Federal Republic of Nigeria (2013), continuous assessment is an integral component of the Nigerian secondary school evaluation system, mandated by the National Policy on Education to provide a more holistic and longitudinal measure of student learning than terminal examinations alone. This method involves systematically gathering data on a student's performance throughout a course of study, using a variety of instruments like quizzes, assignments, projects, and mid-term tests. CA according to Okoro and Njoku (2019) is intended to offer feedback to both students and teachers, track learning progress, identify areas needing remediation, and ultimately contribute a predetermined percentage (usually 40%) to the student's final grade. Despite its sound pedagogical foundation, the implementation of CA in many Nigerian schools is often marred by subjectivity,

inconsistencies in administration, poor record-keeping, and the susceptibility of paper-based assignments and quizzes to manipulation, which compromises its reliability as a genuine indicator of student achievement. This vulnerability inherent in traditional methods has prompted educators to explore online continuous assessment tools as a means of improving security and objectivity.

Online continuous assessment tools are digital platforms or software used to administer, manage, and analyze ongoing assessments, quizzes, or evaluations, often providing real-time feedback and tracking student progress. Udo and Ekpo (2020) opine that the shift towards online continuous assessment tools represents an evolving response to the challenges inherent in traditional paper-based CA, leveraging digital technology to enhance efficiency, objectivity, and security in educational measurement. According to Chinyelugo and Abubakar (2024), these online continuous assessment tools such as analytics and tracking tools, Computer Based Test (CBT), automated proctoring, Edulastic, biometric authentication and Kahoot encompass various software and platforms that allow teachers to design, administer, score, and manage student assessments entirely over the internet. With the automation of many aspects of the assessment process, these digital platforms reduce the administrative burden on teachers and minimize human error in scoring, leading to more timely and standardized feedback. The adoption of these tools is driven by the broader imperative to modernize the Nigerian education sector and harness technology not only to improve the quality of instruction but also to address systemic weaknesses in evaluation. Among these digital innovations, the focus of this study is on the Computer-Based Tests (CBT) tool and biometric authentication tool.

A Computer-Based Tests (CBT) tool is a software application or platform used to deliver, administer, and score tests or assessments electronically, often providing features like automated scoring, instant feedback, and secure test delivery. According to Obasi (2021), a CBT tool administers tests via a computer

interface, which can automatically randomize questions, enforce strict time limits, and instantly grade responses, thereby offering unparalleled control and objectivity in the testing environment. Empirically, a study by Chinyelugo and Abubakar (2024) entitled on-line continuous assessment: instrument for curbing some corrupt practices at senior secondary education in Nigeria found that teachers accepted that on-line continuous assessment would help in curbing examination malpractice and providing unified, valid and reliable sources of continuous assessment scores. The findings further revealed that the utilization of on-line continuous assessment was low due to inadequate computers, poor internet access, poor or no electricity and poor or no maintenance were perceived problems of on-line continuous assessment. Similarly, Alarape (2024) who examined perceived effectiveness of Computer-Based Test in curbing examination malpractices and revitalizing quality control by undergraduates of Federal Universities in Southwestern Nigeria found that the paper pencil test is highly susceptible to different kinds of malpractices (81.3%). The result also showed the CBT effectiveness in curbing examination malpractices is very high (87.5%). Again, the result showed the CBT effectiveness in revitalizing quality is also attested to be high (73.6%). Furthermore, while CBT addresses cheating during the test itself, the problem of impersonation where one student takes the test for another requires a further layer of security, often provided by biometric technology.

A biometric authentication tool is a technology that uses unique physical or behavioral characteristics (e.g., fingerprints, facial recognition, iris scan) to verify an individual's identity and ensure secure access to systems, applications, or assessments. Ezenwa and Okeke (2019) contend that the biometric authentication tool is a sophisticated security measure that has emerged as a crucial component in ensuring the integrity of high-stakes online assessment, including CBT-based CA. This technology uses unique biological characteristics, such as fingerprints

or facial recognition, to verify the identity of the student taking the test. Its application directly addresses one of the most persistent and problematic forms of test malpractice in Nigerian schools which is impersonation. Okonkwo (2020) contends that when biometric verification is mandated at the start of an online test session, the tool guarantees that the individual registered for the course is the same person completing the assessment, thereby eliminating proxy test-taking and reinforcing the link between the student's identity and their academic record. In a related study, Eke and Nwokeji (2020) who examined fingerprint biometric technology for curbing examination malpractice in Nigerian secondary schools found that the level of utilization of fingerprint biometric technology was low, with only 19.2% of respondents indicating that the technology was being used in their schools. Also, Oloyede and Adewale (2018) who studied biometric authentication and examination malpractice in Nigerian universities found that while biometric authentication is effective in curbing examination malpractices, its adoption and utilization in Nigerian universities are still limited.

Given the pivotal role of Economics and the endemic nature of malpractice, the strategic deployment of these digital tools including CBT and biometric authentication is hypothesized to offer a sustainable solution to this pervasive problem. With the examination on how teachers in Anambra State adopt and integrate these technologies, the research seeks to move beyond mere theoretical potential and provide practical evidence on the level of teachers' application of the online assessment tools towards the reduction of the instances of cheating in order to improve assessment objectivity, and ultimately foster a culture of academic honesty among students. Several studies have been conducted on the influence or effectiveness of online continuous assessment tools in curbing examination malpractices (Oloyede & Adewale, 2018; Eke & Nwokeji, 2020; Ezenwa & Okeke, 2019; Alarape, 2024; Chinyelugo & Abubakar, 2024; Adekunle, 2018; Udo & Ekpo, 2020) without any emphases on the level of

application of these tools by the teachers. It is therefore premise on this background that the study investigated teachers' application of online continuous assessment tools in curbing test malpractice among Economics students in public senior secondary schools in Anambra State.

Statement of the Problem

Test malpractice has become a pervasive issue in public senior secondary schools in Anambra State, Nigeria, compromising the validity and reliability of assessments. Economics, being one of the vocational subjects, is not exempted from this menace. Despite the efforts made by teachers and school administrators to curb this vice, cases of test malpractice continue to escalate, undermining the integrity of assessments and the educational system as a whole. The traditional pen-and-paper method of continuous assessment has proven inadequate in addressing this issue, as it is often plagued by examination leaks, impersonation, and other forms of cheating. The persistence of test malpractice in Economics assessments has serious implications for the academic integrity and credibility of students, teachers, and the entire education system. If left unchecked, it may lead to a culture of dishonesty and mediocrity, ultimately compromising the quality of education. Therefore, there is a need for a paradigm shift from the traditional administration of continuous assessment to online continuous assessment tools. This study is therefore put in question form; what is the level of teachers' application of online continuous assessment tools in curbing text malpractice among Economics students in Anambra State? Providing answer to this question becomes the thrust of this study.

Research Questions

The following research questions were asked to guide the study;

1. What is the level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students in Anambra State?

2. What is the level of teachers' application of biometric authentication tool in curbing text malpractice among Economics students in Anambra State?

Hypotheses

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

Ho₁: The level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students in Anambra State is not significant.

Ho₂: The level of teachers' application of biometric authentication tool in curbing text malpractice among Economics students in Anambra State is not significant.

Methods

The design is descriptive survey research design. The rationale of choosing this design was because manipulation of variables in the study was not allowed which implies that the researcher neither added nor subtracted from the existing fact. According to Onah (2023), descriptive survey design is used in preliminary and exploratory studies to allow researchers gather, summarize, present and interpret information for the purpose of clarification. The population is 263 principals in all the 263 public senior secondary schools in Anambra State. A sample of 263 principals which represented the entire population was used for this study. This is because of the limited number of the population hence no sampling technique was used. The instrument for data collection was a researchers' made rating scale titled "Teachers' Application of Online Continuous Assessment Tools in Curbing Test Malpractice among Economics Students Scale (TAOCATCTMESS). This instrument was used to measure the level of teachers' application of online continuous assessment tools in curbing test malpractice among Economics students which contained 17 items using the 4 point Likert scale options of Very High Level (VHL), High Level (HL), Low Level (LL) and Very Low Level (VLL). In order to ensure that the instrument measure what it was supposed to measure, 3 research specialists from Imo State University,

Owerri validated the instrument. Cronbach Alpha statistics was used for the computation of reliability of the instrument which yielded a coefficient value of 0.86. The researcher with the aid of three research assistants visited the entire schools in this study in order to administer 263 copies of the instrument to the principals on-the-spot which ensured 100 per cent return rate, hence this was found adequate for the analyses. Mean statistics and standard deviation were used to answer the research questions while the hypotheses were tested using t-test statistics at 0.05 level of significance.

Result

Research Question One: What is the level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students in Anambra State?

Table 1: Mean rating scores on the level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students

S/N	Items:	SA	A	D	SD	$\sum fx$	\bar{X}	SD	Remark
1	Teachers in our school frequently use CBT tools to administer Economics assessments.	20 80	26 78	75 150	142 142	263 450	1.63	0.63	Low Level
2	Teachers in our school effectively utilize CBT tools to enhance the validity and reliability of Economics assessments.	44 176	52 156	39 78	128 128	263 538	1.93	0.54	Low Level
3	Our school's teachers are adept at using CBT tools to generate reports on student performance in Economics.	32 128	36 108	11 22	184 184	263 442	1.60	0.73	Low Level
4	Teachers in our school rarely use CBT tools for Economics assessments.	53 212	160 480	26 52	24 24	263 768	2.93	0.56	High Level
5	Our school's teachers integrate CBT tools into their instructional practices for Economics teaching.	48 192	36 108	53 106	126 126	263 532	1.91	0.53	Low Level
6	Teachers in our school consistently use CBT tools to analyze student performance data in Economics.	34 136	86 258	15 30	128 128	263 552	1.98	0.62	Low Level
7	Our school's teachers are proficient in using CBT tools to develop and administer online quizzes and assignments for Economics students.	40 160	48 146	45 90	130 130	263 526	1.89	0.69	Low Level
8	Teachers in our school utilize CBT tools to provide timely feedback to students on their Economics assessments.	62 248	64 192	83 166	54 54	263 660	2.34	0.63	Low Level

9	CBT tools are regularly used by teachers in our school to track student performance in Economics.	52	56	71	84	263			2.15	0.55	Low Level
	Grand Mean								2.04	0.61	Low Level

In Table 1, the data present the mean and standard deviation values on the level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students. The results indicated that items 1, 2, 3, 5, 6, 7, 8 and 9 recorded mean scores below the criterion mean score of 2.50, while only item 4 had mean score above 2.50. The overall interpretation suggests low criterion means with grand mean score of 2.04 which is less than the criterion mean score of 2.50 with a standard deviation of 0.61. It was therefore concluded that there is a low level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students in public senior secondary schools in Anambra State.

Hypothesis One:

Ho₁: The level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students in Anambra State is not significant.

Table 2: t-test statistics on the level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students

N	X	S	\bar{X}	df	t-cal	t-tab	Decision
263	2.04	0.61	2.50	262	4.17	1.64	Reject Ho ₁

Data in Table 2, the data gave the grand mean score and standard deviations of 263 respondents as 2.04 and 0.61 respectively. At 262 degree of freedom, with application of the t-test calculated, its result of 4.17 is greater than the t-tabulated at 5% level of significance. Therefore, the decision was to reject the null hypothesis and concluded that the level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students in Anambra State is significant.

Research Question Two: What is the level of teachers’ application of biometric authentication tool in curbing text malpractice among Economics students in Anambra State?

Table 3: Mean rating scores on the level of teachers’ application of biometric authentication tool in curbing text malpractice among Economics students

S/N	Items:	SA	A	D	SD	$\sum fx$	\bar{X}	SD	Remark
10	Teachers in our school use biometric authentication tools to verify student identities during Economics assessments.	20 80	26 78	169 338	142 142	263 638	1.72	0.63	Low Level
11	Our school has implemented biometric authentication tools to prevent impersonation in Economics exams	44 176	52 156	133 266	128 128	263 726	1.95	0.54	Low Level
12	Biometric authentication tools are used to prevent cheating in Economics exams in our school.	32 128	36 108	105 210	184 184	263 630	1.70	0.73	Low Level
13	Our school does not integrate biometric authentication tools into our Economics assessment system	147 588	160 480	26 52	24 24	263 1144	3.19	0.56	High Level
14	Teachers in our school use biometric authentication tools to authenticate student identities before Economics exams.	48 192	36 108	147 294	126 126	263 720	1.93	0.53	Low Level
15	Biometric authentication tools are integrated into our school's Economics assessment system.	34 136	86 258	109 218	128 128	263 740	1.98	0.62	Low Level
16	Our school uses biometric authentication tools to track student attendance during Economics exams.	40 160	48 146	139 278	130 130	263 714	1.92	0.69	Low Level
17	Teachers in our school are trained to use biometric authentication tools for Economics assessments.	62 248	64 192	83 166	148 148	263 754	2.02	0.63	Low Level
Grand Mean							2.07	0.74	Low Level

Data in Table 3 present the mean and standard deviation values on the level of teachers’ application of biometric authentication tool in curbing text malpractice among Economics students. The results indicated that items 10, 11, 12, 14 15, 16, 17 and 18 recorded mean scores below the criterion mean score of 2.50, while only item 13 had mean score above 2.50. The overall interpretation suggests low criterion means with grand mean score of 2.07 which is less than the criterion mean score of 2.50 with a standard deviation of 0.74. It was therefore concluded that the level of teachers’ application of biometric authentication tool

is low in curbing text malpractice among Economics students in public senior secondary schools in Anambra State.

Hypothesis Two:

H₀₂: The level of teachers’ application of biometric authentication tool in curbing text malpractice among Economics students in Anambra State is not significant.

Table 4: t-test statistics on the level of teachers’ application of biometric authentication tool in curbing text malpractice among Economics students

N	X	S	\bar{X}	df	t-cal	t-tab	Decision
263	2.07	0.74	2.50	262	4.12	1.64	Reject H ₀₂

In Table 4, the data gave the grand mean score and standard deviations of 263 respondents as 2.07 and 0.74 respectively. At 262 degree of freedom, with application of the t-test calculated, its result of 4.12 is greater than the t-tabulated at 5% level of significance. Therefore, the decision was to reject the null hypothesis and concluded that the level of teachers’ application of biometric authentication tool in curbing text malpractice among Economics students in Anambra State is significant.

Discussion of Findings

The result revealed that there is a low level of teachers’ application of Computer Based Test tool in curbing text malpractice among Economics students in public senior secondary schools in Anambra State. The low level of application recorded is a proof that teachers do not frequently use CBT tools to administer Economics assessments; teachers do not effectively utilize CBT tools to enhance the validity and reliability of Economics assessments; teachers are not adept at using CBT tools to generate reports on student performance in Economics; teachers rarely use CBT tools for Economics assessments; teachers do not integrate CBT tools into their instructional practices for Economics teaching; teachers do not consistently use CBT tools to analyze student performance data in Economics; teachers are not proficient in using CBT tools to develop and

administer online quizzes and assignments for Economics students; and CBT tools are not regularly used by teachers to track student performance in Economics. The result further buttressed that the level of teachers' application of Computer Based Test tool in curbing text malpractice among Economics students in Anambra State is significant. The significant level of teachers' application of Computer-Based Test tools in curbing test malpractice among Economics students in Anambra State suggests that the use of technology is having a substantial impact on promoting academic integrity and reducing cheating in assessments. These results agree with Chinyelugo and Abubakar (2024) found that the utilization of on-line continuous assessment was low due to inadequate computers, poor internet access, poor or no electricity and poor or no maintenance were perceived problems of on-line continuous assessment. Similarly, Alarape (2024) found that the paper pencil test is highly susceptible to different kinds of malpractices (81.3%). The result also showed the CBT effectiveness in curbing examination malpractices is very high (87.5%). Again, the result showed the CBT effectiveness in revitalizing quality is also attested to be high (73.6%). The result strengthened the fact that the implementation of Computer-Based Tests (CBT) has significantly reduced test malpractice among Economics students by providing a secure and proctored assessment environment that minimizes opportunities for cheating. Additionally, CBT systems can randomize questions, track student activity, and provide instant feedback, making it more difficult for students to engage in malpractices and promoting a more credible assessment process in public senior secondary schools in Anambra State.

The result also revealed that the level of teachers' application of biometric authentication tool is low in curbing text malpractice among Economics students in public senior secondary schools in Anambra State. The low level recorded is a proof that teachers do not use biometric authentication tools to verify student identities during Economics assessments; school has not implemented biometric

authentication tools to prevent impersonation in Economics examinations; schools do not use biometric authentication tools to track student attendance during Economics examinations; biometric authentication tools are not integrated into the school's Economics assessment system; teachers do not use biometric authentication tools to authenticate student identities before Economics examinations; and schools have no policy that requires the use of biometric authentication tools for Economics assessments. The result further established that the level of teachers' application of biometric authentication tool in curbing text malpractice among Economics students in Anambra State is significant. This significant level indicates that the use of this technology is playing a crucial role in verifying student identities and preventing impersonation and other forms of cheating in assessments. In line with the result, Eke and Nwokeji (2020) found that the level of utilization of fingerprint biometric technology was low, with only 19.2% of respondents indicating that the technology was being used in their schools. Also, Oloyede and Adewale (2018) found that while biometric authentication is effective in curbing examination malpractices, its adoption and utilization in Nigerian universities are still limited. The result strengthened the fact that the use of biometric authentication tools has effectively curbed test malpractice among Economics students by accurately verifying student identities and preventing impersonation, thereby ensuring the authenticity and credibility of assessments. Leveraging on unique physical characteristics, such as fingerprints or facial recognition, biometric authentication tools make it extremely difficult for students to cheat or engage in malpractices, promoting a fair and secure testing environment in public senior secondary schools in Anambra State.

Recommendations

Based on the findings of this study, the following recommendations were made;

1. Anambra State Ministry of Education and relevant stakeholders provide comprehensive training and workshops for teachers on the effective use of Computer-Based Test (CBT) tools to curb test malpractice among Economics students in public senior secondary schools.
2. Anambra State Ministry of Education and school administrators invest in the procurement, installation, and training of teachers on the use of biometric authentication tools to enhance the security and credibility of Economics assessments in public senior secondary schools.

Conclusion

In conclusion, the application of online continuous assessment tools in curbing test malpractice among Economics students in public senior secondary schools in Anambra State is an area that requires attention. The use of Computer Based Test tools and biometric authentication tools is crucial in promoting academic integrity in assessments. However, the current state of affairs suggests that there is a need for improvement in the utilization of these tools. The findings underscore the importance of leveraging technology to enhance the credibility and security of assessments. In all, the study highlights the significance of online continuous assessment tools in maintaining the integrity of Economics assessments in public senior secondary schools in Anambra State.

References

- Adebayo, S.O. (2020). Continuous assessment practices and students' academic performance in selected secondary schools in Lagos State, Nigeria. *Journal of Educational Measurement and Evaluation*, 11(1), 1-15.
- Adeyemi, T.O. (2018). Examination malpractice and academic achievement in Economics among secondary school students in Nigeria. *Journal of Education and Practice*, 9(10), 1-9.

- Agwu, S.N., & Udofia, E.O. (2018). Efficacy of Computer Based Test (CBT) in curbing examination malpractice in public examinations in Nigeria. *International Journal of Research in Education and Science (IJRES)*, 4(2), 523-535.
- Alarape (2024). Perceived effectiveness of Computer-Based Test in curbing examination malpractices and revitalizing quality control by undergraduates of Federal Universities in Southwestern Nigeria. *Nigerian Journal of Curriculum Studies*, 27(3), 30 – 39.
- Chinyelugo and Abubakar (2024). On-line continuous assessment: instrument for curbing some corrupt practices at senior secondary education in Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS)*, 8(5), 2408 – 2417
- Eke, B.O., & Nwokeji, P.A. (2020). Fingerprint biometric technology for curbing examination malpractice in Nigerian secondary schools. *Journal of Information Technology and Education*, 9(1), 1-12.
- Eze, N.C., & Okoro, F.I. (2021). Examination malpractice and its effect on educational standards in Nigeria: A case study of secondary schools in Enugu State. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 3(2), 241-255.
- Ezenwa, O.E., & Okeke, C.I. (2019). Biometric authentication and its effectiveness in curbing examination misconduct in Nigerian universities. *Journal of Education and Practice*, 10(19), 83-90.
- Ezeokoli, F.O. (2017). Assessment of examination malpractice in senior secondary schools in Nigeria. *Journal of Educational Research and Development*, 16(1), 1-12.
- Federal Republic of Nigeria (FRN). (2013). *National policy on education* (6th ed.). NERDC Press.

- Iwuagwu, C.K., & Ezenwa, P.A. (2017). Adoption of e-assessment tools by secondary school teachers in Owerri Municipal Council of Anambra State, Nigeria. *Journal of Educational Technology and Research*, 12(4), 1-12.
- Obasi, K.N. (2021). Computer-based testing: A panacea to examination malpractice in Nigeria. *Journal of Technology and Education in Nigeria*, 14(1), 1-10.
- Ogundele, M.O. (2015). Examination malpractice in Nigerian schools: Causes, effects, and solutions. *Journal of Educational Management*, 8(1), 1-10.
- Okafor, E.O. (2022). Examination malpractice in Nigeria: Causes, consequences, and solutions. *Nigerian Journal of Educational Research*, 15(1), 30-45.
- Okebukola, P.A.O. (2019). Revitalizing Economics teaching in Nigerian schools. *Journal of Language and Linguistics*, 18(3), 1-15.
- Okonkwo, I.E. (2020). Using biometrics for student authentication in examination: A review of Nigerian experience. *International Journal of Information Communication Technology and Education*, 6(2), 1-14.
- Okoro, V.E., & Njoku, C.N. (2019). Implementation of continuous assessment in secondary schools in Abia State: Challenges and prospects. *Journal of Curriculum and Instruction*, 10(2), 1-10.
- Oloyede, S.A., & Adewale, O.S. (2018). Biometric authentication and examination malpractice in Nigerian universities. *Journal of Educational Research and Development*, 17(1), 1-10.
- Udo, S.A., & Ekpo, A.F. (2020). Digital assessment tools and teachers' perception of their effectiveness in secondary schools in Uyo, Nigeria. *Nigerian Journal of Educational Technology*, 1(1), 1-15.

**AN ASSESSMENT OF EMOTIONAL STRESS AND SCHOOL
ADJUSTMENT AMONG SENIOR SECONDARY SCHOOL STUDENTS
FROM DIVORCED FAMILIES IN KANO METROPOLIS NIGERIA**

Musa Ibrahim Isah

Kano State Senior Secondary Schools Management Board

Mohammed Buba Hassan

Department of Geography, Federal University Gusau, Nigeria

Corresponding Email: mohammedbubahassan@fugusau.edu.ng

+2347037579990; +2347061037399

Abstract

This study assesses the level of emotional stress and school adjustment among senior secondary school students from divorced families in Kano Metropolis, Nigeria. A correlational design was employed for the study. The population of the study was 481 males and females SS II students from divorced families among senior secondary school students in Kano Metropolis, Nigeria. A sample of 215 students were selected for this study. Emotional stress questionnaire was used in collecting emotional stress data while school adjustment questionnaire was used in collecting school adjustment data using proportionate sampling technique. Data collected in this study were analyzed using Statistical Package for Social Science (SPSS) version 28.0 software. The hypothesis was tested at 0.05 level of significance and revealed that there is significant negative relationship between emotional stress and school adjustment among senior secondary school students from divorced families ($r = -.669$, $p = 0.002$). Pearson Product Moment Correlation, percentages, frequencies, mean and standard deviation were calculated. The result indicated that there is high emotional stress among senior secondary student from divorced families in Kano Metropolis (mean = 50.67; SD = 93.07). Based on this of findings, the study concluded that there is a negative relationship between emotional stress and school adjustment among senior secondary school students from divorced families. The study recommended the need for students who experience emotional stress to be referred to school psychologists and counselors who should assist them to enable them cope with stress. The study also recommended the need for the establishment school psychologists units across all secondary schools in Kano Metropolis.

Keywords: Assessment Emotional Stress Students Divorced Families Kano

Introduction

Stress is a feeling of strain and pressure. Small amounts of stress may be desired, beneficial, and even healthy. Positive stress helps improve academic performance, motivation, adaptation, and reaction to the environment. Excessive

amounts of stress, however, may lead to bodily harm (Baqutayan,2011). Stress can be external and related to the environment, but may also be created by internal perceptions that cause an individual to experience anxiety or other negative emotions surrounding a situation, such as pressure, discomfort, etc., which they then deem stressful Alborzkouh *et al.* (2015). Lazarus (2005) reported that a wide range of emotions may be associated with stress in its early stages, including frustration, anger, anxiety, fear, apprehension and irritability, if the stress persists, these emotions may become confounded with others such as tension, hypochondria, depression, demoralization and helplessness. People may change in a way that appears not to fit with their previous personalities. Fishbein (2006) remarked that emotional stress may change the way normally people used to behave, habitual problems such as worrying and hostility may become exacerbated.

Emotional stress among students has become a growing public health and educational concern worldwide because of its potential to negatively affect learning outcomes, behaviour, mental wellbeing, and overall school adjustment. Ndehi *et al.* (2023) reported that family conflicts, economic problems and parental separation contributed to emotional stress among secondary school students. Coskum Simsek and Gunay (2023), studied the effects of stress on adolescents' school engagement. The findings shows that emotional stress experienced during adolescence significantly influences students' engagement and adjustment in school. Iuga and David (2024) indicated that emotional stress and poor emotion regulation contributed significantly to academic burnout and reduced academic wellbeing among students. Chamarro *et al.* (2024), highlighted that emotional stress and poor emotional regulation among adolescence increases the risk of mental health and mal adaptive behaviours.

School adjustment is a broad construct which consists of many different aspects such as academic achievement, school satisfaction, school engagement

and pro social behavior. Well-adjusted students usually value what they are learning, are positively involved in classroom activities and perform well academically. But poor school adjustment leads to poor academic performance, behavioral problems, discordant educational aspirations and sometimes school dropout (Adhiambo & Mildred, 2011).

School adjustment is the process of adapting to meet academic demands in the school environment. Every individual from the time he or she steps out of the family and goes to school makes a long series of adjustments in his/her environment. It include the individual students' ability to withstand the academic workload, regulate emotions, and maintain appropriate behaviour in school settings. When students experience difficulties adjusting to school, they may exhibit poor academic performance, absenteeism, low motivation, behavioural problems, and increased risk of mental health issues. The quality of adjustment in the early years of life determines the quality of adjustment in later years. The young adolescents make the transition from Elementary to Secondary School; they are caught up in the web of transitional experiences. The transition usually confronts adolescents with new social and educational demands. The transition to higher secondary school is also a challenge in the development of adolescent students. Many adolescents are inadequately prepared for the psychological, emotional and academic realities of higher education. The students are confronted with the adaptation challenges of living apart from family and friends, adjusting to the academic regimen, assuming responsibility for the task of living, and developing a new array of social relationship with peers. Such transitions require the student to create new coping styles, overcome initial anxiety and adopt new behavior. Those children who fail to do can negatively influence their adjustment in school and which in turn affects their academic performance adversely. School is one of the important pillars on which the child's personality is formed.

This study, therefore, viewed school adjustment, as the child's ability to develop social, emotional and academic competencies that facilitate the achievement of school success. It is characterized by quality social relationships with peers and teachers, feeling of emotional security, less aggressive behaviors, pro-social behaviors, longer retention in educational system and better academic performance.

Therefore, studying how emotional stress influences students' adjustment to school is of great concern for developing effective school interventions, counseling sessions, and educational policies for promoting students' wellbeing and academic progress. Therefore, this study seeks to assess the level of emotional stress and school adjustment among secondary school students from divorced families in Kano Metropolis and examine its relationship with school adjustment.

However, despite the increase in the rate of divorce, there are limited studies that specifically address emotional stress and school adjustment among secondary school students from divorced families in Kano Metropolis. Additionally, there are limited empirical studies that focus specifically on the relationship between emotional stress and school adjustment within the context of Northern Nigeria where the rate of divorce remain a social issue of serious concern.

Statement of the Problem

School adjustment is an effort made by students to cope with the academic demands or challenges of school environment. It includes the individual's involvement in school activities and satisfaction with various aspects of school experiences. In the process of school adjustment, the student tries to behave in accordance with the school norms, ethics, and values that will enhance his survival, and meeting the expectations of the school environment. Every individual student from the time he or she steps out of the family and goes to

school makes a long series of adjustments in his/her new environment. However, Kano state has many cases of divorce among married couples. An investigation carried out British Broadcasting Corporation revealed that 32% of marriages in Kano collapsed within the first 3-6 months while individuals aged 20-25 years had experienced three marriages in their lives (Iwalaiye, 2024).

However, the study observed that divorce has cause mayhem on the psychological stability and physical health of many secondary school students in Kano Metropolis. The study observed that some secondary students from divorced families in Kano metropolis have more emotional and behavioral problems, negative feelings and less psychological well-being than those from intact families. As such, the students experience a wide range of emotional reactions such as sadness, anger, loneliness, depression, heightened anxiety, worry, lower life satisfaction, low self-esteem and confidence, fear, yearning, rejection, conflicting loyalties and a sense of fault for their parents' problems, withdrawals from friends and families, aggressive, impulsive or hyperactive behavior.

This study notice that most of the secondary school students with higher level of academic stress result into violence, drug abuse, feeling inferior to others, not being able to think properly, worrying too much, feeling that life is not worth living, anxious without any apparent reason, truancy behavior, not paying attention to school activities and isolation activities.

Despite the fact that many studies have examined the cognitive effects of divorce on children, there are limited studies that assess the relationship between emotional stress and school adjustment among secondary school students from divorced families in Kano Metropolis. Many researches particularly in northern Nigeria, concentrated more on students' academic performance. Therefore, there is an urgent need to assess the level of emotional stress and its influence on school adjustment among secondary school students from divorced families in Kano

Metropolis. Therefore, by assessing the relationship, the study can provide crucial insights into the potential academic challenges as well as its impact on emotional health on students' and their ability to adjust to such conditions.

Objective of the Study

The objective of the study:

1. To find out the level of emotional stress among senior secondary school students from divorced families in Kano metropolis.

Research Question

The research question answered was.

1. What is the level of emotional stress among senior secondary school students from divorce families in Kano metropolis?

Hypothesis

H01: There is no significant relationship between emotional stress and school adjustment among senior secondary school students from divorced families in Kano metropolis.

Basic Assumption

The following is the assumption for this research.

1. It is assumed that there may be a relationship between emotional stress and school adjustment among senior secondary school students from divorced families in Kano Metropolis.

Methods

Correlational design was used for this study. Correlation design is appropriate for determining whether there is relationship between two or more quantifiable variables and to what degree this relationship exists. It is a research design in which information on at least two variables are collected in order to investigate the relationship between the variables. Therefore, the study is more concerned in determining the extent to which the multiple predictor explain the outcome variable, but does not necessarily conclude that one variable cause the

other variables (Schmidt & Brown, 2009). Therefore, correlation design was used for this study because this study is geared toward examining the relationship among divorce, stress and school adjustment among senior secondary school students in Kano Metropolis.

Table 1: Population of the Study

Local government	Schools	Students from Divorced Families (SS II)	
Dala	GGASS Gwammaja	55	
	Fagge	GGSS Yan Mata	63
	Gwale	GGSS Dan Dinshe	29
Kano Municipal	GASS Yalwa	18	
	GGASS HasiyaBayaro	22	
	GGJSS TijjaniHashim	11	
	GGSS Dangana	29	
Nassarawa	GSS Tarauni	74	
	GGSS Hotoro (S)	17	
	GGSS Hotoro (N)	23	
	GSS U/Uku	39	
	GSS Kundila	17	
Tarauni	Engr. Bashir Karaye	27	
	GGASS Ado Na Mai Tuwo	24	
TOTAL		481	

Source: Kano State School Management Board (2020)

Sampling and Sampling Technique

Fifteen (15) senior secondary schools were randomly selected from the six local government areas in Kano metropolis. Proportionate sampling technique was used in the allocation of sample to the various schools. This is because the number of students whose parent are divorced differs from school to school. A structured checklist was used to identified those students whose parents are divorced. The study identified 481 male and female SS II students whose parents are divorced in Kano metropolis in fifteen senior secondary schools. The sample size for this study was determined the formula recommended by Research Advisors (2006). Therefore, the study proportionally selected the 215 respondents which comprises of 89 males and 126 females students' whose parents were divorced. Table 2 shows the sample size for the study.

The 215 respondents were drawn using the sample size formula of research advisors 2006 below:

$$n = \frac{X^2 \times N \times P(1 - P)}{ME^2 (N - 1) + X^2 \times P(1 - P)}$$

Where:

n = Required sample size

X² = Chi-square value for the chosen confidence level (3.841 for 95% confidence)

N = Population size (481)

P = Estimated population proportion (at 0.50)

ME = Desired Margin of Error (expressed as a proportion 0.05 for ±5%)

$$n = \frac{3.841 \times 481 \times 0.5(1 - 0.5)}{0.05^2 (481 - 1) + 3.841 \times 0.5(1 - 0.5)}$$

$$n = \frac{461.08}{2.16025}$$

$$n = 213.44$$

$$n \approx 214 \text{ to } 217 \text{ respondents}$$

Therefore, the value was rounded up to 215 respondents in order to good representation.

Table 2: Population and Sample Size by Schools

Local Governments	Schools	Population	Calculation	Sample Size/school
Dala	GGASS Gwammaja	55	(55/481)×215	24
Fagge	GGSS Yan Mata	63	(63/481)×215	28
Gwale	GGSS Dan Dinshe	29	(29/481)×215	13
	GASS Yalwa	18	(18/481)×215	8
Kano Municipal	GGASS Hasiya Ba Yaro	22	(22/481)×215	10
	GGJSS TijjaniHasshim	11	(11/481)×215	5
	GGSS Dangana	29	(29/481)×215	13
	GSS Tarauni	74	(74/481)×215	33
Nassarawa	GGSS Gwagwarwa	17	(17/481)×215	8
	GGSS Hotoro (S)	23	(23/481)×215	10
	GSS Hotoro (N)	39	(39/481)×215	17
	GSS U/Uku	17	(17/481)×215	8
	GSS Kundila	27	(27/481)×215	12
Tarauni	Engr. Bashir Karaye	24	(24/481)×215	11
	GGASS Na Mai Tuwo	33	(33/481)×215	15
	TOTAL	481		215

Source: Kano State School Management Board (2020)

Instrumentation, Data Collection and Analysis

Two instruments were used in this study, emotional stress questionnaire, School adjustment questionnaire. Stress Questionnaire is a twenty-six (26) item instrument adopted from Copenhagen stress questionnaire subscale (SQ, 2003). The scale consists of 2 subscales: Cognitive subscales and emotional subscales. Respondents were required to indicate their level of agreement for each statement. The instrument has 26 items, items 1 to 14 measures cognitive stress and item 15 to 26 measures Emotional stress. Items were scored using Likert scale: Strongly Agree (SA) =5-points, A (Agree) =4-poins, U (Undecided) =3-points, Disagree (D) =2-points and Strongly Disagree (SD) =1-point. This instrument is standardized one that seeks to determine aspect of social adjustment of students. Below is the scoring guide for the questionnaire, 12 – 24 Low Stress, 25 – 49 Moderate Stress and 50 – 60 High Stress.

The school adjustment questionnaire (SAQ) is a twenty items instrument adapted from adjustment subscale of the student adaptation to college questionnaire. The respondents responded from extremely (5), Quite a bit (4), moderately (3), a little bit (2) to not at all (1). Where the highest possible score is 100 (20x5=100).

The questionnaires (which comprises of the Stress Questionnaire, School Adjustment Questionnaire) were given to the respondents to fill on the spot and collected back. Administering the questionnaire took the researcher 12 working days to cover all the schools.

The data collected was analyzed using descriptive and inferential statistics. The descriptive statistics was used to analyze the Bio- data of the subject; percentage; mean; and standard deviation was also used to answer the research question raised while Pearson Product Moment Correlation (PPMC) was used to test the hypothesis. The hypothesis was tested at 0.05 alpha level of significance. SPSS version 28.0 was used for the analysis.

Analysis of Demographic Variables

Table 3: Distribution of Respondents by Gender

Gender	Frequency	Percentage
Male	89	41
Female	126	59
Total	215	100.0

Source: Researcher's Data Analysis (2020)

Table 3 shows distribution of respondents by gender. A total of 89 respondents representing 41% were male students while 126 respondents which represent 59 were female students out of the total sample size of 215. This shows that majority of the respondents that participated in the study were female students in Kano Metropolis.

Results

The findings of this study are presented as follows

Research Questions One: What is the level of emotional stress among senior secondary school students from divorce families in Kano metropolis?

Table 4: Mean and Standard Deviation on Level of Emotional Stress among Senior Secondary School Students from divorced families in Kano Metropolis

Variable	N	Mean	SD
Emotional Stress	215	50.67	9.307

Source: Researcher's Data Analysis (2020)

Table 4 revealed that secondary school students from divorced families had high level of emotional stress as indicated by mean of 50.67 and standard deviation of 9.307 which falls under high level of emotional stress as shown by the scoring guide that a score from 50-60 falls within high level of emotional stress.

H01: There is no significant relationship between emotional stress and school adjustment among senior secondary school students from divorced families in Kano metropolis.

Table 5: Pearson product moment correlation (r) on the relationship between emotional stress and school adjustment among senior secondary school students from divorced families in Kano metropolis. Correlation is significant at 0.05 levels (2 tailed)

Variables	N	Mean	SD	r	p
Emotional Stress	215	50.67	9.307		
				-.669	.002
School Adjustment	215	63.18	10.19		

Source: Researcher's Data Analysis (2020)

Table 5 presents Pearson product moment correlation (r) statistics between emotional stress and school adjustment. The result shows the correlation index value of -0.669 at df 213 and the calculated P-value of 0.002 which is less than 0.05 alpha level of significance. Therefore, the result established that, significant relationship exists between emotional stress and school adjustment among senior secondary school students from divorced families in Kano metropolis. This result shows further indicates that as emotional stress increases, school adjustment decreases. Therefore, the null hypothesis which states that there is no significant relationship between emotional stress and school adjustment among senior secondary school students from divorced families in Kano metropolis is rejected.

Discussion of Findings

The study found significant negative relationship between emotional stress and school adjustment among senior secondary school students from divorced families in Kano metropolis. This finding supports Kwadwo and Bartholomew (2015) who carried out study on effects of divorce on parenting, psyche and behaviour of some selected public senior high school students in the Bolgatanga municipality of Ghana. The study found that divorce affects emotional behaviour of students negatively.

Similarly, Mohammed *et al* (2016) conducted study on relationship between broken home and emotional adjustment of secondary school student in Kaduna state metropolis, Nigeria. The finding shows that relationship exist

between broken homes and emotional adjustment of SS II secondary students. A correlation study by Kemjika and Obikoya (2017) on relationship between family conflict, values and school adjustment of secondary school adolescents in Rivers State that there is a positive relationship between family conflict, values and school adjustment which are all statistically significant at 0.05 level of significance. Elijah (2018) conducted a study on families and school adjustment of secondary school students in Ikom education zone of Cross River state. The study reported that single parenting (male/female) and family type significantly influence school adjustment of secondary school students.

However, Singh *et al.* (2022) reported significant positive relationship between academic stress and emotional adjustment which implies that a high level of academic stress perpetuates emotional maladjustment. Contrary to the findings of the present study, that found negative correlation between emotional stress and school adjustment. The contradiction could be as result heterogenous groups being compared. The previous study used students without consideration given to either the students are from divorced families or not. While this study selected students from divorced families. One of the implications of this finding is that, since emotional stress increases and school adjustment decreases this will adversely continues to affects the academic performance of the students which will translate to more school drop out in the study area unless urgent interventions are put in place to address the trend.

Conclusion

Based on the findings of this study, this study concluded that, there is negative relationship exists between emotional stress and school adjustment among senior secondary school students from divorced families in Kano metropolis.

Recommendations

Based on the findings of this study, it is recommended that, students who experience high level of emotional stress should be given relevant therapy to enable them manage and overcome their stress.

References

- Adhiambo, W. & Mildred, A. (2011). Relationship among academic adjustment, gender and academic achievement amongst secondary school students in Kisumu district, Kenya.
- Alborzkouh, P., Nabati, M., Zainali, M., Abed, Y., & Shahgholy Ghahfarokhi, F. (2015). A review of the effectiveness of stress management skills training on academic vitality and psychological well-being of college students. *J. Med. Life* (8) 39–44.
- Baqutayan, S. (2011). Stress and social support. *Indian J. Psychol. Med*, (33) 29–34.
- Chamarro, A., Diaz-Moreno, A., & Bonilla, L. (2024). Stress and suicide risk among adolescents: The role of problematic Internet use, gaming disorder and emotional regulation. *BMC Public Health* (24) 326.
- Coskum Simsek, D., & Gunay, U. (2023). The effects of stress on adolescents' school engagement. *Journal of child and adolescence psychiatric nursing*, 36(1),35-43.
- Elijah I. (2018). Family variables and School adjustment of secondary school students in Ikom education zone of Cross River State. *Harvard Conference on Preparing Students for an Uncertain Future*, Boston, USA. (16) 1:1-11
- Fishbein, M. (2006) Research on divorce and children. *Family Law*, (14) 198-204.
- Iuga, A., & David, O. (2024). Emotional regulation and academic burnout among youth: A Quantitative Meta Analysis. *Educational Psychology Review*. (36) 106.

- Iwailaiye, T. (2024). Why is Kano state the divorce capital of Nigeria? Pulse Nigeria. <https://www.pulse.ng/story/why-kano-state-the-divorce-capital-of-nigeria-accessed> accessed 10th March 2023.
- Kemjika O., & Obikoya O. (2017). Relationship between Family conflict, values and school adjustment of secondary school adolescents in Rivers State. *European Journal of Educational and Development Psychology*. 5 (3):27-33.
- Kwadwo, O. & Bartholomew, A. (2015). Effects of Divorce on parenting, psyche and behaviour of some selected public senior high school students in the Bolgatanga municipality of Ghana. *International Journal of Humanities Social Sciences and Education (IJHSSE)*. 2 (10): 67-76
- Lazarus, E. (2005). Addressing barriers to learning: A South African perspective. Pretoria: Van Schaik Publishers.
- McMillan, D. & Schumachae, J. (2010). Case-based reasoning and instructional design: Using stories to support problem-solving. *Educational Technology Research and Development*, 50(2), 65-77.
- Mohammed A, Mahmud, B. & Samson J. (2016) Relationship between broken home and emotional adjustment of secondary school students in Kaduna state Metropolis, Nigeria. *The Educational Psychologist*. 13 (1):504-513
- National Research Centre for the Working Environment, (2003) *Copenhagen Psychological Questionnaire (COPSOQ)*. Copenhagen, Denmark.
- Ndehi, V., Ndung'u, E., & Nyang, V., (2023). Family stressors experienced by adolescents in secondary schools in Nairobi City County. *International Journal of Psychology*, 8(2), 45-60.
- Research Advisors (2006). Sample size table Retrieved from <https://www.research-advisors.com/tools/sampleSize.htm>. May 7, 2023

Schmidt, S. & Brown, K.(2009) Adolescents development in high conflict and separated families. In A. Clarke-Stewart & J. Dunn (Eds.), *Families Count – Effects on Child and Adolescent Development* (pp.238-270). New York: Cambridge University Press.

Singh, G., Sharma, S., Sharma, V. & Zaidi, Z. (2022). Academic stress and emotional adjustment: A Gender-Based Post-COVID Study. *Annals of Neurosciences*, 1(9). 1-9.

**VALUE EDUCATION AS CATALYST FOR PRE-SERVICE TEACHERS'
MORAL AND SOCIAL RESPONSIBILITY IN NORTHERN NIGERIA: A
THEORETICAL AND EMPIRICAL INQUIRY**

Muhammad Nasa'I

Department of Arts and Social Science Education
Faculty of Education, Ahmadu Bello University, Zaria, Nigeria

Suleiman Jibril Samaila

Social Studies Department, School of Secondary Education (Arts and Social
Science Education)
Federal College of Education, Katsina, Nigeria

Usman Adamu

Department of Social Studies, Faculty of Social Science Education
Federal University of Education, Zaria, Nigeria

Abstract

This study examined the transformative potential of value education in shaping moral development and fostering social responsibility among pre-service teachers in Colleges of Education in Katsina State, Nigeria. Grounded in Kohlberg's theory of moral development and Rokeach's value theory, the research adopted a descriptive survey research design. A sample of 342 National Certificate in Education (NCE) II Social Studies students was selected using a multistage sampling procedure incorporating purposive, proportionate, and simple random sampling techniques. Data were collected using the Value Education Mental Health, Sexual and Technology Addiction Questionnaire (VEMSTA) and analyzed using descriptive statistics and one-sample t-tests. Findings revealed that value education significantly enhances moral reasoning, ethical decision-making, and social responsibility among students. The study concluded that integrating value education into teacher preparation programs is essential for producing morally upright and socially conscious educators capable of modeling positive values for future generations. Recommendations include curriculum reform, enhanced teacher training in values pedagogy, and collaborative efforts among stakeholders to reinforce value education in Nigerian tertiary institutions.

Keywords: Value education, moral development, social responsibility, pre-service teachers, Kohlberg's theory, Nigeria, Colleges of Education

Introduction

Education transcends the mere acquisition of factual knowledge to constitute a holistic endeavor aimed at cultivating the complete human personality intellectually, physically, morally, and socially (Okafor, 2021). In contemporary discourse, increasing attention has been directed toward formal

schooling's role in character formation, particularly as societies grapple with escalating social pathologies, moral ambiguity, and youth disengagement from civic life (Kenan, 2019). UNESCO (2022) emphasizes that education must nurture values enabling peaceful coexistence, justice, and sustainable societies, positioning value education—the deliberate effort to help learners understand, internalize, and enact moral and ethical principles—as critically important (Lovat & Toomey, 2019). While traditional African societies transmitted values organically through communal living and intergenerational socialization (Adekola, 2020), modernization, urbanization, and globalization have substantially weakened these traditional structures, creating a gap that formal education systems must now fill (Aladağ, 2019).

The Nigerian National Policy on Education (Federal Republic of Nigeria, 2019) explicitly recognizes value inculcation as fundamental, with subjects such as Social Studies designed to transmit citizenship values and moral reasoning skills (Mezieobi, Fubara, & Mezieobi, 2021), while Colleges of Education bear the weighty responsibility of training teachers who must exemplify the values they will transmit to future generations (NCCE, 2020). Despite these policy aspirations, implementation of value education remains inconsistent and fraught with challenges (Çelik, 2022).

Many teachers lack adequate preparation in values pedagogy (Ferreira & Schulze, 2019), the formal curriculum prioritizes cognitive outcomes over affective development (Akbaş, 2020), and a disconnect often exists between values promoted in schools and those experienced at home (Duban & Aydoğdu, 2021). Exacerbating these challenges, contemporary youth face powerful countervailing influences from peer groups, social media, and materialistic culture that frequently convey messages at odds with formal education (Turkkahraman, 2021). Consequently, many young Nigerians, including teacher trainees, exhibit behaviors inconsistent with societal expectations—dishonesty,

indiscipline, substance abuse, and diminished civic engagement (Ibrahim & Sani, 2020; Muhammed & Usman, 2021). This situation is particularly concerning within Colleges of Education, as teachers must authentically embody the values they transmit; without such authenticity, value education degenerates into an empty exercise devoid of genuine impact (Yilmaz, 2022).

Statement of the Problem

The moral condition of Nigerian youth presents cause for serious concern. Manifestations of moral decay—including widespread dishonesty, indiscipline, violence, examination malpractice, and retreat from civic responsibilities—are increasingly evident across various segments of society. Alarming is the observation that these problematic behaviors extend into higher education institutions, including Colleges of Education, where teacher trainees are expected to be developing the moral foundations essential for their professional roles. Reports indicate that some teacher education students become involved in examination malpractice, secret cult activities, substance abuse, and other behaviors fundamentally inconsistent with the values they will be professionally obligated to uphold. This moral dissonance raises profound questions about the efficacy of current educational approaches in fostering ethical character and social responsibility.

Several interrelated factors contribute to this situation. First, the formal curriculum exhibits a pronounced bias toward cognitive learning outcomes—the acquisition of factual knowledge and successful examination performance—while devoting insufficient attention to affective development, emotional intelligence, and moral education. Second, teacher preparation programs provide minimal training in values pedagogy, leaving graduates ill-equipped to address moral questions, facilitate ethical discussions, or integrate value dimensions into their teaching. Third, the operation of the "hidden curriculum"—the unwritten, informal lessons embedded in school culture, teacher behaviors, peer interactions,

and institutional practices—may transmit value messages that contradict or undermine officially espoused values. Fourth, external influences from media, social networks, and socioeconomic pressures often overwhelm the positive value messages that schools attempt to convey.

In Katsina State specifically, Colleges of Education face distinctive challenges regarding student moral development and social responsibility. These institutions serve as meeting points for young people from diverse backgrounds—rural and urban, traditional and modern—each bringing varied experiences with different value systems. Observations suggest considerable variation among students in moral grounding, with some demonstrating strong ethical foundations while others struggle with integrity, respect, and community engagement. Yet systematic research examining how value education influences the moral reasoning, ethical behavior, and social consciousness of these pre-service teachers remains conspicuously scarce. This study addresses this gap through a focused investigation of NCE Social Studies students in Katsina State, employing Kohlberg's theory of moral development and Rokeach's theory of values.

Objectives of the Study

The main aim of this study is to determine how value education influences the moral development and social responsibility of NCE Social Studies students in Colleges of Education across Katsina State, Nigeria. More specifically to:

1. Determine how value education shapes students' moral reasoning, drawing on Kohlberg's well-known stages of moral development.
2. Examine how value education affects the way students internalize both instrumental values (like honesty and responsibility) and terminal values (like peace and justice), using Rokeach's framework.
3. Explore how value education influences students' sense of social responsibility—things like civic engagement and getting involved in their communities.

4. Ascertain how value education affects the way students make ethical decisions, both in their personal lives and in academic settings.
5. Examine how value education shapes students' attitudes toward cultural and national values, including patriotism and respect for diversity.

Research Questions

This study seeks answers to the following questions:

1. In what ways does value education affect the moral reasoning of NCE Social Studies students in Katsina State's Colleges of Education?
2. How does value education influence the way these students internalize instrumental and terminal values?
3. To what degree does value education shape students' sense of social responsibility?
4. What impact does value education have on how students approach ethical decision-making?
5. How does value education influence students' feelings and attitudes toward cultural and national values?

Null Hypotheses

For each of these questions, the following null hypotheses were tested at the 0.05 significance level:

H01: Value education has no significant influence on the moral reasoning of NCE Social Studies students in Colleges of Education in Katsina State, Nigeria.

H02: Value education has no significant influence on how NCE Social Studies students internalize instrumental and terminal values.

H03: Value education has no significant influence on the social responsibility of NCE Social Studies students.

H04: Value education has no significant influence on ethical decision-making among NCE Social Studies students.

H05: Value education has no significant influence on students' attitudes toward cultural and national values.

Theoretical Framework

This study is theoretically grounded in three complementary perspectives on moral development and values, each contributing essential insights to understanding the mechanisms through which value education influences pre-service teachers.

Kohlberg's Theory of Moral Development

Lawrence Kohlberg's cognitive-developmental theory proposes that moral reasoning progresses through six stages across three levels: pre-conventional (obedience/punishment avoidance and instrumental self-interest), conventional (conformity to social norms and maintenance of social order), and post-conventional (social contract and universal ethical principles). Kohlberg contended that educational interventions, particularly moral dilemma discussions, stimulate progression through these stages by challenging existing reasoning and exposing individuals to higher-stage thinking. Despite criticisms regarding Western individualistic bias and limited evidence of post-conventional reasoning in collectivist cultures, the framework remains valuable for examining moral development when appropriately contextualized. This study applies Kohlberg's theory to assess how value education influences pre-service teachers' moral reasoning levels.

Rokeach's Value Theory

Milton Rokeach's theory distinguishes between instrumental values (desirable modes of conduct such as honesty and responsibility) and terminal values (desirable end-states such as peace and justice), which individuals organize into hierarchical value systems that guide attitudes, behaviors, and self-evaluation. Rokeach posited that value systems are learned through socialization processes including formal education, and can be modified through interventions

that create cognitive inconsistencies stimulating value re-evaluation. This framework enables examination of how value education influences the content and organization of pre-service teachers' value systems, including the internalization of both instrumental and terminal values.

Schwartz's (1992, 2012) extension of value theory identified ten basic value types recognized across cultures, organized along dimensions of openness-to-change versus conservation and self-enhancement versus self-transcendence. This universal structure of values provides additional insights into the cultural context of value education in Northern Nigeria.

Conceptual Framework

The conceptual framework for this study integrates these theoretical perspectives with the specific focus on value education in teacher preparation. Value education encompasses the deliberate processes—through formal curriculum, pedagogical approaches, school culture, and community engagement—through which learners are helped to understand, appreciate, and internalize moral, ethical, social, and spiritual values (Lovat & Toomey, 2019; Halstead, 2021). Within the Nigerian context, value education is embedded in subjects such as Social Studies, Civic Education, and Religious Studies, as well as in the broader school environment and community engagement activities (Fadeiye, 2018).

Moral development, as conceptualized in this framework, involves the progressive refinement of moral sensitivity (awareness of moral issues), moral reasoning (judgment about right and wrong), moral motivation (prioritization of moral values), and moral character (implementation of moral decisions) (Rest, 1979). These components are influenced by cognitive development, socialization experiences, and educational interventions, and are fostered through approaches such as dilemma discussions, community service, and reflective activities (Schlaefli, Rest, & Thoma, 1985).

Social responsibility refers to the sense of duty to contribute positively to societal well-being through civic engagement, community involvement, and concern for the welfare of others (Berman, 1997). For pre-service teachers, social responsibility encompasses both the personal commitment to ethical conduct and the professional obligation to prepare students for active citizenship. Ethical decision-making involves the cognitive and affective processes through which individuals recognize moral issues, consider affected parties, weigh competing values, and make principled choices (Trevino, 1986). Cultural and national values in Nigeria include respect for elders, communal solidarity, hospitality, patriotism, unity, and democratic principles (Turkkahraman, 2021; Federal Republic of Nigeria, 2019).

Empirical Literature Review

Value Education and Moral Development

Empirical research consistently confirms the positive influence of value education interventions on moral development. Foundational studies established that structured moral dilemma discussions significantly enhance moral reasoning levels, with effects maintained over time (Blatt & Kohlberg, 1975; Schlaefli, Rest, & Thoma, 1985). Contemporary research extends these findings across diverse contexts: Akinmoye (2021) demonstrated that Nigerian pre-service teachers exposed to twelve weeks of moral dilemma discussions showed significantly higher moral reasoning scores maintained at three-month follow-up, while Okonkwo and Nnamdi (2023) found that service-learning with structured reflection enhanced moral sensitivity and ethical judgment among teacher education students in Anambra State. Cross-nationally, Kumar and Devi (2023) reported that Indian teachers with extensive value education exposure demonstrated higher moral judgment levels, underscoring the importance of sustained, systematic value education throughout the educational trajectory.

Value Education and Social Responsibility

Research examining value education and social responsibility consistently demonstrates positive associations. Unachukwu and Amaonye (2021) found that Nigerian secondary school students exposed to comprehensive values education programs demonstrated significantly higher civic engagement, community participation, and leadership efficacy, with experiential learning components producing the strongest gains. Ogunlade and Adeyemi (2022) reported that pre-service teachers in Oyo State who engaged in structured community service with integrated value reflection showed significant increases in civic participation attitudes, empathy for marginalized groups, and commitment to social justice. Bello, Mohammed, and Suleiman (2024) found that value-oriented pedagogical approaches in multi-ethnic teacher education classrooms in Kaduna State significantly enhanced students' attitudes toward social cohesion, intergroup tolerance, and collective responsibility, with effects most pronounced among students initially reporting lower social responsibility levels.

Value Education and Ethical Decision-Making

The influence of value education on ethical decision-making has been examined through multiple research approaches. Singh (2019) found that college students with greater value education exposure demonstrated more consistent application of moral principles in ethical dilemmas and greater resistance to situational pressures compromising ethical conduct. In teacher education contexts, Adewale (2022) reported that pre-service teachers' ethical decision-making was influenced by both personal value systems and institutional climate, with programs featuring explicit attention to ethical issues, faculty modeling, and clear academic integrity policies producing graduates with stronger ethical competencies. However, Lawal and Oyewole (2024) found that while Nigerian pre-service teachers expressed positive attitudes toward ethical conduct, they felt inadequately prepared to address complex ethical situations in their future

classrooms, highlighting the need for more practice-based training in ethical reasoning within teacher preparation programs.

Value Education and Cultural/National Values

Research examining value education's role in transmitting cultural and national values reveals its significance in diverse societies. Ansu (2019) found that Indian secondary students exposed to comprehensive value education programs demonstrated stronger democratic values, cultural appreciation, and positive national identity attitudes. Eze and Ugwu (2023) conducted an intervention study in Enugu State, Nigeria, finding that students participating in culturally-responsive value education demonstrated significantly stronger respect for indigenous knowledge systems, appreciation for cultural heritage, and commitment to national unity, with effects maintained at six-month follow-up. Musa and Ibrahim (2024) investigated peer-led values clubs in Kano State Colleges of Education, finding that participation significantly enhanced students' appreciation for ethnic and religious tolerance, pride in national identity, and commitment to peacebuilding, underscoring the potential of student-led initiatives in reinforcing value education objectives.

Teacher Preparation for Value Education

Research examining teacher preparation for value education consistently identifies significant gaps between policy expectations and practical implementation. Ferreira and Schulze (2019) found that South African teachers recognized the importance of values education but felt inadequately prepared to implement it effectively, citing limited pre-service training, insufficient resources, and lack of guidance on controversial value issues. Çelik and Yeşilyurt (2020) reported similar findings among Turkish teachers, noting implementation constrained by curriculum demands, time pressures, and limited family involvement. In the Nigerian context, Yılmaz (2022) and Çelik (2022) highlighted inadequacies in pre-service and in-service values pedagogy training,

with teacher preparation programs devoting minimal attention to facilitating moral development or addressing value conflicts. Adewale (2022) found that teacher educators themselves often lack specific training in values pedagogy, treating it as implicit rather than explicit instruction. Kumari and Devi (2023) noted that experienced teachers demonstrated greater commitment and confidence in values education compared to novices, suggesting the importance of both initial preparation and ongoing professional development, while also revealing that institutional culture and leadership support significantly influence teachers' engagement with values education.

Methods

This study employed a descriptive survey research design, which enabled systematic examination of the influence of value education on pre-service teachers' moral development and social responsibility within naturally occurring conditions. Conducted in Katsina State, Northwestern Nigeria—a context characterized by diverse ethnic, cultural, and religious compositions where traditional values intersect with modern influences—the study targeted all NCE II Social Studies students enrolled in three public Colleges of Education: Federal College of Education, Katsina; Isa Kaita College of Education, Dutsin-Ma; and Yusuf Bala Usman College of Legal and General Studies, Daura. The total population comprised 3,122 students, from which a sample of 342 participants was determined using the Research Advisors' (2008) sample size table, providing a 95% confidence level with a 5% margin of error. A multistage sampling procedure was employed: purposive sampling selected institutions offering Social Studies; proportionate sampling allocated participants based on institutional population (109 from Katsina, 66 from Dutsin-Ma, and 167 from Daura); and simple random sampling ensured every student had an equal chance of selection, minimizing bias and enhancing generalizability.

Data were collected using the Value Education Mental Health, Sexual and Technology Addiction Questionnaire (VEMSTA), adapted to include five dimensions aligned with the theoretical frameworks of Kohlberg and Rokeach: moral reasoning, value internalization, social responsibility, ethical decision-making, and cultural and national values, each measured using a 4-point Likert scale. Content validity was established through expert review by five specialists who evaluated item clarity, relevance, and theoretical alignment, leading to refinement of ambiguous items and removal of redundant ones. Reliability was determined through a pilot study with 34 students from Federal College of Education, Zaria, yielding Cronbach's alpha coefficients ranging from 0.76 to 0.84 across the five dimensions, all exceeding acceptable thresholds. Data collection spanned three weeks, with questionnaires administered personally by the lead researcher and three trained assistants during regular class sessions. Participants provided written informed consent, and a 100% response rate was achieved. Data were analyzed using SPSS version 23.0, employing descriptive statistics (frequencies, percentages, means, standard deviations) to answer research questions, with a criterion mean of 2.50 established for agreement. One-sample t-tests were conducted at a 0.05 significance level to test null hypotheses, comparing sample means to the hypothesized population mean of 2.50.

Results

Demographic Characteristics of Respondents is presented in the Table 1.

Table 1: Distribution of Respondents by Gender and Institution

SN	Item	Category	Number	Percentage (%)
1	Gender	Male	160	46.8
		Female	182	53.2
		Total	342	100.0
2	Institution	Federal College of Education, Katsina	109	31.9
		Isa Kaita College of Education, Dutsin-ma	66	19.3
		Y. B. U. College of Legal Studies, Daura	167	48.8
		Total	342	100.0

Table 1 shows that female respondents (53.2%) slightly outnumbered male respondents (46.8%), reflecting the gender distribution in the study population.

<https://journals.unizik.edu.ng/jtese>

The table also indicates that the largest proportion of respondents (48.8%) was from Yusuf Bala Usman College of Legal and General Studies, Daura, consistent with its larger population, followed by Federal College of Education, Katsina with 31.9% and Isa Kaita College of Education Dutsin-ma with least respondents of 19.3%.

Research Question One: What is the influence of value education on the moral reasoning of NCE Social Studies students?

Table 2: Mean Scores on Moral Reasoning n = 342

SN	Item	Mean	SD	Decision
1	Value education enhances my ability to reason about moral issues	3.28	0.52	Agree
2	Moral dilemma discussions have improved my ethical thinking	3.21	0.58	Agree
3	I can distinguish between conventional and principled moral reasoning	3.15	0.61	Agree
	Grand Mean	3.21	0.57	Agree

Table 2 shows a grand mean of 3.21 (SD = 0.57), indicating that respondents agree that value education positively influences their moral reasoning.

Research Question Two: How does value education influence the internalization of instrumental and terminal values?

Table 3: Mean Scores on Value Internalization n = 342

SN	Item	Mean	SD	Decision
1	I have internalized values such as honesty and responsibility	3.34	0.48	Agree
2	My value system guides my daily decisions and actions	3.29	0.53	Agree
3	I prioritize terminal values like peace and social justice	3.19	0.59	Agree
	Grand Mean	3.27	0.53	Agree

The grand mean of 3.27 (SD = 0.53) as reported in Table 3 suggests that value education effectively promotes internalization of both instrumental and terminal values.

Research Question 3: To what extent does value education influence the social responsibility of NCE Social Studies students?

Table 4: Mean Scores on Social Responsibility n = 342

SN	Item	Mean	SD	Decision
1	Value education makes me more concerned about community welfare	3.25	0.56	Agree
2	I feel obligated to contribute positively to society	3.31	0.51	Agree
3	I participate in community service activities	3.11	0.64	Agree
	Grand Mean	3.22	0.57	agree

Respondents agreed that value education enhances social responsibility (grand mean = 3.22, SD = 0.57) as reported in Table 4.

Research Question Four: What is the influence of value education on ethical decision-making among NCE Social Studies students?

Table 5: Mean Scores on Ethical Decision-Making n = 342

SN	Item	Mean	SD	Decision
1	Value education helps me make ethical choices in difficult situations	3.27	0.54	Agree
2	I consider moral principles when making decisions	3.23	0.57	Agree
3	I avoid actions that violate my ethical values	3.30	0.50	Agree
	Grand Mean	3.27	0.54	Agree

With a grand mean of 3.27 (SD = 0.54) as shown in Table 5, respondents affirmed that value education positively influences their ethical decision-making.

Research Question Five: How does value education influence students' attitudes toward cultural and national values?

Table 6: Mean Scores on Cultural and National Values n = 342

SN	Item	Mean	SD	Decision
1	Value education has strengthened my respect for Nigerian cultural values	3.32	0.49	Agree
2	I feel proud of my national identity	3.28	0.52	Agree
3	I appreciate Nigeria's cultural diversity	3.24	0.55	Agree
	Grand mean	3.28	0.52	Agree

The grand mean of 3.28 (SD = 0.52) as reported in Table 6 indicates that value education positively shapes students' attitudes toward cultural and national values.

Testing of Null Hypotheses

Table 7: One-Sample t-Test Results for All Hypotheses n = 342

Hypothesis	Variable	Mean	SD	t-cal	Df	p-value	Decision
H01	Moral reasoning	3.21	0.57	13.42	341	0.000	Rejected
H02	Value Internalization	3.27	0.53	15.18	341	0.000	Rejected
H03	Social Responsibility	3.22	0.57	13.89	341	0.000	Rejected
H04	Ethical Decision-Making	3.27	0.54	14.76	341	0.000	Rejected
H05	Cultural/National Values	3.28	0.52	15.31	341	0.000	Rejected

Test value = 2.50; significance level = 0.05

Table 7 shows that all five null hypotheses were rejected, as the p-values (0.000) were less than 0.05. This indicates that value education has a statistically significant influence on moral reasoning, value internalization, social responsibility, ethical decision-making, and attitudes toward cultural and national values among NCE Social Studies students in Colleges of Education, Katsina State, Nigeria.

Discussion

Moral Reasoning

The finding that value education significantly enhances moral reasoning among pre-service teachers aligns with contemporary research affirming the effectiveness of structured moral interventions. Akinmoye (2021) conducted a quasi-experimental study in Southwestern Nigeria, finding that pre-service teachers exposed to structured moral dilemma discussions demonstrated significantly higher post-test scores on moral reasoning measures compared to control groups, with gains maintained at three-month follow-up. Similarly, Okonkwo and Nnamdi (2023) reported that service-learning experiences integrated with structured reflection significantly enhanced moral sensitivity and ethical judgment among teacher education students in Anambra State, supporting the proposition that experiential approaches to value education produce durable moral reasoning gains.

Kohlberg's cognitive-developmental framework remains relevant in contemporary discourse, with Gibbs (2020) affirming that while cultural variations exist in the expression of moral reasoning, the general developmental progression from self-centered to principled reasoning maintains empirical support. However, Snarey and Keljo (2020) caution that cultural context significantly shapes moral reasoning expression, noting that collectivist societies may emphasize community-oriented reasoning that differs from Kohlberg's individualistic framing. In the Nigerian context, Ogunyemi and Adeyemo (2022) found that pre-service teachers' moral reasoning reflected both universal principles and culturally-specific communal values, suggesting that effective value education must integrate global ethical frameworks with local cultural contexts. This finding underscores the importance of contextualizing moral education approaches while maintaining their developmental benefits.

Value Internalization

The significant influence of value education on value internalization supports contemporary research on value transmission through formal education. Schwartz *et al* (2021) confirmed across 67 countries that educational experiences significantly shape value priorities, with formal schooling serving as a primary mechanism for value socialization. Kumar and Devi (2023) found that teachers with extensive value education exposure demonstrated significantly stronger internalization of professional ethics and personal values, with the relationship mediated by the quality of value education experiences during teacher preparation.

In the Nigerian context, Adewale (2022) reported that pre-service teachers who participated in comprehensive value education programs showed greater alignment between espoused values and daily behavioral choices, with the strongest effects observed for instrumental values such as honesty and responsibility. However, Adebayo and Ogunleye (2024) identified a concerning

trend in which exposure to global media and social networks created value conflicts for Nigerian youth, with some prioritizing materialistic and individualistic values over communal and ethical values. This finding suggests that value education must actively counter external influences that promote values inconsistent with professional ethics and social responsibility. According to Rokeach's framework as extended by Maio (2022), deliberate interventions that create cognitive dissonance between existing and desired values can stimulate value re-evaluation and reorganization, supporting the efficacy of structured value education approaches.

Social Responsibility

The finding that value education significantly enhances social responsibility aligns with contemporary research demonstrating the role of education in fostering civic engagement. Unachukwu and Amaonye (2021) found that values education positively influenced Nigerian secondary school students' leadership skills and attitudes toward sustainable development, with the strongest effects observed for students participating in experiential learning components. Ogunlade and Adeyemi (2022) reported that community-based value education projects significantly increased pre-service teachers' civic participation attitudes, empathy for marginalized groups, and commitment to social justice in Oyo State, Nigeria.

Bello, Mohammed, and Suleiman (2024) investigated value-oriented pedagogical approaches in multi-ethnic teacher education classrooms in Kaduna State, finding that deliberate attention to values education significantly enhanced students' attitudes toward social cohesion, intergroup tolerance, and collective responsibility. However, the present study revealed that while attitudes toward social responsibility were strong, actual participation in community service was comparatively lower. This attitude-behavior gap is consistent with Ajzen's (2020) theory of planned behavior, which recognizes that favorable attitudes do not

always translate into corresponding behaviors due to structural constraints such as time limitations, lack of opportunities, or insufficient institutional support. Çelik (2022) emphasizes that without structured opportunities for engagement, value education may foster intentions without enabling action. Hawkes (2020) further argues that value education must be integrated across the curriculum and supported by institutional culture to effectively translate attitudes into sustained behavioral engagement.

Ethical Decision-Making

The significant influence of value education on ethical decision-making supports contemporary research on moral development in professional contexts. Rest's four-component model, as updated by Narvaez (2021), emphasizes that ethical action requires integrated development of moral sensitivity, reasoning, motivation, and character—components that value education appears to strengthen. Trevino, den Nieuwenboer, and Kish-Gephart (2021) extended the person-situation interactionist model, confirming that both individual characteristics and organizational context influence ethical behavior, with value education contributing to individual ethical development while institutional culture shapes behavioral expression.

In the Nigerian context, Lawal and Oyewole (2024) reported that pre-service teachers who received explicit training in ethical reasoning felt significantly more prepared to handle complex ethical situations in their future classrooms, though many still reported inadequate preparation for addressing value conflicts with students or families. Akinbode and Okonkwo (2023) found that pre-service teachers with higher levels of moral reasoning demonstrated greater resistance to academic dishonesty and unethical professional practices, suggesting that value education contributes to ethical conduct. However, Çelik (2022) cautions that without authentic faculty modeling of ethical conduct and clear institutional policies regarding academic integrity and professional ethics,

value education's influence on ethical decision-making may be significantly undermined. Ferreira and Schulze (2021) similarly noted that teachers who lacked preparation in values pedagogy felt ill-equipped to facilitate ethical discussions or address moral dilemmas in their classrooms, emphasizing the importance of both initial preparation and ongoing professional development in values education.

Cultural and National Values

The significant influence of value education on cultural and national values aligns with contemporary research on education's role in cultural preservation and identity formation. Eze and Ugwu (2023) conducted a quasi-experimental study in Enugu State, finding that students participating in culturally-responsive value education programs demonstrated significantly stronger respect for indigenous knowledge systems, appreciation for cultural heritage, and commitment to national unity compared to control groups, with effects maintained at six-month follow-up. Musa and Ibrahim (2024) evaluated peer-led values clubs in Colleges of Education in Kano State, finding that participation significantly enhanced students' appreciation for ethnic and religious tolerance, pride in national identity, and commitment to peacebuilding.

Ansu (2021) found that value education programs in India strengthened democratic values, cultural appreciation, and positive attitudes toward national identity, with regional and institutional variations suggesting the importance of contextual factors. However, Turkkahraman (2021) emphasizes that in diverse societies, education promoting respect for diversity and national unity is essential for social cohesion, yet tensions may arise between preserving traditional cultural values and preparing students for global citizenship. Yilmaz (2022) observed that value education programs sometimes struggle to balance cultural preservation with critical engagement with values that may conflict with human rights principles, suggesting that effective value education must navigate these tensions

thoughtfully. In the Nigerian context, Adeleke and Oladipo (2024) found that value education that integrates both cultural heritage and global citizenship perspectives produced the strongest outcomes for both cultural appreciation and intergroup tolerance, supporting an integrative approach to values pedagogy.

Conclusion

This study investigated the influence of value education on pre-service teachers' moral development and social responsibility in Colleges of Education in Katsina State, Nigeria, finding compelling evidence that value education serves as a significant catalyst for positive outcomes across multiple dimensions. Students exposed to value education demonstrated enhanced moral reasoning, deeper internalization of both instrumental and terminal values, strengthened social responsibility, improved ethical decision-making, and greater appreciation for cultural and national values. These findings affirm the vital importance of value education in teacher preparation, as the moral foundations pre-service teachers develop will profoundly influence their professional practice, relationships with students, and contributions to society. Effective value education requires a comprehensive approach encompassing intentional curriculum integration, active pedagogical engagement, authentic modeling by teacher educators, supportive institutional cultures, and collaborative partnerships with families and communities. When these elements are present, value education fulfills its transformative potential—not only for individual teachers but for the students they will teach and the society they will serve.

Recommendations

Based on the findings and conclusions of this study, the following recommendations are offered:

1. Develop and implement comprehensive national guidelines for value education in teacher preparation programs, mandating specific courses in

moral education, ethics, and values pedagogy while allocating resources for instructional materials, professional development, and research.

2. Integrate value education systematically across the curriculum using active pedagogical approaches such as moral dilemma discussions, case studies, and community service, while cultivating an institutional culture that reinforces values through faculty modeling, clear ethical policies, and ongoing professional development for teacher educators.
3. Authentically model the values you seek to transmit through professional conduct and create classroom environments that support moral discussion, value clarification, and integration of ethical dimensions across all aspects of teaching.
4. Engage actively with teacher education institutions to reinforce values education through dialogue about shared values, support for community engagement activities, and collaboration to create consistent value messages across home, community, and school settings.
5. Conduct longitudinal and mixed-methods studies to track how value education influences moral development over time, investigate the effectiveness of different pedagogical approaches in Nigerian contexts, and examine the influence of contextual factors such as institutional culture and student backgrounds on value education outcomes.
6. Establish monitoring and evaluation mechanisms to continuously improve value education implementation, foster partnerships across institutions, schools, families, and community organizations, and recognize excellence in value education to create incentives for continued innovation and improvement.

References

- Adebayo, F., & Ogunleye, T. (2024). Media influence and value conflicts among Nigerian youth: Implications for value education. *Journal of Media and Education, 12*(3), 45–62.
- Adekola, G. (2020). Traditional African education and value transmission in contemporary society. *Journal of African Educational Studies, 8*(2), 45–62.
- Adeleke, M., & Oladipo, S. (2024). Integrating cultural heritage and global citizenship in value education: A Nigerian perspective. *African Journal of Educational Development, 15*(2), 78–95.
- Adewale, T. (2022). Teacher educators' perspectives on values pedagogy in Nigerian colleges of education. *Nigerian Journal of Teacher Education, 18*(1), 55–70.
- Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies, 2*(4), 314–324.
- Akbaş, O. (2020). Affective education and value development in Turkish primary programs. *Educational Sciences: Theory & Practice, 20*(2), 45–62.
- Akinbode, G., & Okonkwo, P. (2023). Moral reasoning and academic integrity among pre-service teachers in Southwestern Nigeria. *Nigerian Educational Review, 29*(1), 88–104.
- Akinmoye, O. (2021). Moral dilemma discussions and pre-service teachers' ethical reasoning in Southwestern Nigeria. *Journal of Moral Education in Africa, 5*(2), 112–128.
- Aladağ, S. (2019). Value erosion in modern society: Educational implications for teacher preparation. *Journal of Values Education, 17*(1), 7–28.
- Ansu, K. (2019). Value patterns of senior secondary students in Punjab: Implications for curriculum development. *Indian Educational Review, 55*(2), 67–82.

- Atkinson, P., & Alvin, D. (2022). *Survey research methods: Design, implementation, and analysis (3rd ed.)*. London: Sage Publications.
- Bello, A., Mohammed, I., & Suleiman, F. (2024). Value-oriented pedagogy and social cohesion in multi-ethnic teacher education classrooms in Kaduna State. *African Journal of Educational Studies*, 12(1), 88–105.
- Berman, S. (1997). *Children's social consciousness and the development of social responsibility*. Albany: State University of New York Press.
- Blatt, M., & Kohlberg, L. (1975). The effects of classroom moral discussion upon children's level of moral judgment. *Journal of Moral Education*, 4(2), 129–161.
- Çelik, Z. (2022). Values education in teacher training: Challenges, prospects, and international perspectives. *Journal of Moral Education*, 51(3), 345–360.
- Çelik, Z., & Yeşilyurt, E. (2020). Values education from the perspectives of education administrators, teachers, and curriculum. *International Journal of Human Sciences*, 17(1), 1074–1092.
- Danjuma, I., & Muhammad, S. (2018). *Fundamentals of test and measurement in education*. Zaria: ABU Press.
- Dien, D. S. (1982). A Chinese perspective on Kohlberg's theory of moral development. *Developmental Review*, 2(4), 331–341.
- Duban, N., & Aydoğdu, B. (2021). Values education from perspectives of classroom teachers: Implementation challenges and strategies. *Journal of Education and Practice*, 12(5), 45–53.
- Eze, C., & Ugwu, N. (2023). Culturally-responsive value education and students' national identity in Enugu State, Nigeria. *Nigerian Journal of Social Studies*, 26(1), 45–62.
- Fadeiye, J. O. (2018). *A social studies textbook for colleges and universities (2nd ed.)*. Ibadan: Akin-Johnson Publishers.

- Federal Republic of Nigeria. (2019). *National policy on education (7th ed.)*. Lagos: NERDC Press.
- Ferreira, C., & Schulze, S. (2019). Teachers' experience of the implementation of values in education in schools: "Mind the gap." *South African Journal of Education, 39*(1), 1–12.
- Gibbs, J. C. (2019). *Moral development and reality: Beyond the theories of Kohlberg and Hoffman (4th ed.)*. Oxford: Oxford University Press.
- Halstead, J. M. (2021). *Values in education: Conceptual framework and contemporary issues*. In J. M. Halstead & M. J. Taylor (Eds.), *Values in education and education in values* (pp. 3–14). London: Routledge.
- Hawkes, N. (2020). Values education and the whole school approach: International perspectives. *Journal of Moral Education, 49*(2), 159–171.
- Ibrahim, A., & Sani, Z. (2020). Moral decay and value education in Nigerian tertiary institutions: Challenges and prospects. *Nigerian Journal of Educational Research, 18*(1), 88–102.
- Kenan, S. (2019). Moral education in modern society: Philosophical foundations and practical applications. *Educational Philosophy and Theory, 51*(4), 456–472.
- Kohlberg, L. (1976). *Moral stages and moralization: The cognitive-developmental approach*. In T. Lickona (Ed.), *Moral development and behavior: Theory, research, and social issues* (pp. 31–53). New York: Holt, Rinehart and Winston.
- Kohlberg, L. (1981). *The philosophy of moral development: Moral stages and the idea of justice*. San Francisco: Harper & Row.
- Kohlberg, L. (1984). *The psychology of moral development: The nature and validity of moral stages*. San Francisco: Harper & Row.

- Kumar, S., & Devi, R. (2023). A study on the attitude of secondary school teachers towards value education in school curriculum. *International Journal of Education and Management Studies*, 13(2), 112–118.
- Lawal, K., & Oyewole, B. (2024). Pre-service teachers' preparedness for values education in Oyo State, Nigeria. *West African Journal of Education*, 44(1), 210–225.
- Lovat, T., & Toomey, R. (2019). Values education and quality teaching: The double helix effect revisited. *Journal of Values Education*, 17(2), 45–62.
- Maio, G. R. (2022). Value change: The role of cognitive dissonance and value re-evaluation. *Current Directions in Psychological Science*, 31(3), 245–251.
- Mezieobi, K. A., Fubara, V. R., & Mezieobi, S. A. (2021). *Social studies in Nigeria: Teaching methods, instructional materials and resources (2nd ed.)*. Owerri: Acadapeak Publishers.
- Muhammed, A., & Usman, B. (2021). The role of social studies education in controlling restiveness and moral decadence among junior secondary students in Niger State. *Nigerian Journal of Social Studies*, 24(2), 98–112.
- Musa, H., & Ibrahim, S. (2024). Peer-led values clubs and tolerance among pre-service teachers in Kano State, Nigeria. *Journal of Educational Research and Development*, 9(2), 134–149.
- Narvaez, D. (2021). Moral development and moral education: An integrated framework. *Educational Psychology Review*, 33(2), 425–448.
- National Commission for Colleges of Education. (2020). *Nigeria Certificate in Education minimum standards for arts and social science education (2nd ed.)*. Abuja: NCCE.
- Ogunlade, O., & Adeyemi, B. (2022). Community-based value education projects and pre-service teachers' civic participation in Oyo State, Nigeria. *Nigerian Educational Digest*, 15(3), 77–92.

- Ogunyemi, B., & Adeyemo, S. (2022). Cultural context and moral reasoning among Nigerian pre-service teachers. *Journal of African Cultural Studies*, 34(2), 156–172.
- Okafor, F. C. (2021). *Philosophy of education and third world perspective (3rd ed.)*. Enugu: Fourth Dimension Publishers.
- Okonkwo, I., & Nnamdi, C. (2023). Service-learning and moral sensitivity in teacher education programs in Anambra State, Nigeria. *Journal of Teacher Education in Nigeria*, 28(1), 55–70.
- Research Advisors. (2008). *Sample size table*. Retrieved from www.research-advisors.com
- Rest, J. R. (1979). *Development in judging moral issues*. Minneapolis: University of Minnesota Press.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Schlaefli, A., Rest, J. R., & Thoma, S. J. (1985). Does moral education improve moral judgment? A meta-analysis of intervention studies using the Defining Issues Test. *Review of Educational Research*, 55(3), 319–352.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1–65.
- Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online Readings in Psychology and Culture*, 2(1), 1–20.
- Schwartz, S. H., Cieciuch, J., & Davidov, E. (2021). Value priorities and educational outcomes: A cross-cultural analysis of 67 societies. *Journal of Cross-Cultural Psychology*, 52(5), 423–445.
- Schwartz, S. H., Verkasalo, M., Antonovsky, A., & Sagiv, L. (1997). Value priorities and social desirability: Much substance, some style. *British Journal of Social Psychology*, 36(1), 3–18.

- Singh, R. (2019). Ethical decision-making among college students: The role of value education and moral reasoning. *Indian Journal of Educational Research, 38*(1), 78–92.
- Snarey, J. R. (1985). Cross-cultural universality of social-moral development: A critical review of Kohlbergian research. *Psychological Bulletin, 97*(2), 202–232.
- Snarey, J. R., & Keljo, K. (2020). *Culture and moral development: Beyond Kohlberg*. In L. A. Jensen (Ed.), *The Oxford handbook of moral development* (pp. 187–204). Oxford: Oxford University Press.
- Trevino, L. K. (1986). Ethical decision making in organizations: A person-situation interactionist model. *Academy of Management Review, 11*(3), 601–617.
- Trevino, L. K., den Nieuwenboer, N. A., & Kish-Gephart, J. J. (2021). Ethical decision-making in organizations: A person-situation interactionist perspective. *Academy of Management Annals, 15*(1), 1–38.
- Turkkahraman, M. (2021). Social values and value education in contemporary society. *Procedia - Social and Behavioral Sciences, 116*, 633–638.
- Unachukwu, G. O., & Amaonye, N. (2021). Influence of values education on secondary school students' leadership skills for sustainable development in Nigeria. *Journal of Education and Practice, 12*(15), 45–55.
- UNESCO. (2022). *Education for sustainable development: A roadmap for transformative education*. Paris: UNESCO Publishing.
- Yilmaz, K. (2022). Values education in teacher preparation: Current status and challenges in developing countries. *Educational Sciences: Theory & Practice, 22*(1), 10–25.

**THE ROLE OF INDIGENOUS KNOWLEDGE IN SUSTAINABLE
ENVIRONMENTAL PRACTICE: A HUMANISTIC VIEW FROM
SOUTHWEST NIGERIA**

¹**Kehinde Olufemi Ogunyemi,**
[1kehinde.ogunyemi@aaau.edu.ng](mailto:kehinde.ogunyemi@aaau.edu.ng)

²**Samuel Olanrewaju Oladapo**
[2lanree2007@gmail.com](mailto:lanree2007@gmail.com)

&

³**David Toyin Aladejebi**
[3davetoyin2003@gmail.com](mailto:davetoyin2003@gmail.com)

Adekunle Ajasin University, Akungba Akoko, Ondo State, Nigeria

Abstract

Discussions about environmental crisis in Nigeria often center on science, technology, and policy reform. While these are necessary, they rarely engage the cultural knowledge systems that have shaped how communities have lived with their environments for centuries. This paper turns to the Yoruba people of Southwest Nigeria to examine how indigenous ecological knowledge continues to offer practical and ethical guidance for sustainability. In the Yoruba worldview, the environment is not a lifeless resource but a living presence deserving respect. Ecological values are carried in stories, proverbs, rituals, festivals, and everyday practices. Rivers such as Òṣun and sacred landscapes like the Osun-Osogbo Sacred Grove are not only spiritually significant; they also function as protected ecological spaces. Traditional farming methods, seasonal observances, and divinatory consultations reflect close attention to soil health, rainfall patterns, and biodiversity. In these ways, spirituality, morality, and environmental care are closely intertwined. The paper argues that Yoruba indigenous knowledge contributes dimensions of sustainability such as ethical commitment, communal responsibility, and symbolic meaning that are often missing from technocratic environmental discourse. Yet these traditions face serious pressures from colonial legacies, formal education systems that emphasises more on Western epistemologies, religious change, and rapid urbanisation. Adopting a humanistic perspective, the study calls for a more inclusive approach to sustainability in Nigeria one that recognises indigenous knowledge not as folklore, but as living intellectual heritage. It suggests that meaningful ecological renewal will require engaging and revitalising the cultural frameworks that have long guided harmonious relationships between people and the natural world in Yoruba society.

Keywords: Environmental Consciousness, Indigenous Knowledge, Oral Tradition, Sustainable Environmental Practice

Introduction

Environmental degradation is no longer a distant concern; it is a lived reality of the twenty-first century. Across the globe, climate change, deforestation, biodiversity loss, water pollution, and land degradation are steadily undermining the ecological systems that sustain human life (Ali & Rahman, 2024). While scientific innovation and technological advancement have provided important tools for addressing these crises, it is becoming increasingly clear that the problem is not merely technical. At its core lies a deeper cultural and ethical rupture of a widening gap between human societies and the natural world they depend upon (Beery *et al.*, 2023). This realisation has prompted renewed interest in the humanities and in indigenous knowledge systems as valuable sources of insight into more sustainable ways of living (Guto, 2020).

Indigenous knowledge systems are not accidental or simplistic traditions; they are carefully developed bodies of understanding shaped by generations of close interaction with specific environments. They integrate ecological observation, moral values, spirituality, and practical resource management strategies into coherent ways of life (Desta & Smithson, 2010). In Southwestern Nigeria, the Yoruba people offer a compelling example of such ecological wisdom. Yoruba cosmology does not treat nature as a passive storehouse of raw materials. Rather, it understands the natural world as animated, relational, and morally ordered (Olaleye, 2022). Rivers, forests, animals, and land itself are seen as carriers of spiritual significance and communal responsibility, woven into social life through rituals, taboos, festivals, and oral traditions.

The reverence for rivers such as Òṣun, the preservation of sacred groves, and the careful observance of agricultural cycles guided by lunar rhythms and divinatory systems reflect this deeply rooted ecological consciousness (Adeyanju *et al.*, 2022). These practices are not merely symbolic expressions of belief; they function as practical systems of environmental regulation. They shape patterns of

resource use, protect biodiversity, and reinforce communal accountability in managing land and water.

Yet, despite their enduring value, indigenous ecological systems have often been sidelined in modern environmental governance. Colonial legacies and the dominance of Western scientific frameworks have contributed to policies that gave more recognition to formal technical expertise while overlooking local epistemologies (Adeyanju *et al.*, 2022). Additionally, formal education, rapid urbanisation, and economic globalisation have weakened traditional mechanisms for transmitting ecological knowledge across generations.

This paper therefore examines Yoruba indigenous knowledge as a vital resource for sustainable environmental practice, approached from a humanistic perspective. The paper argues that Yoruba ecological principles that are expressed through language, spirituality, cultural institutions, and communal ethics offer meaningful contributions to contemporary sustainability debates. Drawing on environmental humanities, cultural ecology, and decolonial thought, the paper explores the philosophical foundations of Yoruba environmental ethics and situates them within current sustainability discourse.

Using examples from culturally significant towns such as Osogbo, Ile-Ife, Oyo, and Ado-Ekiti, the paper illustrates how practices like sacred forest protection, ritual engagement with water bodies, and indigenous agricultural systems embody long-standing principles of ecological balance. It further considers how oral narratives, festivals, folklore, and moral instruction sustain and reinforce these environmental values within communities. This paper contends that meaningful sustainability in Nigeria cannot emerge solely from imported policy models or technocratic solutions. Rather, it requires the thoughtful integration of indigenous ecological knowledge into environmental policy, education, and conservation strategies. Yoruba traditions should no longer

be seen as remnants of a fading past; rather they should be seen as representing living frameworks for understanding the relationship between humans and nature.

Indigenous Knowledge Systems and Environmental Sustainability: A Humanistic Perspective

For many years, conversations about sustainability have been dominated by the language of science, technology, and economics. We measure carbon emissions, calculate resource efficiency, design policies, and engineer solutions. These efforts are important and necessary. Yet, the problem of environmental degradation persists. This is because environmental crises are not only technical problems; they are also moral and cultural ones. They reflect how human beings see themselves in relation to the earth. A truly sustainable future requires more than better data and smarter machines. It requires a deeper reflection on meaning, responsibility, identity, and belonging. This is where indigenous knowledge systems and the humanities become indispensable.

Indigenous knowledge systems are not random fragments of tradition; they are carefully accumulated bodies of wisdom built through generations of intimate engagement with particular landscapes. They grow out of lived experiences such as farming the soil, fishing rivers, observing seasons, honoring forests. Unlike modern Western science, which often searches for universal laws that apply everywhere, indigenous knowledge is rooted in place. It is shaped by memory, transmitted through stories, rituals, proverbs, taboos, and daily practices. Within these cultural forms are embedded ecological insights and moral instructions about how to live well within the natural world.

The strength of indigenous knowledge lies not only in what it knows about the environment, but in how it teaches people to feel about it. It cultivates reverence, restraint, and responsibility. In many African cultures, including among the Yoruba people of Southwest Nigeria, nature is not viewed as something separate from humanity. It is part of an interconnected web of

existence. For instance, rivers are not seen as just water channels that could be diverted at will; according to the Yoruba belief, they carry spiritual meaning. Also, forests are not seen as just timber reserves; they are rather seen as living spaces associated with ancestors and deities. Land is not seen simply as property; rather it is seen as identity, memory, and sacred inheritance. When people see nature this way, their behaviour towards it changes. Environmental care becomes a moral duty rather than a regulatory requirement.

The humanistic understanding of nature also informs practical environmental behaviour among the Yoruba people. For instance, traditional agricultural practices, such as crop rotation, fallowing, and mixed cropping, are not just ecologically sound but are also guided by cultural rituals and taboos that prevent overexploitation and preserve soil fertility (Ojo, 2010). Sacred groves provide another powerful example. These protected forest areas, often linked to spiritual beliefs, function in practical terms as biodiversity sanctuaries. They preserve rare species, regulate local climates, and protect water sources (Omobola & Lawal, 2018). This implies that long before the language of “conservation biology” became common, these communities were practicing forms of ecological preservation grounded in belief and tradition. Another equally significant nature sustainability practice among the Yorubas is the use of proverbs and oral traditions which repeatedly emphasize the duty to preserve the earth for those yet unborn. For instance, the saying “*ilé ayé là n gbé, ká tó dé òrun*” (one must live properly in this world before departing to the world beyond) carries with it an ethic of accountability which implies that one’s life is measured not only by personal success but by the condition in which one leaves the community and its environment.

The perspectives expressed above stand in sharp contrast to the extractive mindset that characterises many modern economies, where land is valued primarily for its immediate economic yield. When profit becomes the dominant

measure of worth, the moral and spiritual dimensions of environmental care are easily pushed aside.

The environmental humanities offer a helpful bridge in this regard. By drawing on philosophy, literature, religion, and cultural studies, they explore how human beings narrate and imagine their relationship with nature. They remind us that environmental problems are also stories about progress, ownership, development, and human superiority. When these stories go unchallenged, they shape policies and behaviours in powerful ways (Heise, 2017). Recognising indigenous worldviews as legitimate sources of knowledge helps to broaden this narrative space. It challenges the long-standing assumption that only Western scientific frameworks are valid for understanding and managing the environment. In Nigeria and many other postcolonial societies, the marginalisation of indigenous knowledge did not happen by accident. During colonial rule, local practices were frequently dismissed as backward or superstitious. Western models of agriculture, forestry, and planning were imposed as superior alternatives. Over time, this produced not only ecological disruption but also cultural dislocation. Communities were separated from their ancestral systems of environmental management, and younger generations were taught that indigenous knowledge was inferior (Agrawal, 1995; Mignolo, 2011). The consequences of that epistemic displacement are still visible today. Environmental policies often rely heavily on imported models that do not fully align with local realities. Meanwhile, indigenous practices that once sustained ecosystems are treated as relics of the past rather than living resources for the present.

Reclaiming indigenous knowledge, therefore, is a necessary step toward intellectual and environmental justice. It involves restoring confidence in local wisdom, creating space for indigenous voices in policy discussions, and fostering genuine dialogue between global science and community-based knowledge systems. Such dialogue must be respectful and collaborative, not extractive.

Indigenous knowledge should not be mined for useful data and then discarded; it should be engaged as a dynamic and evolving way of understanding the world. For sustainability efforts in Southwest Nigeria to succeed, they must grow from the cultural soil of the people. Yoruba indigenous knowledge provides a deeply human model of environmental care that binds spirituality, morality, and social cohesion to ecological responsibility. These traditions are not frozen in time. They have always adapted to changing circumstances, and they can continue to evolve in response to contemporary environmental challenges.

The Yoruba Worldview and Ecological Ethics

The Yoruba worldview carries within it a quiet but powerful ecological wisdom. It does not approach nature as an object to be studied from a distance or controlled for profit. Rather, it understands life as a web of relationships between humans, the land, the ancestors, and the unseen spiritual forces that animate the universe. In this worldview, existence itself is relational. Nothing stands alone. Everything is connected. At the heart of Yoruba cosmology is the belief that the universe contains both visible and invisible dimensions. Human beings share the world not only with animals and plants, but also with ancestors and the *oriṣa* (divine forces often associated with elements of nature). These are not distant or abstract deities. They are encountered in rivers, forests, hills, thunder, and earth (Abiodun, 2001; Dopamu, 2006). Nature, therefore, is never merely physical matter; it carries presence, meaning, and agency.

A good example of the above is the revered deity, *Ọṣun*, the river deity associated with fertility, beauty, and nourishment. She is believed to dwell in the *Ọṣun* River at Osogbo, and her sacred grove remains one of the most carefully preserved forest spaces in the region. That grove, now internationally recognised as a heritage site, has survived not because of modern conservation laws alone, but because generations treated it as sacred (Ogundiran, 2018). What environmental policy might struggle to enforce, reverence has quietly sustained.

When a river is seen as divine, it is not easily polluted. This spiritual sensibility naturally shapes moral behaviour. Among the Yoruba, the concept of *iwa* (good character) lies at the center of ethical life. A person's worth is measured not simply by wealth or status but by moral integrity. Importantly, this moral integrity extends beyond human relationships to include the environment (Adekola, 2008). A person of *iwa rere* (good character) does not recklessly destroy forests, poison streams, or kill animals without reason. Such acts are not viewed as mere environmental missteps; they are moral failures that disturb the cosmic balance. Everyday language reinforces these values. Proverbs, stories, and songs quietly carry ecological insight from one generation to the next. When elders say "*Omi l'emi*" water is life they are expressing more than a biological fact. They are affirming water as sacred and indispensable. When it is said, "*A kì í jogún igbo kó fì mọ́ igbo se erè*" one does not inherit a forest only to exploit it for profit it serves as a warning against greed. These sayings shape attitudes long before formal education does. They cultivate restraint and responsibility.

Balance is another key principle. Yoruba thought emphasises harmony between humans and the rest of creation. One does not simply take from the earth without acknowledgment or replenishment. Traditional farming practices often followed seasonal rhythms, allowing land to rest. Rituals and festivals reaffirmed gratitude and dependence on natural cycles. Even taboos, sometimes misunderstood today, functioned as protective mechanisms. By declaring certain forests or rivers off-limits, communities unintentionally created conservation zones long before the term existed. Closely connected to this sense of balance is the idea of *ase* the vital force that flows through all things. *Ase* is the power that enables existence and action. It resides in humans, but also in trees, rivers, stones, and animals. To harm the environment carelessly is to violate the *ase* within it (Olupona, 2014). This belief fosters a profound respect for non-human life. The Yoruba ecological outlook is therefore not strictly human-centered. It recognises

that other beings possess their own integrity and significance within the cosmic order.

Environmental responsibility is also woven into social structure. Elders, priests, herbalists, and hunters traditionally served as custodians of ecological knowledge. They understood seasonal patterns, medicinal plants, animal behaviour, and sacred boundaries. Certain groves were declared inviolable. Hunting seasons were regulated. Sanctions existed for violations. In this way, environmental ethics were not left to individual choice alone; they were reinforced by communal institutions and collective memory (Ayorinde, 2009). When viewed alongside contemporary environmental philosophy, many of these indigenous principles feel strikingly relevant. Modern ecological movements speak of interdependence, intrinsic value, and the need to move beyond exploitative attitudes toward nature. Yet these ideas have long been embedded in Yoruba cosmology. The difference is that within Yoruba culture, such ideas are not confined to academic debate; they are lived, narrated, sung, and ritualised (Shiva, 2005).

In recent time, urbanisation, religious shifts, economic pressures, and climate change have altered how many communities relate to these traditions. Sacred groves are sometimes encroached upon. Younger generations may not fully grasp the meanings behind older practices. But traditions are not static relics. They adapt, reinterpret, and respond to new realities. The challenge is not to hold on to the past, but to discern what enduring wisdom it offers for the present. The Yoruba worldview ultimately challenges the modern tendency to separate nature from culture, spirit from matter, and morality from ecology. It reminds us that environmental care is not only a technical responsibility but also a moral and spiritual one. To protect the land is to protect community, memory, and identity.

Case Illustrations of Environmental Stewardship from Yoruba Communities in Southwest Nigeria.

It is one thing to speak about indigenous knowledge in theory; it is another to see how it actually shapes everyday life. Across towns and villages in Southwest Nigeria, Yoruba environmental ethics are not abstract ideas. They are lived practices expressed through sacred landscapes, farming methods, festivals, and communal rules. These practices often existed long before modern environmental policies and, in many cases, continue to protect ecosystems in ways that formal regulations struggle to achieve.

The Osun-Osogbo Sacred Grove

Perhaps the most well-known example is the Osun-Osogbo Sacred Grove on the outskirts of Osogbo, Osun State. Stretching along the banks of the Òṣun River, the grove covers over seventy hectares of dense forest. It is regarded as the spiritual home of the river deity Òṣun and contains shrines, sculptures, and altars nestled within rich vegetation. What is remarkable about the grove is not only its spiritual importance, but its ecological health. Hunting, logging, fishing, and farming within its boundaries are traditionally forbidden. These restrictions are not enforced primarily by government agencies, but by community belief and moral commitment. Priests, priestesses, and elders act as custodians, ensuring that the sacred character of the forest is respected (Omobola & Lawal, 2018). Every year, during the Òṣun Festival, thousands gather to celebrate, pray, and reconnect with the river. The festival is not just a religious event; it is also a public reaffirmation of the community's bond with its environment. In 2005, the grove received global recognition when it was designated a UNESCO World Heritage Site (UNESCO, 2005). It should be noted however that the preservation of the grove began long before international acknowledgment.

The Oke-Itase Grove

In Ile-Ife, often described as the spiritual heartland of the Yoruba, the Oke-Itase Grove serves as a central site for Ifá divination. The grove houses shrines and ritual spaces where babalawo (diviners) and priests perform ceremonies and

consult the oracle. Like Osun-Osogbo, Oke-Itase functions as a protected ecological space. Certain sections are considered spiritually restricted and remain untouched by farming or construction. The grove is not fenced off by modern barriers; its boundaries are maintained by shared understanding (Olupona, 2014). Each year, practitioners from across Yorubaland and the diaspora gather at the grove for the World Ifá Festival. These gatherings are moments of spiritual, cultural, and ecological renewal. Knowledge about ritual practice, sacred boundaries, and respect for natural forces is passed from elders to younger initiates. In this way, environmental stewardship is woven into religious continuity.

Sacred Trees and Forest Patches in Ekiti and Ondo

Beyond famous heritage sites, smaller but equally meaningful examples can be found in rural communities. In parts of Ekiti and Ondo States, particular trees are regarded as sacred because of their association with ancestors or significant historical events. In Ijero-Ekiti, for example, a large *Igi Odan* tree is believed to embody ancestral presence. It is neither cut nor damaged. People leave offerings at its base, and stories circulate about the misfortune that follows disrespect. Whether one interprets these stories spiritually or symbolically, their effect is clear: the tree survives (Fadipe, 1970; Akinnaso, 1983). Similarly, forest areas such as Igbo Olodumare in Akure or Igbo Owa in Idanre are preserved because they are tied to origin stories and sacred memory. These groves serve as quiet sanctuaries for plant and animal life. Though they may lack formal legal protection, they endure because the community sees them as more than timber reserves.

Indigenous Farming Practices in Oyo State

Environmental stewardship is not confined to sacred forests. It is also visible in agricultural life. In many farming communities across Oyo State, traditional methods continue to reflect ecological sensitivity. Intercropping

practice such as planting maize, cassava, okra, and other crops together helps maintain soil nutrients and reduce pests naturally. Land is rotated and sometimes left fallow, allowing it to regenerate. Such practices are based on long observation of soil behaviour, rainfall patterns, and plant compatibility. In some areas, farmers consult Ifá diviners before planting, seeking guidance on timing and location ((Ojo, 2010). While this may appear purely spiritual, it also embeds agriculture within a moral and seasonal rhythm that discourages reckless exploitation. Water bodies are treated with similar care. For instance, the Osun River and Ogun River are believed to be inhabited by water spirits. As a result, pollution and overuse are socially discouraged. These beliefs function as protective frameworks for freshwater ecosystems that support both human and animal life.

Festivals and Ecological Memory in Ijebu and Epe

In the Ijebu region of Ogun State and in Epe communities in Lagos State, annual festivals serve as moments of environmental remembrance. Events such as Agemo festival, Ojude Oba and Kayokayo include processions that move through historic routes, passing rivers, shrines, and sacred landmarks. These festivals are often associated with communal cleaning exercises and, in recent times, tree planting initiatives (Dopamu, 2006). Even where modernisation has altered ritual meaning, the symbolic connection between celebration and environmental renewal remains strong. The land is not forgotten in the midst of festivity; it is honoured.

Women as Custodians of Life and Land

No account of Yoruba environmental stewardship would be complete without acknowledging the role of women. Priestesses associated with Òṣun, Yemoja, and Olókun act as guardians of rivers and aquatic spaces. Their responsibilities extend beyond ritual leadership to include helping safeguard ecological boundaries (Omobola & Lawal, 2018). Market women and herbalists also play crucial roles. Through the selective harvesting and trade of medicinal

plants, they manage biodiversity in practical ways. Knowledge of herbs, roots, and seasonal cycles is often transmitted through apprenticeship and family lines. In this sense, environmental knowledge is not only communal; it is deeply gendered and intergenerational.

The examples explored above reveal something important. It shows that Yoruba ecological practices are not isolated customs frozen in the past. They form a living network of beliefs, rules, stories, and communal actions. Elders, priests, farmers, women, and youth all participate in sustaining them. Modernisation, urban expansion, and climate change undoubtedly pose serious challenges. Some sacred spaces have been encroached upon; some traditions have weakened. Yet many of these systems endure, adapting quietly to new realities.

Challenges to Indigenous Knowledge and Environmental Practices

For all its depth and resilience, Yoruba indigenous environmental knowledge is not untouched by change. It is under pressure; sometimes quietly, sometimes dramatically; from forces reshaping contemporary Nigeria. These pressures are social, economic, religious, political, and environmental. Together, they are altering the spaces, institutions, and beliefs that once sustained traditional ecological practices.

One of the most visible challenges is urban expansion. Cities such as Lagos, Ibadan, Akure, and Osogbo are growing rapidly. Housing estates are gradually replacing farmlands while highways cut through forests. Industrial layouts occupy what were once communal lands. In the process, sacred groves and culturally significant landscapes are encroached upon or cleared entirely (Adeyemi, 2015). When such spaces disappear, the loss is not only ecological. Ritual pathways are disrupted, festivals are relocated, and collective memory is weakened. A forest that once carried spiritual meaning becomes just another plot of land.

Closely linked to this is a gradual cultural drift between generations. Many younger people today are shaped more by digital culture, global media, and formal Western-style education than by oral tradition. Proverbs are no longer quoted as frequently; folktales are less often told at moonlight gatherings. Practices once transmitted through apprenticeship and ritual are now viewed by some as outdated or irrelevant (Ikeke, 2013). As elders pass on without structured systems for preserving their knowledge, important ecological insights risk disappearing with them. The loss is subtle but profound.

Religious transformation has also played a complicated role. The growth of Christianity and Islam has reshaped spiritual landscapes across Yorubaland. In some communities, indigenous religious expressions have been labeled as idolatrous or incompatible with newer faith traditions. Sacred groves may be neglected or even deliberately dismantled. Shrines fall into disrepair while festivals once central to communal identity are sometimes discouraged. In certain cases, churches or mosques now stand on lands that were once ritually protected (Adedibu, 2015). Whatever one's religious commitments may be, the ecological consequence is clear: when the spiritual logic that protected a forest weakens, the forest itself becomes vulnerable.

In the opinion of Nkomo and Folami (2010), another challenge lies in formal governance. Environmental regulation in Nigeria tends to rely heavily on Western scientific models and compliance frameworks. Agencies such as National Environmental Standards and Regulations Enforcement Agency focus primarily on statutory enforcement. While such mechanisms are important, they often overlook the role that traditional authorities, community custodians, and indigenous practices have historically played in managing ecosystems. The result is a disconnection between state-led environmental policy and grassroots knowledge systems. In many cases, local custodians are not meaningfully included in decision-making processes that directly affect their lands.

Market pressures and globalisation further complicate matters. Forest resources, medicinal plants, sand deposits, and farmlands are increasingly viewed through commercial lenses. Export-driven agriculture, mechanised farming, and the widespread use of synthetic chemicals have displaced some traditional techniques that once prioritised soil regeneration and biodiversity (Adebayo & Alao, 2012). Illegal logging and sand mining in parts of Ogun and Ondo States illustrate how economic incentives can override cultural restraint. Where profit becomes the primary measure of value, inherited ecological ethics struggle to compete.

Land tenure issues add yet another layer of vulnerability. Akinola (2007) observes that many sacred groves and communal forests are protected by custom rather than formal documentation. Under modern legal frameworks that emphasise individual ownership and commercial development, such lands can be reclassified, acquired, or sold. Customary systems that once regulated access collectively are gradually eroded. Without clear legal recognition, communities may find it difficult to defend spaces that are culturally sacred but legally ambiguous.

Climate change presents a different kind of challenge. Ajayi and Mafimisebi (2014) explain that farmers in parts of Oyo and Ekiti States increasingly speak of unpredictable rainfall and shifting planting seasons. Traditional ecological calendars, built on generations of observation, are harder to rely on when weather patterns grow erratic. As uncertainty increases, some farmers turn more heavily to external technologies and chemical inputs, which may further distance them from indigenous systems of environmental interpretation.

Still on the challenges facing indigenous environmental practices, Olupona (2014) identifies documentation as a serious challenge. According to him, much Yoruba environmental knowledge lives in memory, performance, and practice. It

resides in the expertise of herbalists, the stories of elders, the ritual knowledge of priests, and the seasonal instincts of farmers. When such knowledge is not systematically recorded or when it is recorded without sensitivity to context, it risks distortion or disappearance. Although scholars and cultural organisations have made important efforts, these initiatives are often fragmented and under-resourced.

Conclusion

The need to tackle Nigeria's environmental challenges such as deforestation, unstable rainfall, polluted water, and disappearing biodiversity are growing more urgent. Yet sustainable solutions cannot come from technical expertise alone. Policies, regulations, and global frameworks are important, but they are not sufficient if they ignore the cultural foundations of how people relate to land, water, and community. Any lasting response must draw from knowledge systems that are rooted in lived experience. In this regard, Yoruba indigenous environmental knowledge remains an underappreciated resource.

Yoruba cosmology does not treat the environment as lifeless material to be exploited. Rivers, forests, and farmlands are woven into spiritual and moral life. The reverence shown to deities such as Ọṣun and Olókun, and to sacred landscapes like the Osun-Osogbo Sacred Grove, has historically fostered restraint and care. Sacred groves, taboos, festivals, farming rhythms, and oral traditions have functioned as community-based systems of environmental governance long before such language became common in policy circles.

Yet this heritage is under strain. Urban expansion is swallowing communal lands. Religious tensions have, in some places, weakened the spiritual structures that once protected sacred sites. Younger generations, shaped by global culture and digital life, are often distant from the oral traditions that carried ecological wisdom. At the policy level, indigenous actors are rarely given meaningful space in environmental planning. If this knowledge disappears, the loss will not be

cultural alone; it will also narrow the range of locally grounded solutions available for sustainability.

Recommendations

Reclaiming Yoruba environmental knowledge does not mean rejecting science or romanticising the past. It means broadening the conversation. Legal protection of sacred sites, inclusion of traditional custodians in environmental governance, integration of indigenous ecological insights into school curricula, and better documentation of oral knowledge are practical steps forward. Cultural renewal through language preservation, intergenerational dialogue, and youth engagement is equally vital. If all these are done, Yoruba indigenous environmental knowledge would no longer be seen as a relic, but as a living heritage. With thoughtful adaptation and genuine respect, it can stand alongside modern science as a partner in addressing ecological crises. In listening again to the wisdom embedded in sacred groves, proverbs, and communal practices, Nigeria may rediscover culturally grounded pathways toward a more resilient and harmonious future.

References

- Abiodun, R. (2001). *Yoruba art and language: Seeking the African in African art*. Cambridge University Press.
- Adebayo, O., & Alao, S. (2012). Globalization and the survival of African cultural heritage: A case study of Nigeria. *Journal of Pan African Studies*, 5(8), 192 – 206.
- Adedibu, B. (2015). Christianity and the demonization of African traditional religion: A Yoruba perspective. *Journal of Contemporary African Studies*, 33(2), 213 – 229.
- Adekola, G. (2008). Environmental education and traditional African ethics: An analysis from Yoruba perspective. *International Journal of Environmental Studies*, 65(2), 209 – 221.

- Adeyanju, S. O., Bulkan, J., Onyekwelu, J. C., Peterson St-Laurent, G., Kozak, R., Sunderland, T., & Stimm, B. (2022). Drivers of Biodiversity Conservation in Sacred Groves: A Comparative Study of Three Sacred Groves in Southwest Nigeria. *International Journal of the Commons*, 16(1), pp. 94 – 107. DOI: <https://doi.org/10.5334/ijc.1143>
- Adeyemi, B. (2015). Urban expansion and loss of cultural heritage in Nigerian cities: A case study of Osogbo. *Journal of Environmental Design and Management*, 7(2), 44 – 55.
- Agrawal, A. (1995). Dismantling the divide between indigenous and scientific knowledge. *Development and Change*, 26(3), 413 – 439.
- Ajayi, O. C., & Mafimisebi, T. E. (2014). Climate change and the Yoruba traditional ecological knowledge system. *Journal of Agricultural Extension*, 18(3), 50 – 62.
- Akinaso, F. N. (1983). Yoruba traditional medicine and the nature of African medical epistemology. *Culture, Medicine and Psychiatry*, 7(2), 123 – 146.
- Akinola, S. R. (2007). Coping with infrastructural deprivation through collective action among rural people in Nigeria. *Nordic Journal of African Studies*, 16(1), 30 – 46.
- Ali, I. & Rahman, A. (2024). Environmental degradation: Causes, effects and solutions. *International Journal for Multidisciplinary Research*, 6(3): 1-10.
- Ayorinde, C. (2009). Sacred groves and the conservation of biodiversity in Nigeria: A review. *African Journal of Environmental Science*, 3(1), 87–93.

- Beery, T., Olafsson, A. S. & Gentin, S. (2023). Disconnection from nature: Expanding our understanding of human-nature relations. *People and Nature*, 5: 470 - 488.
- Desta, A., & Smithson, S. (2010). Indigenous knowledge in the context of natural resource management: An information systems perspective. *UK Academy for Information Systems Conference Proceedings 2010*. 16. <https://aisel.aisnet.org/ukais2010/16>
- Dopamu, P. A. (2006). Yoruba religion and environmental ethics. In I. O. Albert (Ed.), *Perspectives on peace and conflict in Africa* (pp. 123–134). Peace and Conflict Studies Programme, University of Ibadan.
- Fadipe, N. A. (1970). *The sociology of the Yoruba*. Ibadan University Press.
- Guto, R. (2020). A meta-Analytical Review of the Role of Indigenous Knowledge on Environmental Conservation and Climate Change in Kenya. *Regional Journal of Information and Knowledge Management*, 5 (2),65-84
- Heise, U. K. (2017). *Imagining extinction: The cultural meanings of endangered species*. University of Chicago Press.
- Ikeke, M. O. (2013). Indigenous African environmental ethics and sustainable development. *Journal of African Studies and Development*, 5(5), 122–129.
- Mignolo, W. D. (2011). *The darker side of Western modernity: Global futures, decolonial options*. Duke University Press.
- Nkomo, M., & Folami, O. (2010). Indigenous knowledge systems and the preservation of cultural heritage in Africa. *Journal of Pan African Studies*, 3(6), 123–132.
- Ogundiran, A. (2018). *The Yoruba: A new history*. Indiana University Press.

- Ojo, G. (2010). Yoruba ecology and sustainable development: Traditional practices and environmental ethics. *Ifè Journal of the Humanities and Social Studies*, 2(1), 65–80.
- Olaleye, S. K., (2022). Yoruba indigenous religion and conservation of natural resources for environmental sustainability: The perspective of Osa Meji in Ifa Divination system. *International Journal of Rural Development, Environment and Health Research*, 6(3): 18-25
- Olupona, J. K. (2014). *City of 201 gods: Ilé-Ifè in time, space, and the imagination*. University of California Press.
- Omobola, T., & Lawal, K. (2018). Sacred groves and biodiversity conservation among the Yoruba of Southwest Nigeria. *African Journal of Environmental Ethics and Values*, 2(1), 15–28.
- Shiva, V. (2005). *Earth democracy: Justice, sustainability, and peace*. South End Press.
- UNESCO. (2005). *Osun-Osogbo Sacred Grove: World Heritage Site Documentation*. Paris: United Nations Educational, Scientific and Cultural Organization.