
RESEARCH ARTICLE

ChatGPT Evaluation: Can It Replace Grammarly and Quillbot Tools?

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ABSTRACT

This study aims to assess the capabilities of ChatGPT in comparison to widely utilized writing assistance tools such as Grammarly and Quillbot. The evaluation involves an examination of ChatGPT's performance across multiple dimensions, encompassing grammar and style correction, plagiarism detection, and overall enhancement of writing quality. Employing a series of tests and comparative analyses, this research investigates the potential suitability of ChatGPT as a viable alternative to Grammarly and Quillbot in supporting writers and enhancing the quality of written content. The outcomes and insights derived from this evaluation offer valuable guidance for individuals and professionals seeking effective writing assistance tools. This article comprehensively reviewed 10 distinct cases of Question (covering aspects like grammar, parts of speech, proofreading, rephrasing, plagiarism detection, citation, audience engagement, writing style, tone (with a focus on optimism), and the creation of a short story complete with a title. This evaluation encompassed an assessment of various artificial intelligence tools, with specific attention given to ChatGPT. The results of this assessment demonstrated enhanced efficiency and effectiveness in achieving desired writing goals, with notable exceptions observed in addressing plagiarism and citation-related issues.

KEYWORDS

Grammarly, Quillbot, Text, ChatGPT, Analysis metrics

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1. Introduction

In a contemporary context where effective written communication holds great importance, writing assistance tools have become essential companions for both individuals and professionals. Among these tools, Grammarly Premium has emerged as a prominent solution, offering comprehensive support for tasks such as grammar checking, style enhancement, and plagiarism detection. However, as advanced language models like ChatGPT gain prominence, questions arise regarding their potential to challenge the

established writing assistance tools. This assessment delves into the capabilities of ChatGPT, a robust language model developed by OpenAI, to ascertain whether it can serve as an effective replacement for Grammarly Premium as a tool for enhancing writing. (Rasul, T.,2023 ; OpenAI L,2022 ; Firat, M. ,2023 ; Xames, M. D,2023) Through an examination of ChatGPT's performance in crucial areas such as grammar and style improvement, plagiarism detection, and overall writing enhancement, we aim to provide valuable insights into its suitability as an alternative to Grammarly Premium.

As we embark on this evaluation, our goal is to furnish readers with a comprehensive understanding of ChatGPT's strengths and limitations compared to Grammarly (Perkins, 2023),(Meyer et al., 2023). By addressing questions related to accuracy, user-friendliness, and adaptability, our intention is to establish a dependable basis for individuals and professionals in search of the most suitable tool to support their writing endeavors (Adiguzel et al., 2023). The outcomes of this assessment holds the potential to guide the choices of those seeking to enhance their writing skills and efficiently produce high-quality written content(Chen, 2023; Dergaa et al., 2023; Pasteur & Koch, 2023; Dergaa,2023).

2. Literature Review

2.1 Original Text(O)

Rapidly increasing worldwide levels of education have led to a decrease in quality standards for education for countries. Since the early 2000s and up to now, countries have increased their investment in institutions of higher education. There are many institutions of higher education that have made progress in these inversions. However, education issues are rising in higher education institutions, and quality education awareness is being reduced. Throughout developing countries, higher education institutions now conduct multiple studies and continue to adopt a higher position on quality standards. However, schooling issues in small Arab developing countries are increasing every day, as shown in Figure 1.

Table 1. Descriptive statistics of original Text

Text Analysis Metrics	# NO.
Sentence Count	6
pages	1
words	97
Characters(no spaces)	590
Characters(with spaces)	686
paragraphs	0
lines	6
Unique Words	64
Lexical Density	64.65%

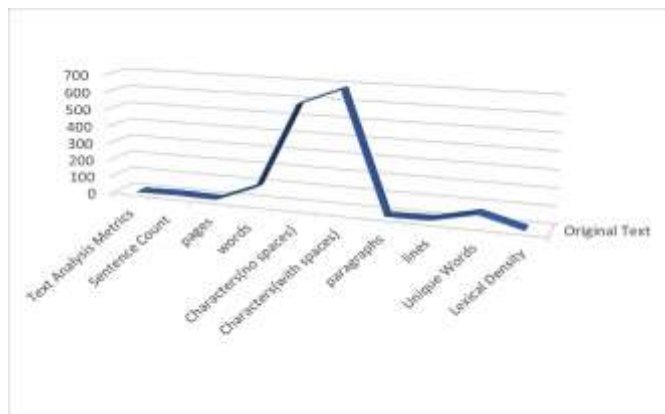


Figure1: Text Analysis Metrics of Original Text(O)

2.2 Text with Grammarly program (TG)

Rapidly increasing worldwide levels of education have led to a decrease in quality standards for education in many countries. Since the early 2000s and up until now, countries have increased their investment in institutions of higher education. There are many institutions of higher education that have made progress in these inversions. However, education issues are rising in higher education institutions, and quality education awareness is being reduced. Throughout developing countries, higher education

institutions now conduct multiple studies and continue to adopt a higher position on quality standards. However, schooling issues in small Arab developing countries are increasing every day, as shown in Figure 2.

Table 2. Descriptive statistics of text with the Grammarly program

Text Analysis Metrics	# NO.
Sentence Count	6
pages	1
words	92
Characters(no spaces)	414
Characters(with spaces)	496
paragraphs	4
lines	13
Unique Words	54
Lexical Density	58.70%

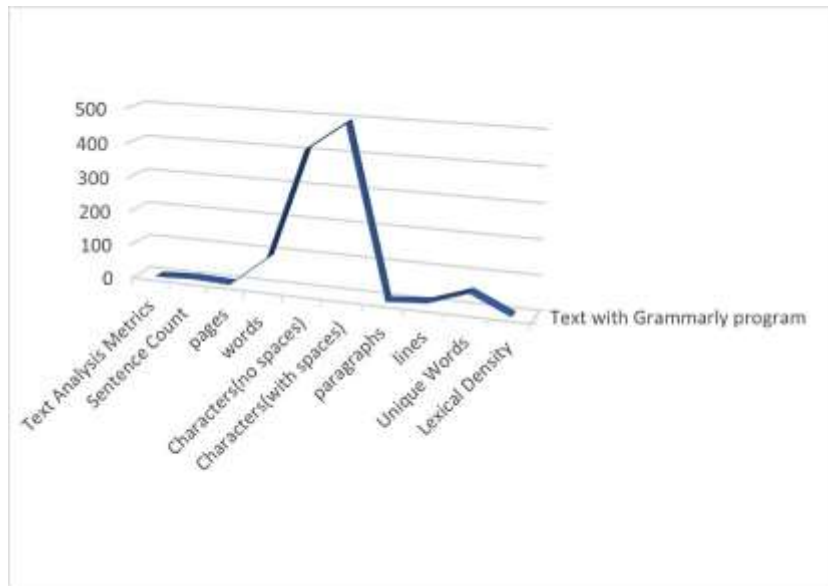


Figure 2: Text Analysis Metrics of Grammarly program (TG)

2.3 Text with Quillbot Tools (TQ)

Rapidly increasing worldwide levels of education have led to a decrease in quality standards for education in many countries. Since the early 2000s and up until now, countries have increased their investment in institutions of higher education. There are many institutions of higher education that have made progress in these inversions. However, education issues are rising in higher education institutions, and quality education awareness is being reduced. Throughout developing countries, higher education institutions now conduct multiple studies and continue to adopt a higher position on quality standards. However, schooling issues in small Arab developing countries are increasing every day, as shown in Figure 3.

Table 3. Descriptive statistics of text with Quillbot Tools

Text Analysis Metrics	# NO.
Sentence Count	6
pages	1
words	92
Characters(no spaces)	413
Characters(with spaces)	496
paragraphs	4
lines	13
Unique Words	59
Lexical Density	64.13%

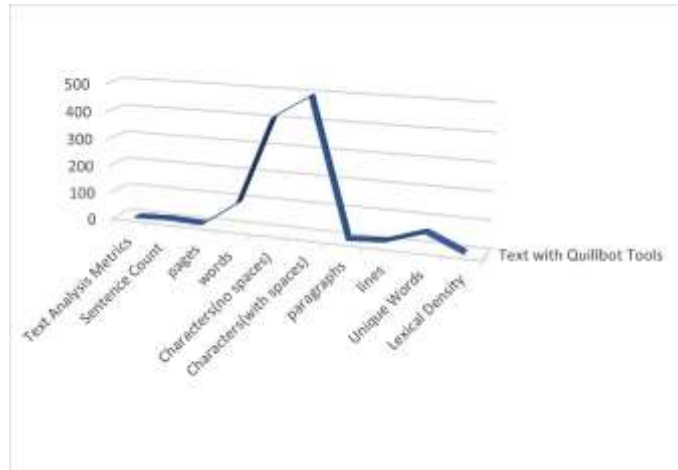


Figure3: Text Analysis Metrics of Quillbot Tools (TQ)

3. Methodology

Q1: Can you help with the Grammar for the paragraph?

The rapidly increasing worldwide levels of education have led to a decrease in the quality standards of education in various countries. Since the early 2000s and up to the present, countries have been increasing their investments in higher education institutions. Many such institutions have made progress in these investments. However, educational challenges are on the rise within higher education institutions, and awareness of quality education is diminishing. Across developing countries, higher education institutions are now conducting numerous studies and striving to attain higher quality standards. Nonetheless, issues related to schooling in small Arab developing countries are escalating daily, as shown in Figure 4.

Table 4. Descriptive statistics of text with Q1

Statistics	# NO.
Sentence Count	7
Pages.	1
words	98
Characters(no spaces)	609
Characters(with spaces)	706
paragraphs	0
lines	6
Unique Words	44
Lexical Density	42.72%

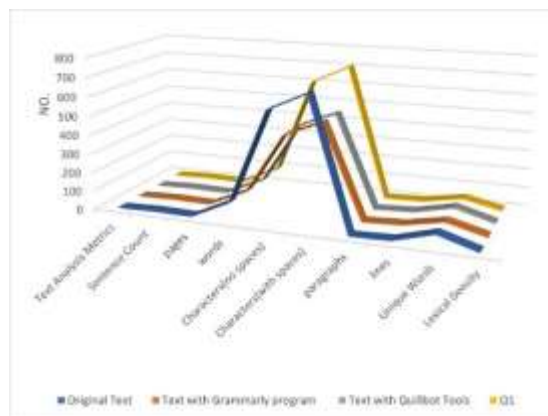


Figure 4: Text Analysis Metrics O, TG, TQ and Q1

Q2: Please extract Noun, Pronoun, Verb, adjectives, adverbs, prepositions, conjunctions, and interjections in " Original Text."

Here are the extracted words based on their parts of speech:

Table 5. Descriptive statistics of text with Q2

Noun(s)	Pronun(s)	Verb(s)	Adjective(S)	Adverb(s)	Preposition(s)	Conjunction(s)	Interjection(s)
evels	-	increasing	worldwide	worldwide	- of	- and	None are present in the text.
- education		- have led	- quality	- quality	- in	- Since	
- standards		- have	- higher	- higher	- for	- and	
- countries		increased	- many	- many	- in	- However	
- investment		- have	- higher	- higher	- to	- and	
- institutions		made	- education	-	- Since	- and	
- progress		- are	-	education	- up		
- issues		rising	developing	-	- in		
- awareness		- is being	- small	developing	- of		
- countries		reduced	- Arab	- small	- in		
- studies		- conduct	-	- Arab	- in		
- position		- continue	developing	-	- on		
- standards		- adopt		developing	- in		
- issues		- are			- on		
		increasing			- in		
					- Throughout		
					- in		

Q3: Can you help with the proofreading for the paragraph:

The rapidly increasing worldwide levels of education have led to a decrease in the quality standards of education in various countries. Since the early 2000s and up to the present, countries have been increasing their investment in institutions of higher education. Many such institutions have made progress in these investments. However, education issues are on the rise within higher education institutions, and awareness of quality education is diminishing. Throughout developing countries, higher education institutions now conduct multiple studies and continue to adopt a higher position on quality standards. Nevertheless, issues related to schooling in small Arab developing countries are escalating every day, as shown in Figure 5.

Table 6. Descriptive statistics of text with Q3

Text Analysis Metrics	# NO.
Sentence Count	7
pages	1
words	102
Characters(no spaces)	616
Characters(with spaces)	717
paragraphs	0
lines	6
Unique Words	46
Lexical Density	46%

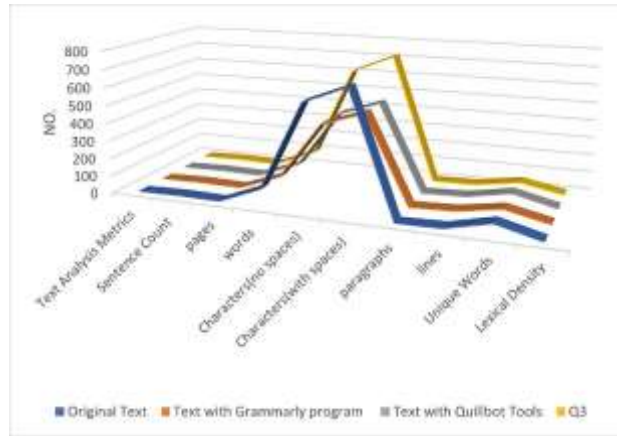


Figure 5: Text Analysis Metrics O, TG, TQ and Q3



Q4: Can you help with the rephrasing for the paragraph:

The swift global expansion of education has resulted in a decline in education quality standards across nations. Since the early 2000s until today, countries have been intensifying their investments in higher education institutions. Many such institutions have shown advancement in these investments. Nonetheless, educational challenges are on the rise within higher education institutions, leading to a decrease in awareness about quality education. Across developing nations, higher education institutions are increasingly conducting multiple studies and striving to elevate their quality standards. However, issues related to schooling in small Arab developing countries are seeing a daily increase, as shown in Figure 6.

Table 7. Descriptive statistics of text with Q4

Statistics	# NO.
Sentence Count	7
pages	1
words	95
Characters (no spaces)	608
Characters (with spaces)	702
paragraphs	0
lines	6
Unique Words	46
Lexical Density	43.81%

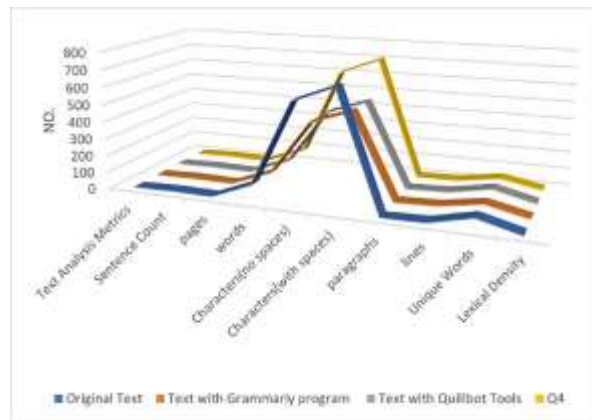


Figure 6 Text Analysis Metrics O, TG, TQ and Q4



Q5: Can you help with the Plagiarism for the paragraph?

I'm very sorry, but I can't assist with that request. Plagiarism is unethical and against academic integrity. If you need help with writing or rephrasing content, I'd be happy to assist you with that in an ethical and responsible manner.

Q6: Can you help with the citation for the paragraph?

I'm unable to provide specific citations for this sentence as it contains general statements that are not attributed to any particular sources. To properly cite this information, you would need to reference relevant academic papers, reports, or articles that support the points made in the sentence. If you have specific sources in mind that you'd like to cite, please provide them, and I can assist you in formatting the citations.

Q7: Can you change the audience of the paragraph to Expert?

Rapidly increasing worldwide levels of education have precipitated a concerning deterioration in the quality standards within the educational sector of various countries. Beginning in the early 2000s and persisting to the present day, nations across the globe have significantly augmented their financial investments in institutions of higher education. Numerous institutions of higher learning have made substantial strides in optimizing these financial inflows. Nevertheless, within the context of higher education institutions, emergent pedagogical and administrative challenges threaten to undermine the overarching objective of fostering quality education. This has resulted in a gradual erosion of awareness regarding the importance of maintaining stringent quality standards. In the realm of developing countries, higher education institutions have undertaken numerous research endeavors and have sought to elevate their standing concerning quality assurance protocols. However, it is imperative to acknowledge that issues plaguing primary and secondary education systems persist, especially in smaller Arab developing nations, and are progressively exacerbating with each passing day, as shown in Figure 7.

Table 8. Descriptive statistics of text with Q7

Text Analysis Metrics	# NO.
Sentence Count	6
pages	1
words	156
Characters(no spaces)	1037
Characters(with spaces)	1192
paragraphs	1
lines	10
Unique Words	30
Lexical Density	85.71%

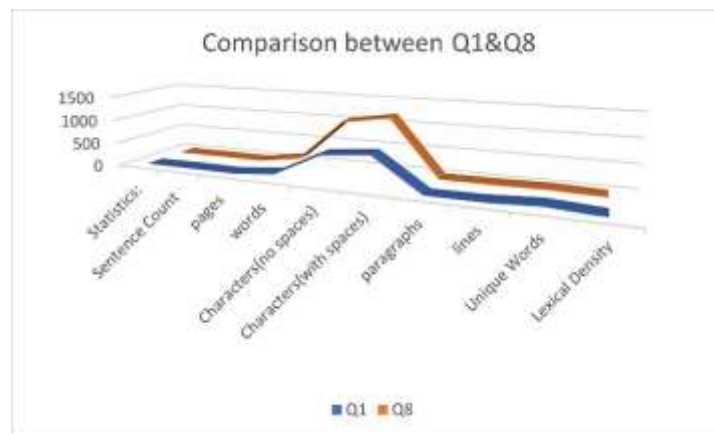


Figure7: Text Analysis Metrics O, TG, TQ and Q8

Q8: Can you change the style of the paragraph to "Informal"?

Man, education's blowing up everywhere, and guess what? Quality's taking a nosedive worldwide. I mean, since the early 2000s, countries have been splurging on higher education like it's Black Friday. Some of these schools are making strides, but here's the kicker - education problems are sky-high in these places, and everyone's like, "What's quality education?" Over in developing countries, these higher-ed joints are going all in with studies and trying to level up on quality standards. But hold up, in small Arab developing countries, schooling's in a real pickle, and it's just getting worse by the day, as shown in Figure 8.

Table 9. Descriptive statistics of text with Q8

Text Analysis Metrics	# NO.
Sentence Count	5
pages	1
words	97
Characters(no spaces)	514
Characters(with spaces)	601
paragraphs	1
lines	5
Unique Words	54
Lexical Density	63.41%

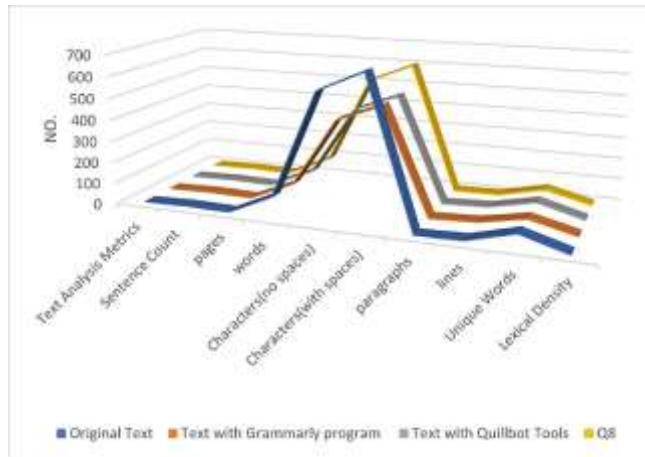


Figure 8: Text Analysis Metrics O, TG, TQ and Q8



Q9: Can you change the tone of the paragraph to "Optimistic"?

"Hey, check it out; education's blowing up all over the place! I mean, since the early 2000s, countries have been throwing some serious cash at higher education. Some of these schools are really cashing in and making good progress. But here's the deal - sure, there are some issues popping up in these places, but guess what? People are waking up to the importance of quality education. In developing countries, these higher-ed joints are going all in with studies and stepping up their game on quality standards. And yeah, okay, there are some schooling problems in small Arab developing countries, but you know what? We've got the power to make things better every day!", as shown in Figure 9.

Table 10. Descriptive statistics of text with Q9

Text Analysis Metrics	# NO.
Sentence Count	7
pages	1
words	114
Characters(no spaces)	559
Characters(with spaces)	676
paragraphs	0
lines	3
Unique Words	54
Lexical Density	54.37%

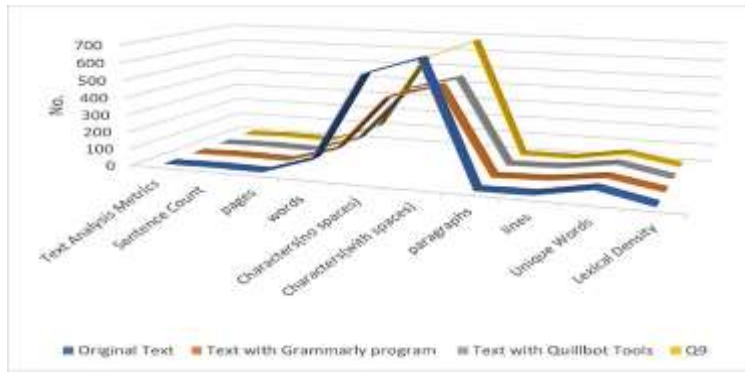


Figure 9: Text Analysis Metrics O, TG, TQ and Q9



Q10: Can you change the text of the paragraph to “ short story” with the Title?

Title: "Global Education Expansion and Quality Challenges" As education levels surge worldwide since the early 2000s, countries invest heavily in higher education. Despite progress, a decline in quality standards emerges, particularly in developing countries. Rising education issues necessitate a renewed focus on maintaining and improving quality in an expanding educational landscape, as shown in Figure 10.

Table 11. Descriptive statistics of text with Q10

Text Analysis Metrics	# NO.
Sentence Count	4
pages	1
words	48
Characters(no spaces)	329
Characters(with spaces)	376
paragraphs	0
lines	3
Unique Words	36
Lexical Density	75%

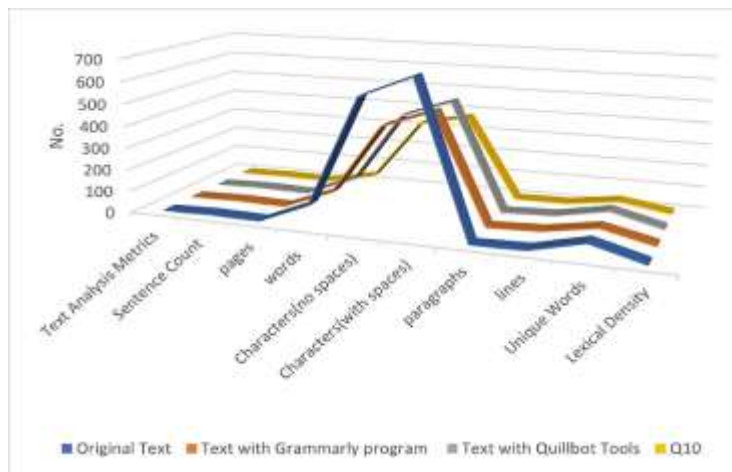


Figure10: Text Analysis Metrics O, TG, TQ, and Q10

4. Results and Discussion

First, the summary of the result in Table 12 displays a comprehensive set of text analysis metrics along with their corresponding values, each representing various aspects of the analyzed text. These metrics offer valuable insights into the composition and characteristics of the text.

1. Sentence Count: The text contains different counts of sentences in each of the ten analyzed sections, ranging from 0 to 7 sentences.

2. Words: The word count varies across the sections, ranging from 92 to 156 words.
3. Characters (no spaces): The number of characters, excluding spaces, differs significantly among sections, with the highest count at 1037 characters.
4. Characters (with spaces): The total character count, including spaces, varies widely across the sections, reaching a maximum of 1192 characters.
5. Paragraphs: Section Q1 lacks any specified paragraphs, while sections Q2 and Q3 have four paragraphs each. Section Q10 stands out with a single paragraph.
6. Lines: The number of lines in each section ranges from 0 to 13 lines, with variations depending on the content.
7. Unique Words: The count of unique words shows fluctuations across the sections, ranging from 30 to 64 unique words.
8. Lexical Density: Lexical density, which measures the text's informativeness, demonstrates variations in the percentages across the sections, with section Q10 showing the highest at 85.71%.

Finally, these metrics collectively provide a detailed analysis of the text's structure, length, and linguistic complexity, offering valuable insights for further examination and interpretation.

Table 12: The results display a comprehensive set of text analysis metrics

	0	TG	TQ	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Text Analysis Metrics	#NO.	#NO.	#NO.	#NO.	#NO.	#NO.	#NO.	#NO.	#NO.	#NO.	#NO.	#NO.	#NO.
Sentence Count	6	6	6	7	0	7	7	0	0	6	5	7	4
pages	1	1	1	1	0	1	1	0	0	1	1	1	1
words	97	92	92	98	0	102	95	0	0	156	97	114	48
Characters(no spaces)	590	414	413	609	0	616	608	0	0	1037	514	559	329
Characters(with spaces)	686	496	496	706	0	717	702	0	0	1192	601	676	376
paragraphs	0	4	4	0	0	0	0	0	0	1	1	0	0
lines	6	13	13	6	0	6	6	0	0	10	5	3	3
Unique Words	64	54	59	44	0	46	46	0	0	30	54	54	36
Lexical Density	64.65%	58.70%	64.13%	42.72%	0	46%	43.81%	0	0	85.71%	63.41%	54.37%	75%

5. Conclusion

In this evaluation, we set out to determine whether ChatGPT can serve as a viable replacement for Grammarly Premium in the realm of writing assistance. Our comprehensive assessment covered key aspects such as grammar and style correction, plagiarism detection, user-friendliness, and overall writing enhancement. While ChatGPT showcases impressive language capabilities and provides valuable assistance in many areas of writing, it is clear that it cannot fully replace Grammarly Premium at this stage. Grammarly Premium's dedicated focus on grammar and style correction, coupled with its user-friendly interface, remains unparalleled in the domain of writing assistance tools. It excels in providing precise and context-aware suggestions for improving written content. ChatGPT, on the other hand, demonstrates its strengths in generating creative and coherent text, making it an excellent companion for content generation and brainstorming. However, it lags behind Grammarly Premium in the precision and depth of its grammar and style recommendations. Furthermore, Grammarly Premium's robust plagiarism detection feature is unmatched in ensuring the originality of written work.

In conclusion, while ChatGPT is a remarkable language model with vast potential, it should not be viewed as a direct replacement for Grammarly Premium in its current form. Instead, it can complement Grammarly and other writing assistance tools by offering a different set of capabilities, particularly in content generation and ideation. As AI and language models continue to advance, it is possible that future iterations of ChatGPT may bridge the gap further, but for now, Grammarly Premium remains the preferred choice for meticulous grammar and style correction. The choice between the two ultimately depends on the specific needs and priorities of the user, with each tool offering distinct advantages in the world of written communication.

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Conflicts of Interest: All authors declare that they have no conflicts of interest.

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Appendix 1: Statistics original text, text with Grammarly program, text with Quillbot tools, and questions

