



## Awareness, Accessibility and Extent of Utilization of Plagiarism Detection Software for Improved Scholarly Communication by Postgraduate Students in Federal Universities in South-East Nigeria

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### Abstract

This study investigated the awareness, accessibility, utilization, and challenges of plagiarism detection software among postgraduate students in federal universities in South-East Nigeria. Five research questions guided the study. The study employed a descriptive survey research design. The population comprised all postgraduate students enrolled in federal universities in South-East Nigeria. The instrument for data collection was a structured questionnaire titled Plagiarism Detection Software Awareness, Accessibility, Utilization and Challenges Questionnaire (PDSAUCQ), developed by the researchers. The instrument was validated by three experts and tested for reliability using Cronbach's alpha. The reliability coefficients obtained were: Cluster B on accessibility (0.82), Cluster C on utilization (0.88), Cluster D on challenges of accessibility (0.84), and Cluster E on challenges of utilization (0.87). The overall reliability coefficient for the entire instrument was 0.89. Data were analyzed using descriptive statistics including percentage points and mean scores. Findings revealed that postgraduate students were aware of only a limited number of plagiarism detection software tools, with Turnitin, Grammarly Plagiarism Checker, and QuillBot Plagiarism Checker showing the highest awareness levels. Despite this awareness, accessibility levels were low across all software tools, indicating that students lacked adequate institutional access. Only two tools recorded high accessibility scores. Utilization levels were critically low for all software tools examined, demonstrating minimal integration of these technologies into students' academic practices. The study also identified significant challenges in accessing and utilizing plagiarism detection software. The study recommended that federal universities should secure comprehensive institutional subscriptions to plagiarism detection software and integrate them into learning management systems with dedicated technical support; develop and implement mandatory comprehensive training programs for all postgraduate students; and establish clear institutional policies requiring submission of plagiarism detection reports alongside all postgraduate theses, dissertations, and major assignments.

**Keywords:** Accessibility, Awareness, Challenges, Postgraduate Students, Plagiarism Detection Software, Scholarly Communication, Utilization

### Introduction

Scholarly communication represents the systematic exchange of research findings, academic knowledge, and intellectual discourse among researchers, academics, and the broader scholarly community. Recent scholarly definitions emphasize scholarly communication as a multi-layered process encompassing the creation, evaluation, dissemination, and preservation of academic knowledge through various channels including peer-reviewed journals, conference proceedings, institutional repositories, and

digital platforms (Armengol et al., 2020; Huang et al., 2021). This communication system serves as the foundation for advancing knowledge, fostering academic integrity, and ensuring the credibility of research outputs (Koltay, 2019). Contemporary scholars also recognize scholarly communication as a dynamic ecosystem that adapts to technological advancements while maintaining core principles of transparency, originality, and ethical research practices (Nicholas et al., 2020). The effectiveness of this



communication depends significantly on the quality, authenticity, and integrity of the content shared within academic circles.

In South-East Nigeria, the state of scholarly communication among postgraduate students in federal universities reveals significant challenges that impede the quality and credibility of academic outputs. Postgraduate students in this region often produce research works characterized by inadequate citation practices, poor referencing standards, and limited engagement with current scholarly literature (Eze & Uzoigwe, 2021). Many students demonstrate insufficient knowledge of proper academic writing conventions and struggle with effective communication of research findings (Nwachukwu et al., 2022). The digital revolution has expanded access to information resources, yet many postgraduate students lack adequate training in evaluating sources and integrating scholarly materials appropriately (Okeke et al., 2020). Furthermore, limited institutional support, inadequate access to current databases, and insufficient mentorship contribute to the production of substandard research outputs that fail to meet international scholarly standards (Aniebo et al., 2023). These challenges undermine the visibility and impact of research conducted in the region and limit opportunities for collaboration with global academic communities.

Several factors contribute to the persistent problems of poor scholarly communication among postgraduate students in South-East Nigeria. Inadequate training in academic writing and research methodology during undergraduate education creates foundational gaps that persist into postgraduate studies (Ugwu & Eze, 2022). Many students enter postgraduate programs without proper understanding of scholarly communication expectations, citation ethics, and the principles of intellectual property (Onwubiko et al., 2021). Limited access to quality supervisory support and mentorship further exacerbates these challenges, as students receive insufficient guidance on proper research practices and academic integrity (Okafor & Udeh, 2020). The absence of structured orientation programs and continuous professional development opportunities in academic writing leaves students ill-equipped to navigate the complexities of scholarly communication (Nnamani & Okonkwo, 2023). Additionally, time constraints, high student-to-supervisor ratios, and pressure to complete programs within stipulated timeframes often compromise the

quality of research outputs (Ibe et al., 2022). These systemic challenges create an environment where ethical lapses and poor scholarly practices become normalized rather than exceptional. Against this backdrop of systemic deficiencies in training, supervision, and institutional support, specific manifestations of poor scholarly communication most notably plagiarism emerge as prominent and consequential challenges within postgraduate research practice.

Plagiarism stands as one of the most critical threats to scholarly communication integrity and represents a fundamental violation of academic ethics. Plagiarism is conceptualized as the unauthorized use, representation, or appropriation of another person's ideas, words, or intellectual work without proper acknowledgment or attribution (Foltýnek et al., 2020). This academic misconduct manifests in various forms including direct copying of text, paraphrasing without citation, self-plagiarism, mosaic plagiarism, and improper collaboration (Amiri & Razmjoo, 2021). In the context of postgraduate education, plagiarism undermines the originality and credibility of research, diminishes the value of academic qualifications, and erodes trust in scholarly outputs (Eaton & Turner, 2020). The prevalence of plagiarism among postgraduate students often stems from limited awareness of what constitutes plagiarism, inadequate understanding of citation practices, and insufficient knowledge of available resources for ensuring academic integrity (Curtis et al., 2022). Awareness of plagiarism and its consequences serves as the first line of defense against academic dishonesty. When students possess clear understanding of plagiarism definitions, forms, and implications, they are better positioned to avoid intentional or unintentional violations. However, awareness alone proves insufficient without corresponding utilization of tools and resources designed to detect and prevent plagiarism (Rogerson & Basanta, 2021). Plagiarism detection software represents a technological intervention that can enhance scholarly communication by enabling students to check their work before submission, identify improper citations, and develop better writing practices (Weber-Wulff et al., 2023).

The need for this study emerges from the critical gap between the importance of academic integrity in scholarly communication and the actual practices observed among postgraduate students in federal



universities in South-East Nigeria. Despite increasing global emphasis on originality and proper attribution in academic work, limited empirical evidence exists regarding postgraduate students' awareness of plagiarism detection tools and the extent to which they utilize these resources (Adeleke & Adeniyi, 2021). Understanding the current level of awareness and utilization patterns becomes essential for developing targeted interventions, improving institutional policies, and enhancing the overall quality of scholarly communication in the region. This study addresses a significant knowledge gap by examining the awareness and utilization of plagiarism detection software among postgraduate students.

### Research Questions

The following research questions guided this study:

1. What is the level of awareness of plagiarism detection software among postgraduate students in federal universities in South-East Nigeria?
2. What is the level of accessibility of plagiarism detection software to postgraduate students in federal universities in South-East Nigeria?
3. To what extent do postgraduate students in federal universities in South-East Nigeria utilize plagiarism detection software in their scholarly communication?
4. What are the challenges of accessing plagiarism detection software among postgraduate students in federal universities in South-East Nigeria?
5. What are the challenges of utilizing plagiarism detection software among postgraduate students in federal universities in South-East Nigeria?

### Methods

#### Research Design

This study employed a descriptive survey research design. This design was considered appropriate because it allows for systematic collection of data from a large population to describe their characteristics, opinions, and behaviors regarding the awareness, accessibility, utilization, and challenges of plagiarism detection software (Creswell & Creswell, 2018). The descriptive survey design enables researchers to gather quantitative data that can be analyzed statistically to identify patterns, trends, and relationships among

variables without manipulating them (Cohen et al., 2018).

#### Area of the Study

The study was conducted in federal universities located in South-East Nigeria. The South-East geopolitical zone comprises five states: Abia, Anambra, Ebonyi, Enugu, and Imo. These states host several federal universities that offer postgraduate programs across various disciplines. The choice of federal universities was based on their relatively larger postgraduate student populations, established research cultures, and likelihood of having institutional provisions for academic integrity tools compared to other categories of universities.

#### Population of the Study

The population of this study comprised all postgraduate students enrolled in federal universities in South-East Nigeria during the 2024/2025 academic session. The South-East geopolitical zone has five (5) federal universities, namely: University of Nigeria, Nsukka (UNN) in Enugu State; Nnamdi Azikiwe University, Awka (UNIZIK) in Anambra State; Federal University of Technology, Owerri (FUTO) in Imo State; Michael Okpara University of Agriculture, Umudike (MOUUAU) in Abia State; and Alex Ekwueme Federal University, Ndufu-Alike (AE-FUNAI) in Ebonyi State. The population included students pursuing Postgraduate Diploma (PGD), Master's, and Doctorate degrees across various faculties and departments in these institutions. Based on records obtained from the National Universities Commission (NUC) and individual university registries, UNN had approximately 6,800 postgraduate students, UNIZIK about 4,200, FUTO approximately 3,500, MOUUAU about 2,100, while AE-FUNAI had approximately 1,900 postgraduate students during the period of the study. This yielded an estimated total population of approximately 18,500 postgraduate students, which constituted the population of the study.

#### Sample and Sampling Technique

The study utilized a sample size of 400 respondents. This sample size was determined using Krejcie and Morgan (1970) table for determining sample size from a given population, which recommends a sample of 377 for a population of 18,500 at 95% confidence level. The sample was increased to 400 to accommodate potential non-responses and ensure adequate representation. A multi-stage sampling



technique was employed. In the first stage, simple random sampling was used to select three federal universities from the five federal universities in South East Zone. In the second stage, proportionate sampling was used to select respondents from each selected university based on their postgraduate student population. In the third stage, simple random sampling technique was applied to select individual respondents from each stratum, ensuring equal opportunity for participation across different faculties and degree programs.

### **Instrument for Data Collection**

The instrument for data collection was a structured questionnaire titled "Plagiarism Detection Software Awareness, Accessibility, Utilization and Challenges Questionnaire" (PDSAUCQ), developed by the researchers based on extensive literature review. The questionnaire comprised two main sections: Section A contained items on demographic information of respondents including gender, age, degree program, faculty, and year of study. Section B contained five clusters corresponding to the five research questions. Cluster A consisted of 15 items on awareness of plagiarism detection software on a two point scale of Aware and Not Aware. Cluster B contained 15 items on accessibility of plagiarism detection software. Cluster C comprised 15 items on utilization of plagiarism detection software. Cluster D included 11 items on challenges of accessing plagiarism detection software. Cluster E contained 12 items on challenges of utilizing plagiarism detection software. All items in Section B Clusters B-E were structured using a four-point Likert scale with response options of Strongly Agree (SA-4), Agree (A-3), Disagree (D-2), and Strongly Disagree (SD-1). The four-point scale was chosen to eliminate neutral responses and compel respondents to take definite positions on each item.

### **Validation of the Instrument**

The validity of the PDSAUCQ was established through face validity procedures. The initial draft of the questionnaire was submitted to three experts from Faculty of Education. These experts reviewed the instrument for clarity of language, appropriateness of items, relevance to research questions, and adequacy of coverage of the variables under investigation. Based on their comments and suggestions, some items were reworded for clarity, redundant items were removed, and additional items were included to ensure comprehensive coverage of all research variables. The

final version of the instrument incorporated all validated modifications.

### **Reliability of the Instrument**

The reliability of the instrument was determined using Cronbach's alpha coefficient method. A pilot study was conducted with 20 postgraduate students from a federal university in South-South Nigeria, which was outside the study area but shared similar characteristics with the study population. The pilot test data were analyzed using Statistical Package for Social Sciences (SPSS) version 26 to compute internal consistency reliability coefficients. The reliability coefficients obtained were: Cluster B on accessibility (0.82), Cluster C on utilization (0.88), Cluster D on challenges of accessibility (0.84), and Cluster E on challenges of utilization (0.87). The overall reliability coefficient for the entire instrument was 0.89. All coefficients exceeded the 0.70 threshold recommended by Nunnally and Bernstein (1994) for acceptable internal consistency, indicating that the instrument was reliable for data collection.

### **Method of Data Collection**

The researchers obtained ethical approval from the Research Ethics Committee of the institutions involved and secured permission letters from the managements of the selected universities before commencing data collection. The researchers utilized google forms to collect data for this study. The purpose of the study was clearly explained to respondents in the google form. Respondents were assured of confidentiality and anonymity of their responses. They were given adequate time to complete the questionnaires. 378 responses were gotten at the end of the survey period.

### **Method of Data Analysis**

Data were analyzed using descriptive statistics including percentage and mean scores. The Statistical Package for Social Sciences (SPSS) version 26 was used for all data analyses. For research question one, percentage point of 50% and above were interpreted as aware while below 50% were interpreted as not aware. For all the other four research questions, mean scores and standard deviations were calculated based on the four-point Likert scale values assigned as follows: Strongly Agree equals 4, Agree equals 3, Disagree equals 2, and Strongly Disagree equals 1. A decision rule was established using the mathematical mean of the scale: mean scores of 2.50 and above indicated high level of accessibility, high utilization, or presence of challenges as applicable to each research question,

while mean scores below 2.50 indicated low level of accessibility, low utilization, or absence of challenges. The grand mean for each cluster was also calculated to provide an overall picture of each variable. Standard

deviations were reported to show the degree of variation or dispersion of responses from the mean. Results were presented in tables with clear labeling and interpretation for each research question.

### Results

**Table 1: Percentage and Mean analysis of awareness, accessibility and utilization of plagiarism detection software among postgraduate students in federal universities in South-East Nigeria**

Sn	Item Statements	Awareness			Accessibility			Utilization		
		%	Dec	$\bar{x}$	$\sigma$	Dec	$\bar{x}$	$\sigma$	Dec	
1	Turnitin	99.5	A	2.39	0.48	Low	2.10	1.06	Low	
2	Scribbr	83.1	A	2.19	0.49	Low	2.03	1.15	Low	
3	Copyscape	7.1	NA	1.78	0.56	Low	1.94	1.05	Low	
4	Unicheck	1.6	NA	1.86	1.12	Low	1.93	1.10	Low	
5	iThenticate	14.8	NA	2.05	1.11	Low	1.85	1.03	Low	
6	Grammarly Plagiarism Checker	97.9	A	3.02	1.11	High	2.07	0.99	Low	
7	SafeAssign	2.4	NA	1.90	1.10	Low	1.89	1.04	Low	
8	PlagScan	16.9	NA	1.75	1.14	Low	1.81	1.09	Low	
9	Copyleaks	0.5	NA	1.93	1.12	Low	1.78	1.08	Low	
10	QuillBot Plagiarism Checker	92.9	A	2.80	1.16	High	2.22	1.08	Low	
11	Quetext	85.2	A	1.93	1.08	Low	1.86	1.10	Low	
12	PlagiarismCheck.org	56.1	A	1.96	1.13	Low	1.91	0.99	Low	
13	Paperpal	71.7	A	1.93	1.11	Low	1.77	1.05	Low	
14	Crossplag	1.6	NA	1.90	1.13	Low	1.82	1.04	Low	
15	Drillbit Plagiarism	2.1	NA	1.85	1.10	Low	1.93	1.13	Low	
	Grand			2.13		Low	1.94		Low	

$\bar{x}$ =Mean; Dec=Decision; A=Aware; NA=Not Aware

Table 1 presents the percentage and mean analysis of awareness, accessibility, and utilization of plagiarism detection software among postgraduate students in federal universities in South-East Nigeria. Using the 50% benchmark for awareness, the results reveal that postgraduate students are aware of seven plagiarism detection software tools. Specifically, students demonstrated awareness of Turnitin (99.5%), Grammarly Plagiarism Checker (97.9%), QuillBot Plagiarism Checker (92.9%), Quetext (85.2%), Scribbr (83.1%), Paperpal (71.7%), and PlagiarismCheck.org (56.1%). However, the accessibility analysis shows that the mean values for accessibility across all fifteen software tools ranged from 1.75 to 3.02, with only two tools, Grammarly Plagiarism Checker (mean = 3.02) and QuillBot Plagiarism Checker (mean = 2.80), recording means above the 2.50 benchmark, indicating

high accessibility. The remaining thirteen software tools recorded means below 2.50, indicating low accessibility. The grand mean for accessibility was 2.13, which is below the 2.50 benchmark, indicating that postgraduate students generally have low access to plagiarism detection software. Furthermore, the utilization analysis demonstrates that all fifteen plagiarism detection software tools recorded mean values ranging from 1.77 to 2.22, all below the 2.50 benchmark, indicating low utilization levels. The grand mean for utilization was 1.94, which is significantly below the 2.50 benchmark, indicating that postgraduate students in federal universities in South-East Nigeria rarely utilize plagiarism detection software in their scholarly communication despite being aware of several tools.

**Table 2: Mean analysis of challenges of accessing plagiarism detection software among postgraduate students in federal universities in South-East Nigeria**

S/N	Item Statements	$\bar{x}$	$\sigma$	Decision
1	My university does not have institutional subscription to reliable plagiarism detection software.	2.78	1.03	Agree
2	Poor internet connectivity hinders my access to online plagiarism detection tools.	2.09	1.06	Disagree
3	Limited computer facilities in my university restrict access to plagiarism detection software.	2.02	1.10	Disagree
4	The cost of accessing premium plagiarism detection software is too expensive for me.	3.00	0.95	Agree
5	Lack of information about available plagiarism detection tools limits my access.	3.10	0.94	Agree
6	Complex registration or login procedures make it difficult to access plagiarism detection software.	2.94	1.12	Agree
7	My university does not provide adequate training on how to access plagiarism detection tools.	2.97	0.92	Agree
8	Technical support for accessing plagiarism detection software is inadequate in my university.	3.17	0.92	Agree
9	Restrictions on the number of submissions allowed per student limit my access to plagiarism detection tools.	1.92	1.02	Disagree
10	Lack of departmental or faculty support makes it difficult to access plagiarism detection software.	2.93	1.07	Agree
11	Plagiarism detection software is not integrated into our university learning management system.	3.12	1.06	Agree
<b>Grand Mean</b>		<b>2.73</b>		<b>Agree</b>

Table 2 presents the mean analysis of challenges of accessing plagiarism detection software among postgraduate students in federal universities in South-East Nigeria. The mean values of items 1, 4, 5, 6, 7, 8, 10, and 11, which are 2.78, 3.00, 3.10, 2.94, 2.97, 3.17, 2.93, and 3.12 respectively, are all above the 2.50 benchmark for acceptance. This indicates that respondents agree with these statements regarding challenges of accessing plagiarism detection software. Specifically, postgraduate students experience challenges including absence of institutional subscriptions to reliable plagiarism detection software, high cost of premium software, lack of information

about available tools, complex registration or login procedures, inadequate training on access procedures, insufficient technical support, lack of departmental or faculty support, and non-integration of software into university learning management systems. The grand mean of 2.73, which is above the benchmark of 2.50, indicates that postgraduate students in federal universities in South-East Nigeria generally face significant challenges in accessing plagiarism detection software, with institutional and organizational factors being the primary barriers rather than infrastructural limitations.

**Table 3: Mean analysis of challenges of utilizing plagiarism detection software among postgraduate students in federal universities in South-East Nigeria**

S/N	Item Statements	$\bar{x}$	$\sigma$	Decision
1	I do not have adequate training on how to use plagiarism detection software effectively.	3.10	1.06	Agree
2	I find it difficult to interpret the similarity reports generated by plagiarism detection software.	1.96	1.06	Disagree
3	Understanding what percentage of similarity is acceptable confuses me.	2.11	1.09	Disagree
4	Plagiarism detection software sometimes flags properly cited materials as plagiarized.	2.99	1.08	Agree
5	I lack knowledge on how to make corrections based on plagiarism detection reports.	2.87	1.12	Agree
6	Time constraints prevent me from using plagiarism detection software regularly.	2.99	1.03	Agree
7	The process of uploading and analyzing documents using plagiarism detection software takes too much time.	3.04	1.08	Agree
8	Fear of discovering high similarity scores discourages me from using plagiarism detection software.	3.01	1.06	Agree
9	Technical difficulties such as system errors or upload failures discourage regular use.	2.95	1.09	Agree
10	Lack of supervisory guidance on utilizing plagiarism detection tools affects my usage.	1.91	1.06	Disagree
11	Limited awareness of how to access different features of plagiarism detection software hinders effective utilization.	3.17	1.01	Agree
12	My university does not mandate the use of plagiarism detection software	3.09	1.11	Agree
	<b>Grand Mean</b>	<b>2.76</b>		<b>Agree</b>

Table 3 presents the mean and standard deviation analysis of challenges of utilizing plagiarism detection software among postgraduate students in federal universities in South-East Nigeria. The mean values of items 1, 4, 5, 6, 7, 8, 9, 11, and 12, which are 3.10, 2.99, 2.87, 2.99, 3.04, 3.01, 2.95, 3.17, and 3.09 respectively, are all above the 2.50 benchmark for acceptance. This indicates that respondents agree with these statements regarding challenges of utilizing plagiarism detection software. Specifically, postgraduate students experience challenges including inadequate training on effective use, software flagging properly cited materials as plagiarized, lack of knowledge on making corrections based on reports, time constraints preventing regular use, time-consuming upload and analysis processes, fear of discovering high similarity scores, technical difficulties such as system errors or upload failures, limited awareness of how to access different software

features, and absence of mandatory usage policies in universities. The grand mean of 2.76, which is above the benchmark of 2.50, indicates that postgraduate students in federal universities in South-East Nigeria generally encounter significant challenges in utilizing plagiarism detection software, with inadequate training, absence of institutional mandates, psychological barriers, and technical complexities being the primary obstacles to effective utilization.

### Discussion

The findings reveal that postgraduate students in federal universities in South-East Nigeria demonstrated awareness of only seven plagiarism detection software tools out of fifteen examined, indicating selective rather than comprehensive knowledge of available technological resources for ensuring academic integrity. The awareness was concentrated primarily on widely marketed



commercial tools such as Turnitin, Grammarly Plagiarism Checker, and QuillBot Plagiarism Checker, as well as moderately known free alternatives including Scribbr, Quetext, Paperpal, and PlagiarismCheck.org. This pattern of awareness suggests that students learn about these tools through informal networks, online searches, and limited institutional exposure rather than through systematic orientation programs. The concentration of awareness on tools with strong brand recognition and extensive online presence while specialized academic tools designed specifically for research publications remain largely unknown indicates a gap between the proliferation of plagiarism detection technologies in the global market and the actual knowledge transmission mechanisms within Nigerian universities. Students appear to rely heavily on peer recommendations and independent online research to discover these tools rather than receiving structured institutional guidance.

These findings align with several previous studies that have documented similar patterns in Nigerian and African contexts. In alignment, Idiegbeyan-Ose, Nkiko, and Osinulu (2016) reported average level of awareness of plagiarism among postgraduate students in selected universities in Ogun State and found that inadequate writing skills and lack of knowledge constituted major challenges, with pressure to meet deadlines and lack of knowledge of what constitutes plagiarism being responsible for the malaise. Similarly, Sambo, Nwachukwu, Agbo, Unegbu, and Ozioko (2021) identified average awareness levels among postgraduate Library and Information Science students in South-East Nigerian universities, noting that many students used materials without proper referencing. Mireku, Dzamesi, and Bervell (2024) conducted a systematic review of plagiarism in Sub-Saharan African higher education institutions and revealed that most articles focused on students' awareness of plagiarism, with students demonstrating general awareness of plagiarism as a concept but lacking specific knowledge about detection tools and their proper application. However, in contrast, Nketsiah, Imoro, and Barfi (2024) found significantly higher levels of awareness of Turnitin among postgraduate students at the University of Cape Coast in Ghana, with statistically significant relationship between awareness and use, suggesting that institutional commitment to promoting specific

plagiarism detection tools through systematic training programs can significantly improve awareness levels. The findings show that accessibility levels remained disappointingly low across almost all plagiarism detection software examined, with only Grammarly Plagiarism Checker and QuillBot Plagiarism Checker recording accessibility scores above the benchmark. This finding exposes a critical infrastructure and institutional policy gap where universities have failed to provide adequate access to tools that students know exist and understand to be important for their academic work. The low accessibility suggests that institutional subscriptions are either non-existent, limited to specific departments, or restricted to administrative use only, effectively excluding students from utilizing these resources independently. This situation creates a paradox where students possess the awareness and presumably the motivation to use plagiarism detection tools but are prevented from doing so by systemic barriers beyond their control. The concentration of high accessibility in only two free commercial tools suggests that students are relying heavily on personal access to limited free versions rather than benefiting from comprehensive institutional subscriptions. The accessibility challenges fundamentally undermine efforts to promote academic integrity and scholarly excellence, as students who wish to verify their work before submission find themselves unable to access the necessary technological resources.

These accessibility challenges are consistent with findings from previous research on Nigerian universities. Mireku et al. (2024) documented that higher education institutions in Sub-Saharan Africa encountered challenges including lack of well-trained technical staff to support plagiarism detection systems and reluctance among administrative personnel to investigate works for plagiarism traces. In alignment, Adekannbi and Megwaonye (2020) conducted a study on academics' attitudes to and use of institutional policy on Turnitin at Nigeria's premier university and identified restricted access to plagiarism detection instruments as a major obstacle, noting that existing measures were hindered by insufficient implementation and institutional limitations. Onuoha and Ikonne (2013) examined dealing with the plague of plagiarism in Nigeria and revealed that due attention appeared not to have been paid to plagiarism policy in most institutions, contributing to access challenges. These findings led to the development of EagleScan, a homegrown plagiarism detection software by the



Committee of Vice Chancellors of Nigerian Universities, specifically designed to address the high cost of foreign anti-plagiarism software (Nordling, 2018). However, in contrast, Nketsiah et al. (2024) found that the University of Cape Coast in Ghana provided readily accessible Turnitin software integrated into their learning management systems, with mandatory training for all first-year postgraduate students and institutional support through the School of Graduate Studies, resulting in significantly higher utilization rates.

The findings demonstrate that utilization levels of plagiarism detection software were universally low across all fifteen tools examined, representing the most concerning finding of this study. This low utilization pattern indicates that even when students are aware of these tools and some have managed to access them, actual integration into their academic workflow remains minimal. Several factors may explain this utilization gap including lack of mandatory requirements from supervisors or institutions, insufficient training on how to interpret similarity reports and make appropriate corrections, time pressures that discourage the additional step of checking work before submission, and absence of a culture that normalizes plagiarism checking as a standard academic practice. The low utilization also suggests that students may not fully appreciate the practical benefits of using these tools beyond mere compliance with institutional requirements. Many students may view plagiarism detection software as punitive instruments used by institutions to catch violators rather than as developmental tools that can enhance their writing skills and deepen their understanding of proper citation practices. This perception gap contributes to minimal voluntary use even among students who have access to these tools, indicating a fundamental disconnect between technological availability and actual practice.

Previous studies have documented similar patterns of low utilization across Nigerian and African contexts. In alignment, Idiegbeyan-Ose et al. (2016) showed that pressure to meet deadlines, inadequate writing skills, and lack of knowledge about what constitutes plagiarism were responsible for low utilization of preventive measures among Nigerian students. Similarly, Maina, Maina, and Jauro (2014) conducted research on plagiarism from a perspective of a Northern Nigerian University and revealed lack of seriousness toward plagiarism and improper citation

practices, suggesting utilization challenges extend beyond technical access to behavioral and attitudinal dimensions. Mireku et al. (2024) found through systematic review that insufficient skills development regarding ethical academic writing constituted a major cause of problems in utilizing plagiarism prevention tools effectively across Sub-Saharan African institutions. Orim, Borg, and Awala-Ale (2013) studied Nigerian students on postgraduate programs in the United Kingdom and documented that they struggled to apply skills they had not acquired in their previous institutional contexts, particularly regarding plagiarism detection tool utilization, with most postgraduate students not being aware of what actually constitutes plagiarism before coming to UK universities. However, in contrast, Nketsiah et al. (2024) demonstrated through research at the University of Cape Coast that when institutions provide clear policies, mandatory training programs for students on interpreting and responding to similarity reports, readily available software access, and systematic supervisory guidance, utilization rates improve substantially, with statistically significant relationship between awareness and use of Turnitin.

The findings identified multiple significant challenges that prevent postgraduate students from accessing plagiarism detection software, with institutional and organizational factors emerging as the primary barriers rather than infrastructural limitations. Specifically, students agreed that the absence of institutional subscriptions to reliable plagiarism detection software, high cost of premium software, lack of information about available tools, complex registration or login procedures, inadequate training on access procedures, insufficient technical support, lack of departmental or faculty support, and non-integration of plagiarism detection software into university learning management systems constituted major access barriers. The absence of institutional subscriptions represents a fundamental policy and resource allocation failure that leaves students without legitimate pathways to access these essential academic tools, forcing them to either pay for expensive individual subscriptions, rely on limited free versions with restricted functionality, or simply forgo plagiarism checking entirely. The high cost of premium plagiarism detection software emerged as a particularly significant barrier, reflecting the economic realities faced by many postgraduate students who often self-fund their education while managing family



and professional responsibilities. Interestingly, students disagreed that poor internet connectivity and limited computer facilities posed significant barriers, suggesting that basic digital infrastructure has improved sufficiently in most federal universities to support online tool usage, indicating that the accessibility problem is primarily one of institutional will, policy, and resource allocation rather than fundamental technological infrastructure deficits.

These accessibility challenges align with findings from multiple studies on Nigerian and African higher education institutions. In alignment, Mireku et al. (2024) documented through systematic review that higher education institutions in Sub-Saharan Africa encountered challenges including lack of well-trained technical staff to support plagiarism detection systems and reluctance among administrative personnel to investigate works for plagiarism traces. Similarly, Onuoha and Ikonne (2013) identified restricted access to plagiarism detection instruments as a major obstacle, noting that existing measures were hindered by insufficient implementation and institutional limitations. Adekannbi and Megwaonye (2020) examined academics' attitudes at Nigeria's premier university and revealed that despite the university being among Nigeria's first-generation institutions, significant challenges persisted in systematic implementation of Turnitin policies. Nordling (2018) reported that the Committee of Vice Chancellors of Nigerian Universities developed EagleScan, a homegrown plagiarism detection software, specifically to address the high cost barrier posed by foreign anti-plagiarism software subscriptions. Endong (2019) explored using ICTs to check plagiarism in PhD research works in Nigeria and identified prospects and challenges including economic constraints and lack of institutional investment in plagiarism detection infrastructure. However, in contrast, the University of Cape Coast in Ghana demonstrated through institutional practice that when commitment exists and resources are allocated, access challenges can be substantially mitigated through comprehensive subscriptions, systematic integration into learning management systems, and establishment of dedicated administrative support (Nketsiah et al., 2024).

The findings revealed substantial challenges that impede effective utilization of plagiarism detection software even among students who manage to access these tools. Students agreed that inadequate training on

effective use, software flagging properly cited materials as plagiarized, lack of knowledge on making corrections based on reports, time constraints preventing regular use, time-consuming upload and analysis processes, fear of discovering high similarity scores, technical difficulties such as system errors or upload failures, limited awareness of how to access different software features, and absence of mandatory usage policies in universities constituted significant utilization barriers. Inadequate training on effective use emerged as the most critical challenge, indicating that institutions have failed to provide the pedagogical support necessary for students to derive meaningful benefits from plagiarism detection technology. Without proper training, students may not understand how to upload documents correctly, interpret the various components of similarity reports, distinguish between legitimate citations that are flagged and actual plagiarism, or use the feedback to improve their writing practices. The technical and psychological barriers identified present additional layers of complexity, particularly the perception that plagiarism detection software sometimes flags properly cited materials as plagiarized, which creates confusion and frustration among students who have genuinely attempted to follow citation conventions. Fear of discovering high similarity scores represents a psychological barrier where students engage in avoidance behavior, preferring not to know about potential problems rather than confronting them and making necessary corrections. Interestingly, students disagreed that they find similarity reports difficult to interpret or lack supervisory guidance on utilization, presenting a somewhat contradictory picture that may suggest students possess surface-level understanding but lack the deeper analytical skills needed for meaningful engagement with plagiarism detection feedback.

Previous studies have documented similar utilization challenges across Nigerian and broader African contexts. In alignment, Idiegbeyan-Ose et al. (2016) showed through survey research that pressure to meet deadlines, inadequate writing skills, and lack of knowledge about what constitutes plagiarism were responsible for low utilization of preventive measures among postgraduate students in Ogun State universities. Similarly, Maina et al. (2014) revealed through case study research that students lacked good understanding of behaviors constituting plagiarism and were more likely to commit unintentional



plagiarism in Northern Nigerian universities. Mireku et al. (2024) found through systematic review of a decade of literature that insufficient skills development regarding ethical academic writing constituted a major cause of problems in utilizing plagiarism prevention tools effectively across Sub-Saharan African institutions, with dominant forms including self-plagiarism, branded plagiarism, and commission plagiarism. Orim et al. (2013) studied Nigerian students studying abroad and documented that they struggled to apply skills they had not acquired in their previous institutional contexts, particularly regarding plagiarism detection tool utilization, with most cases occurring as a result of lack of awareness and proper skills. Emenalo (2016) examined management strategies for curbing plagiarism in project writing among students of Imo State University and identified lack of proper orientation on how to use plagiarism detection reports constructively, leading students to view these tools as punitive rather than developmental. However, in contrast, Nketsiah et al. (2024) demonstrated through empirical research at the University of Cape Coast that when institutions provide clear policies, comprehensive training programs for students on interpreting and responding to similarity reports through the School of Graduate Studies, systematic supervisory guidance, and dedicated support staff including Turnitin desk officers, utilization rates and effectiveness improve substantially.

### Conclusion

Based on the findings, the study concluded that postgraduate students in federal universities in South-East Nigeria possess awareness of only a limited subset of available plagiarism detection software tools, with knowledge concentrated primarily on widely marketed commercial platforms and popular free alternatives while specialized academic tools remain largely unknown. Despite this selective awareness, accessibility to plagiarism detection software remains critically low, with institutional failures in subscription provision, information dissemination, technical support, and system integration creating substantial barriers that prevent students from accessing tools they know exist and understand to be important. The universally low utilization levels across all examined software tools represent the most troubling finding, indicating that even when access barriers are overcome, students fail to integrate plagiarism

detection into their regular academic practices due to inadequate training, absence of mandatory requirements, time pressures, psychological barriers, and insufficient understanding of how to translate detection reports into meaningful improvements in their scholarly work. The challenges of accessing plagiarism detection software stem primarily from institutional and organizational failures rather than infrastructural limitations, with absent or inadequate subscriptions, high costs, lack of information, complex procedures, insufficient training, poor technical support, lack of departmental support, and non-integration into learning management systems constituting the major barriers. Similarly, challenges of utilizing plagiarism detection software arise mainly from inadequate training, limited feature awareness, absence of mandatory policies, technical difficulties, time constraints, fear of high similarity scores, and difficulties in making corrections based on feedback, while students demonstrate basic comprehension of similarity reports and acceptable thresholds.

### Recommendations

Based on the findings of this study, the researcher recommended that:

1. Federal universities in South-East Nigeria should secure institutional subscriptions to multiple plagiarism detection software tools including both premium options and free alternatives, integrate these tools seamlessly into existing learning management systems with simplified access procedures, provide comprehensive information campaigns to ensure all postgraduate students know what tools are available and how to access them, and establish dedicated technical support systems to assist students with access challenges and troubleshooting.
2. Universities should develop and implement mandatory comprehensive training programs for all postgraduate students on effective utilization of plagiarism detection software, covering not only technical operations but also interpretation of similarity reports, understanding of acceptable thresholds, strategies for making corrections based on feedback, and appreciation of these tools as developmental resources rather than punitive instruments, with such training integrated into



orientation programs and reinforced through workshops throughout students' programs.

3. Universities should establish clear institutional policies requiring all postgraduate students to submit plagiarism detection reports alongside their theses, dissertations, and major assignments, with supervisors trained to provide guidance on utilizing these tools and interpreting results, thereby creating a culture where plagiarism checking becomes a normalized and expected component of scholarly work rather than an optional practice left to individual discretion.

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