

## **EXPLORING THE EXTENT QUILLBOT AND GRAMMARLY ARE TOOLS FOR ENHANCING THE QUALITY OF ACADEMIC WRITING IN PUBLIC UNIVERSITIES IN ANAMBRA STATE, NIGERIA**

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**Abstract:** The main purpose of the study was to explore the extent Quillbot and Grammarly are tools for enhancing the quality of academic writing in public universities in Anambra State, Nigeria. Two research questions guided the study. Two hypotheses were tested at 0.05 level of significance. The correlational survey research design was adopted for the study. The population of the study was made of 155 lecturers of the Department of Educational Management in two public universities in Anambra State. Two structured researcher developed validated questionnaires were used to collect data for the study. The reliability of the instruments was attained through a pilot test. The data collected were analyzed using Cronbach Alpha. The reliability coefficient values of 0.84 and 0.88 were obtained for clusters A and B respectively with an overall reliability co-efficient value of 0.86 for QUQGTEQAWPU and 0.92 for QQAW. Mean, standard deviation and simple regression analysis were used to analyse data for the study. The finding of the study revealed that Quillbot is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria to a high extent. Finding also showed that Grammarly is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria to a high extent. Furthermore, the finding also showed that Quillbot and Grammarly significantly enhances the quality of academic writing in public universities in Anambra State, Nigeria. Based on these findings the researcher recommended among others that administrators of universities in Anambra State should incorporate AI-powered writing tools like QuillBot and Grammarly into academic writing courses and research methodology training to help students develop strong writing skills.

**Keywords:** Academic Writing, Grammarly, QuillBot, Quality, Universities

### **Introduction**

Education is widely acknowledged as the foundation for national advancement and progress. In Nigeria, it plays a crucial role in furthering the Federal Republic's development agenda, with higher education being a significant aspect of this initiative. University education is the pinnacle of learning in Nigeria and is vital for promoting

innovation, producing a skilled workforce, and preparing individuals for leadership positions in both organizations and the nation (Ugwu & Orsu, 2017). Nigerian universities provide a diverse array of academic programs for both undergraduate and postgraduate students, equipping them with the necessary knowledge, skills, and values to tackle societal issues and contribute to the country's advancement (Adeyi et al., 2024). Through research and innovation, universities facilitate progress in science, technology, and industry, which are vital for economic development (Onyekwelu & Onuorah, 2024). They also function as centers for promoting critical thinking, leadership capabilities and cultural integration (Federal Republic of Nigeria (FRN), 2013).

Universities in Nigerian engage in a diverse range of academic activities through programmes designed for undergraduates, postgraduates and faculty members. These initiatives primarily focus on academic research, which serves as a catalyst for change and innovation (Onuorah & Onyekwelu, 2024). A significant aspect of academic research in universities involves the production of high-quality academic works. Academic writing is essential in research and education, offering a structured way to communicate ideas (Khalifa & Albadawy, 2024). Scholars and educators use it to present logical arguments supported by data, facilitating a deeper understanding of various subjects. It enables in-depth analysis, leading to well-founded conclusions across different academic disciplines (Moris, 2018). Wieczorek and Mitreęa (2017) opined that academic writing requires managing vast amounts of information, complex theories, and empirical data while maintaining clarity. Writers must not only grasp their subject thoroughly but also simplify intricate concepts for readers.

Academic texts demand accuracy, logical organisation and credible evidence. Writers must balance being informative and engaging while ensuring originality and coherence, especially in lengthy works like theses (Khalifa & Albadawy, 2024). Effective time management is necessary to handle competing responsibilities. These manuscripts typically undergo rigorous peer review by colleagues in the field, which helps maintain academic integrity and ensures that the research meets international standards (Huisman, 2018). The quality and impact of these research manuscripts are often used as benchmarks to evaluate the contributions of academics, reflecting their expertise and influence within their disciplines. Many scholars encounter difficulties in structuring their academic writing coherently, often struggling with grammatical precision and overall quality. Issues such as poorly constructed sentences, lack of clarity and weak organisation can impede the effective communication of ideas and arguments (Sajjad et al., 2021). To mitigate these challenges, there is growing advocacy for the use of AI-powered writing tools like QuillBot and Grammarly (Gupta et al., 2022; AlMarwani, 2020).

QuillBot is an Artificial Intelligence (AI) powered paraphrasing and summarisation tool that enables students and professionals to significantly reduce their writing time by rewording sentences, paragraphs, or entire articles. It has gained considerable popularity, particularly among postgraduate students, due to its ability to enhance academic writing, improve productivity, support research, and facilitate language development. Patel et al. (2023) highlighted that QuillBot is especially useful for students struggling to articulate complex research ideas clearly and concisely. It aids in refining writing by eliminating redundancy and ambiguity, which are common in postgraduate research drafts. Similarly, Zhang and Chen (2022) observed that students frequently utilise paraphrasing tools like QuillBot to manage the challenges of rewriting and summarising extensive academic

literature. Green and Hughes (2023) further noted that QuillBot provides scholars with a broader range of linguistic structures, enriching their analytical depth and improving the overall quality of their academic work. In the same vein, Grammarly is another AI tool that can be used for academic writing.

Grammarly is a proofreading tool that empowers users to write with confidence, refine their word choices and communicate ideas effectively. As a widely adopted AI-powered writing assistant, it has become an essential resource in academia for enhancing writing quality, improving grammar and punctuation, and streamlining both the drafting and revision processes. Foster et al. (2023) emphasised that Grammarly's recommendations for sentence structure and word selection are particularly beneficial for postgraduate students, where precision and clarity are paramount. According to Wang and Li (2022), students using Grammarly have demonstrated improvements in writing accuracy and fluency, as the tool consistently highlights commonly overlooked errors. Beyond grammar, Grammarly also offers vocabulary enhancement suggestions, helping postgraduate students diversify their word choices, avoid repetition, and strengthen their writing with more sophisticated and contextually appropriate language (Brown et al., 2023). However, these views are theoretical and have not been empirically proven to be the case in public universities in Anambra State. It is against this background that the researcher investigated the extent Quillbot and Grammarly are tools for enhancing the quality of academic writing in public universities in Anambra State, Nigeria.

### **Statement of the Problem**

Academic writing plays a crucial role in higher education across Anambra State, Nigeria, serving as the cornerstone for developing high-quality research manuscripts that adhere to international best practices. Public (Federal and State) universities in Anambra state are responsible for producing scholarly works that foster knowledge expansion, drive innovation and contribute to national progress. However, concerns persist regarding the quality of academic writing, as both students and faculty often struggle to meet global standards. Despite the high literacy rate in Anambra State and the notable achievements of students from the State in both national and international platforms, many scholars in public universities face difficulties in producing research manuscripts that are in tandem with international expectations. The researcher observed that scholars are faced with issues like grammatical errors, lack of coherence, poor organisation of ideas and non-compliance with academic writing conventions. These issues not only undermine the credibility of their research but also limit their competitiveness in the global academic landscape.

The researcher is particularly concerned about the persistent gap in academic writing proficiency among undergraduates, postgraduates, and even lecturers in public universities within the state. This issue is further intensified by the growing need for research outputs that meet peer-reviewed standards and contribute significantly to global knowledge. The recurring shortcomings in academic manuscripts have prompted critical discussions on how scholars can enhance their writing skills to produce impactful and credible research. It is against this background that the researcher investigated the extent Quillbot and Grammarly are tools for enhancing the quality of academic writing in public universities in Anambra State, Nigeria.

### **Purpose of the Study**

The main purpose of the study investigated the extent Quillbot and Grammarly are tools for enhancing the quality of academic writing in public universities in Anambra State, Nigeria. Specifically, the study determined the extent:

1. Quillbot is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria.
2. Grammarly is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria.

### **Research Questions**

The following research questions guided the study:

1. To what extent is Quillbot a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria?
2. To what extent is Grammarly a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria?

### **Hypotheses**

The following null hypotheses were tested at 0.05 level of significance:

1. Quillbot does not significantly enhance the quality of academic writing in public universities in Anambra State, Nigeria.
2. Grammarly does not significantly enhance the quality of academic writing in public universities in Anambra State, Nigeria.

### **Methods**

The study adopted the correlational survey design. The study was conducted in Anambra State, Nigeria. The population of the study was made of 155 lecturers of the Department of Educational Management in two public universities in Anambra State. The universities are Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus and Nnamdi Azikiwe University Awka. The instruments for data collection were two questionnaires which was developed by the researcher. The first instrument was titled “Questionnaire on Utilization of Quillbot and Grammarly as Tools for enhancing the quality of Academic Writing in Public Universities (QUQGTEQAWPU)”. The instrument has two sections; A and B. Section A contains 10 items on the extent of utilization of Quillbot as a tool for enhancing the quality of academic writing in public universities. Section B contains 10 items on the extent of utilization of Grammarly as a tool for enhancing the quality of academic writing in public universities. The instrument was structured on a 4- point rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE). The second instrument is titled “Questionnaire on Quality Academic Writing (QQAW)”. It contains 15 items eliciting information on quality academic writing. The instrument was structured on a 4- point rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE).

The instruments were validated by three experts in the Department of Educational Management and Policy, Faculty of Education, Nnamdi Azikiwe University. The instrument was pilot tested on 20 lecturers of Educational management and policy/planning in Enugu State. The data collected were analyzed using Cronbach Alpha. The reliability coefficient values of 0.84 and 0.88 were obtained for clusters A and B respectively with an overall reliability co-efficient value of 0.86 for QUQGTEQAWPU and 0.92 for QQAW. The researcher administered the questionnaire by sending copies of the questionnaires to the e-mails and Whatsapp messages of the lecturers. In cases where it was difficult administering the instrument electronically. An appointment was made and the

instrument was administered on the spot and retrieved. Out of the 155 copies of the questionnaire administered, 136 copies were returned and used for the analysis of data for the study. This amounted to an 88% questionnaire return rate. The mean value was used to answer the research questions while the standard deviation was used to ascertain the homogeneity or otherwise of the respondents' ratings. In analyzing the mean value, any item with a mean rating between 2.50 and above was regarded as high extent while any item below 2.50 was regarded as low extent. For the hypothesis, simple regression was used to test the hypothesis at a 0.05 level of significance. Meanwhile, a null hypothesis was rejected where the P - value is less than the stipulated level of significance (.05). Inclusively, if the p-value is greater than or equal to the stipulated level of significance (.05), the hypothesis was accepted.

## Results

### Research Question One

To what extent is Quillbot a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria?

**Table 1: Respondents Mean Ratings on the Extent Quillbot is a tool for Enhancing the Quality of Academic Writing in Public Universities in Anambra State, Nigeria (N=136)**

S/N	Item Statements	Mean	SD	Remarks
1	Use QuillBot to ensure grammatical accuracy in academic writing.	3.50	0.80	High Extent
2	Utilise QuillBot to enhance coherence in research manuscripts.	3.40	0.75	High Extent
3	Depend on QuillBot for paraphrasing to avoid plagiarism in academic papers.	3.70	0.65	High Extent
4	Use QuillBot to summarise lengthy research articles.	3.30	0.85	High Extent
5	Rely on QuillBot to refine word choices for academic writing.	3.60	0.72	High Extent
6	Use QuillBot to generate alternative ways of expressing complex ideas in research writing.	3.45	0.78	High Extent
7	Apply QuillBot in research papers effectively.	3.55	0.70	High Extent
8	Use QuillBot's AI-powered suggestions to refine writing style and eliminate redundancy.	3.61	0.68	High Extent
9	Depend on QuillBot for quick feedback on writing clarity.	3.33	0.90	High Extent
10	Utilise QuillBot as a tool for improving the professional tone of academic writing.	3.57	0.80	High Extent
<b>Cluster Mean</b>		<b>3.50</b>		<b>High Extent</b>

Data in Table 1 shows the extent Quillbot is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria. The respondents rated Quillbot as a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria to a high extent as reflected in items 1- 10 with mean ratings ranging between 3.33 and 3.70. The standard deviation scores ranging between 0.68 and 0.90 indicate that the respondents' opinions were close. The cluster mean of 3.50 indicate that Quillbot is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria to a high extent.

### Research Question Two

To what extent is Grammarly a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria?

**Table 2: Respondents Mean Ratings on the Extent Grammarly is a tool for Enhancing the Quality of Academic Writing in Public Universities in Anambra State, Nigeria (N=136)**

S/N	Item Statements	Mean	SD	Remarks
11.	Use Grammarly to check and correct grammatical errors in academic writing.	3.79	0.69	High Extent
12	Utilise Grammarly to enhance sentence structure and coherence in research papers.	3.64	0.73	High Extent
13	Depend on Grammarly to improve spelling and punctuation accuracy.	3.78	0.65	High Extent
14	Use Grammarly’s plagiarism detection tool to ensure originality in academic work.	3.48	0.87	High Extent
15	Apply Grammarly’s vocabulary enhancement suggestions to improve word choice.	3.57	0.75	High Extent
16	Use Grammarly’s AI-powered tone and clarity suggestions to refine academic writing.	3.60	0.72	High Extent
17	Rely on Grammarly’s citation and referencing assistance for academic papers.	3.30	0.80	High Extent
18	Utilise Grammarly to enhance writing style.	3.70	0.71	High Extent
19	Use Grammarly’s feedback to eliminate redundant words.	3.45	0.73	High Extent
20	Depend on Grammarly for maintaining a professional tone in academic writing.	3.50	0.76	High Extent
<b>Cluster Mean</b>		<b>3.58</b>		<b>High Extent</b>

Data in Table 2 shows the extent Grammarly is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria. The respondents rated Grammarly as a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria to a high extent as reflected in items 11- 20 with mean ratings ranging between 3.30 and 3.79. The standard deviation scores ranging between 0.65 and 0.87 indicate that the respondents’ opinions were related. The cluster mean of 3.58 indicate that Grammarly is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria to a high extent.

**Hypothesis One**

Quillbot does not significantly enhance the quality of academic writing in public universities in Anambra State, Nigeria.

**Table 3: Simple Regression Analysis of the Significant Influence of Quillbot in enhancing the Quality of of Academic Writing in Public Universities in Anambra State, Nigeria**

	Unstandardized $\beta$	Std. Dev. $\beta$	Standardized $\beta$	t- value	p-value
Constant	26.554	6.245		49.847	0.000
<b>Quillbot</b>	0.781	0.312	0.724	45.232	0.000
R	0.711				
R <sup>2</sup>	0.651				
Adj. R <sup>2</sup>	0.623				
F	54.003				0.000

The summary of the test of significance of simple regression analysis as shown in Table 3 revealed that the simple regression coefficient (R) is 0.711 while the R<sup>2</sup> is 0.651 and Adjust R<sup>2</sup> is 0.623. The F-ratio associated with regression is 54.003, the t-test is 45.232 and the P-value = 0.000. Since p-value (.000) is less than the specified level of significance 0.05. This means that the effect of Quillbot on quality of academic writing is statistically significant. Thus, Quillbot significantly enhances the quality of academic writing in public universities in Anambra State, Nigeria. Thus, the null hypothesis was rejected.

### Hypothesis Two

Grammarly does not significantly enhance the quality of academic writing in public universities in Anambra State, Nigeria.

**Table 4: Simple Regression Analysis of the Significant Influence of Grammarly in enhancing the Quality of Academic Writing in Public Universities in Anambra State, Nigeria**

	Unstandardized $\beta$	Std. Dev. $\beta$	Standardized $\beta$	t- value	p-value
Constant	27.532	7.110		50.334	0.000
<b>Grammarly</b>	0.802	0.440	0.766	55.200	0.000
R	0.745				
R <sup>2</sup>	0.701				
Adj. R <sup>2</sup>	0.687				
F	57.211				0.000

The summary of the test of significance of simple regression analysis as shown in Table 4 revealed that the simple regression coefficient (R) is 0.745 while the R<sup>2</sup> is 0.701 and Adjust R<sup>2</sup> is 0.687. The F-ratio associated with regression is 57.211, the t-test is 55.200 and the P-value = 0.000. Since p-value (.000) is less than the specified level of significance 0.05. This means that the effect of Grammarly on quality of academic writing is statistically significant. Thus, Grammarly significantly enhances the quality of academic writing in public universities in Anambra State, Nigeria. Thus, the null hypothesis was rejected.

### Decision

The finding of the study revealed that Quillbot is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria to a high extent. The finding of the study may have resulted because

Quillbot offer productivity features that could help to improve the quality of an academic manuscript. This finding is in agreement with Patel et al. (2023) who reported that QuillBot is particularly beneficial for students who struggle with expressing complex research ideas concisely. The tool refines writing by eliminating redundancy and ambiguity, which are common issues in postgraduate research drafts. This is in agreement with Zhang and Chen (2022), who reported that postgraduate students frequently rely on QuillBot to effectively paraphrase and summarise large volumes of academic literature. Furthermore, findings of the study revealed that Quillbot significantly enhances the quality of academic writing in public universities in Anambra State, Nigeria. This finding is in agreement with Green and Hughes (2023) who revealed that QuillBot enhances students' analytical depth by providing diverse linguistic structures, allowing for more sophisticated and well-articulated academic discourse. This supports the study's findings that QuillBot plays a significant role in improving the overall quality of research manuscripts in public universities in Anambra State.

The finding of the study revealed that Grammarly is a tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria to a high extent. The finding is in agreement with Foster et al. (2023) who pointed out that Grammarly's ability to refine sentence structure and improve clarity makes it an indispensable tool for postgraduate students, particularly those writing research papers. Also, Wang and Li (2022) observed that Grammarly provides consistent feedback on common writing errors, helping students improve accuracy and fluency over time. Furthermore, the finding of the study revealed that Grammarly significantly enhances the quality of academic writing in public universities in Anambra State, Nigeria

### **Conclusion**

The researcher concludes based on the findings that QuillBot is a highly effective tool for enhancing the quality of academic writing in public universities in Anambra State, Nigeria. Its ability to paraphrase, summarise, and restructure content makes it particularly valuable for postgraduate students who struggle with clarity, coherence and grammatical accuracy in their research writing. The findings also revealed that Grammarly plays a significant role in refining academic manuscripts by offering real-time grammar correction, sentence restructuring and vocabulary enhancement. As universities strive to produce high-quality research, integrating these tools into academic writing processes will be beneficial in improving the overall credibility and competitiveness of scholarly outputs.

### **Recommendations**

Based on the findings, the following recommendations are made:

1. Administrators of universities in Anambra State should incorporate AI-powered writing tools like QuillBot and Grammarly into academic writing courses and research methodology training to help students develop strong writing skills.
2. The federal and state governments in conjunction with administrators of universities should organise regular training sessions and workshops to educate students and faculty members on the effective use of AI-driven writing tools to improve research quality.

3. The federal and state governments in conjunction with administrators of universities should consider providing access to premium versions of QuillBot and Grammarly for students and faculty to maximise the benefits of advanced features such as plagiarism detection, enhanced vocabulary suggestions and in-depth writing analysis.

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