



Which helps me better? Students' reasons of using online grammar-checking tools in academic writing

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ABSTRACT

Recent studies have mainly focused on the student's perceptions and the effectiveness of online grammar-checking tools during the academic writing process. The concerns related to the kind of online grammar checkers and reasons for using the tools also need to be taken into attention. This present research aims to answer the research questions which are (1) What online grammar-checking tools do students use to correct grammar in academic writing, and (2) What are the reasons behind students' use of online grammar-checking tools in academic writing. Data were collected by face-to-face interviewing 9 students who were purposefully selected using online grammar checkers during their article writing process. The research findings revealed that (1) Online grammar checkers used by students to correct grammar in academic writing are Grammarly, QuillBot, Sider AI, and Google Docs Automatic Correction, (2) There are four reasons behind students' use of online grammar checkers in academic writing; offering convenience and time-saving, improving accuracy and readability, helping students in the process of editing & revising the draft, and to learn and improve grammar skills. It is recommended, however, that students should manually review and correct for missed grammatical errors considering that online grammar checkers are not perfect.

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Introduction

Many have argued that following the communicative approach, grammar may no longer become the focus of any teaching and learning. That is to say that in a classroom setting, we may not specifically have a session discussing grammar. However, grammar still holds a major role in academic writing. This is because grammar relates to grammatical constructions (Cushing & Helks, 2021), which also helps the readers indeed comprehend the information

organized in writing (Lailika, 2019). The correct application of grammatical rules in writing is essential, especially for academic purposes. It necessitates specialized skills including understanding needs, employing strategies, and maintaining a consistent writing process. As a writing genre, Lin and Morrison, (2021) state that academic writing involves complex arrangements since it requires critical thinking and high-quality writing students' in it. Students must understand and master some components to have good writing ability, such as sentence structure, word choice, writing organization and coherence. Yet, Ariyanti and Anam, (2021) also gave their statement that in the context of Indonesian EFL students, the difficulties found in writing for academic purposes include grammar, cohesion, coherence, and organization.

As a consequence of the high demand for technology in education, according to Nazari et al (2021), the development of technologies has grown its field into automated written corrective feedback. Digital tools, especially online grammar-checkers, provide students with instant feedback on their writing, allowing them to identify and correct errors quickly. This immediate correction process helps students understand grammatical rules better and improves their accuracy over time. Simanjuntak et al (2022) then argue that students can get benefits from digital tools in several ways, including making the most of the online grammar-checking tools and increasing their proficiency in academic writing in English. Online grammar-checking tools refer to online tools that help in checking or reviewing the grammatical correctness of the writing (Gain et al., 2019). The majority of online grammar checkers also provide spelling, punctuation, and capitalization in the process of checking. Alkamillah (2020) also gave his statement that grammar checkers will suggest students correct grammar based on typographical variations while grammar checkers determine the syntactical correctness of a sentence and can be the solution to solve students' grammatical errors in academic writing.

Online grammar checkers provide easy access to checking and correction. People may find numerous online grammar-checking tools by just typing the keywords for online grammar checkers into a search engine. There are several online grammar-checking tools available. In this digital era, there are many online grammar checkers, for instance, Reverso, Ginger, QuillBot, and ProWritingAid. Similarly, Gain et al. (2019) also present some online grammar checker tools available namely Grammarly, After the Deadline, Online Correction, Spellcheck Plus, WhiteSmoke and so on. Based on Alkamillah's (2020) research, he examined the types of grammatical errors that Microsoft Office grammar checkers may identify. These online grammar-checking tools claim to be able to eradicate grammatical mistakes, misspellings, wrong punctuation, sentence structure issues and more (Perdana & Farida, 2019). Each tool provides its optimal features, ranging from the free version to the premium edition, which includes advanced functionalities such as comprehensive corrections, coherence, writing style improvements, and more.

There are many studies regarding online grammar-checking tools both in academic writing and in classroom teaching and learning. Some are dealing with students' perceptions like studies conducted by O'Neill and Russell (2019). The findings revealed that students who got grammar feedback from Grammarly were particularly more satisfied than students who received traditional non-automated feedback. As mentioned, the study investigated students' perceptions of Grammarly and traditional non-automated feedback while the present study focuses on identifying students' reasons for using any online grammar checker. Another study

was conducted to discover the types of students' writing errors which was conducted by Rahma and Zen (2023). The findings revealed that ProWritingAid detected 21 writing errors, including pronouns and prepositions. Meanwhile, the tool missed punctuation and capitalisation to detect. The study analysed the writing errors detected by ProWritingAid, yet the present study explores the reasons for students towards using online grammar checkers.

The concerns related to the reasons of the student's use as the tools' users also need to be taken into attention. Their experiences can serve as a pedagogical consideration on the use of existing tools to improve the quality of their writing, particularly on the grammatical aspects. This study, hence, aims to investigate the presence of online grammar-checking tools and students' reason using the tools in academic writing. It is also unavoidable that using technology such as online grammar checkers has become a need in today's world. Therefore, this present study tries to answer the following research questions:

1. What online grammar-checking tools do students use to correct grammar in academic writing?
2. What are the reasons behind students' use of online grammar-checking tools in academic writing?

Method

Research design

This study was typically designed as descriptive qualitative research since it involves students' online grammar-checking tools and their reasons of using the tool for writing an academic article. This research focuses on the context of students using online grammar checkers in academic writing. The qualitative design permits an in-depth investigation into the use of online grammar checkers for ELT students in authentic classroom environments.

Research setting and participants

This study involved nine students of the English Language Education Study Program at one of Islamic universities in Surabaya, East Java Province, Indonesia who wrote an article in the Academic Article Writing course. The participants in this study are students who also have experience using online grammar checkers to correct their grammar in writing articles.

To gather a better understanding of how online grammar-checking tools are implemented in academic writing, the participants of this study are nine 8th semester students who have written an article and implemented an online grammar checker to correct grammar in the Academic Article Writing course in the university majoring in the English Language Education Study Program. The reason for selecting those participants is that those students are the closest to the real practice of implementing an online grammar checker in academic writing. The researcher selects three students from each class using purposive sampling to represent other participants with similar characteristics.

Data collection

In this research, interviews were employed as the chosen method for collecting data, aiming to obtain answers to the research questions. The interview was used in this context to

investigate the online grammar-checking tools that students use and their reasons for writing an article. The researcher interviewed nine students and used semi-structured interviews using Indonesian language to avoid misinterpretation. The flexibility of semi-structured interviews allows the interviewer to investigate the data carefully and avoid misunderstandings. The researcher used interviews to collect data to get a deep answer, which contained open-ended questions, using semi-structured interviews to collect detailed information about the topic of how online grammar-checking tools are implemented in academic writing. The interview data was collected in a virtual meeting via Zoom. In the study, the researcher forms the interview guidelines as a research instrument to gather information.

Data analysis

After completing the interview, the data was analyzed following six steps based on Creswell and Creswell (2018). The researcher recorded and transcribed online interviews, typed field notes, and created conversation transcripts from recorded student discussions for data analysis. The researcher then carefully read and analyzed the data transcriptions. Next, the researcher started to organize the data from the kinds of online grammar checkers and the reasons for using the tool. The researcher then categorized the data, explicitly implementing online grammar checkers in article writing. The results from the previous stage were categorized and labelled in a well-structured manner. The categorization process may involve iterative steps, as the researcher might find additional information while classifying other transcriptions. Lastly, the researcher concluded personal interpretations and understanding from the study based on the data derived.

Findings and discussion

Online grammar-checking tools used by students to correct grammar in academic writing

According to the interview, the students shared online grammar-checking tools they used to correct grammar when writing an article. Therefore, the researcher has found that there were four kinds of online grammar checkers commonly used by students to correct grammar in academic writing, namely Grammarly, QuillBot, Sider AI, and Google Docs Automatic Correction.

Grammarly

Grammarly is a well-known online grammar checker offering users accurate and trustworthy grammar, spelling, and punctuation corrections in written text. Based on the interview, Grammarly's user-friendly interface and advanced systems have contributed to it being a popular tool for students to enhance their writing quality. It can be seen from the excerpt as follows.

So, at that time, I liked to use Grammarly as my grammar checker to correct grammar in writing my article. I felt like the tool helped me a lot from identifying and fixing the errors, correcting my typos, and making my sentences better in grammar (Student 1, Semi-structured interview, Researcher translation).

As I often used when writing my article, I utilized Grammarly to check my grammar, of course, to get better in grammar since I know grammar is essential in written form (Student 3, Semi-structured interview, Researcher translation).

Grammar-checking tool that I used to correct grammar in writing an article was Grammarly. Since I've known at the beginning of college, this tool has been beneficial and has an accurate correction in grammar as I experienced in correcting any grammatical mistakes such as verbs, sentence structure and misspelt words (Student 5, Semi-structured interview, Researcher translation).

All right, when writing my article at that time, I integrated Grammarly into my article to correct the grammar, of course. I trust the tool since it is very popular among my friends and has some good reviews on social media (Student 6, Semi-structured interview, Researcher translation).

Based on the interview excerpts, when being asked online grammar checkers to correct grammar in academic writing, most of the students answered the questions with Grammarly. Additionally, the students shared their choices in using versions of Grammarly. It can be seen from the excerpt below as follows.

I only used the free version of Grammarly as the free account already offers many advantages in helping me correct my grammar, even though just basic grammatical mistakes (Student 3, Semi-structured interview, Researcher translation).

As I wrote an article and had to make sure that the text was academic, I subscribed for several months to the premium version of Grammarly. I was interested since it provided writing style suggestions where we could adjust the audience like whether it is written in formal, informal, academic or creative writing (Student 1, Semi-structured interview, Researcher translation).

Informed by the interview vignettes, the tool provides various features like vocabulary enhancement and writing style, making it effective writing assistance to generate academic work of the highest quality. In the interview data, the researcher found from the interview transcript that Student 3 stated that even the free version of Grammarly already provided many beneficial features in correcting grammar, spelling and punctuation effectively. Meanwhile, Student 1 stated that Grammarly helped adjust the writing style suggestion to make the article more academic. It means that Grammarly has shown to be a helpful grammar-checking tool to improve writing and produce content free of errors, especially in academic settings where proper grammar and clear communication are crucial. In conclusion, Grammarly's account options allow users to obtain the appropriate level of support to achieve their needs.

QuillBot

QuillBot is an invaluable tool for individuals seeking to enhance the quality of their writing. Based on the interview, QuillBot boasts advanced systems that can quickly detect and correct grammatical errors, in that way improving the overall accuracy and clarity of the text. It can be seen from the excerpt above as follows:

I used a grammar checker from QuillBot at that time to correct my grammar while writing my article for AAW course. Its ease of one-click correction allows me to easily correct all grammatical errors in my article (Student 7, Semi-structured interview, Researcher translation).

QuillBot's grammar checker was my favourite tool to correct grammar in the process of writing an article. I found the tool easy to use and effective since it also provides other features that support me improve my writing skills, especially writing my article academically (Student 9, Semi-structured interview, Researcher translation).

Based on the excerpts, the students prove that QuillBot's intuitive interface and user-friendly correction services make it a breeze to use, ensuring that they can quickly hone their writing skills. According to the interview data, Student 7 stated that QuillBot allows the student to easily correct all the grammatical mistakes with one click. It means the tool offers

the ease for users to improve the quality of the text. Meanwhile, in the interview excerpt, Student 9 said that QuillBot permits a student to utilize other features which also improve the student experience by integrating comprehensive writing assistance into a single platform. Moreover, it has a paraphrase tool, avoiding the need for students to navigate to another website for this purpose. Altogether, the researcher found that the simplicity and efficiency of having many tools in one location make QuillBot an invaluable resource for anyone wishing to enhance their writing abilities and create high-quality articles.

QuillBot's grammar checker, in its free version, provides users with a plethora of valuable corrections aimed at improving the quality and coherence of their written content. According to the interview, by utilizing a free account of QuillBot's grammar checker, even the students can refine their grammar and elevate the overall effectiveness of their written work. It can be seen from the excerpt below as follows.

I used the free version of QuillBot, so I did not have to pay some. Because I feel the free version has already helped users with good corrections, I think it is enough for me to get those corrections (Student 7, Semi-structured interview, Researcher translation).

I found the free grammar checker from QuillBot amazing. The feature of the grammar and spelling checker was capable of helping me identify and correct all grammatical rules, even though I knew that it wouldn't be 100% correct, at least, the tool fixed errors such as misspelt words, unnecessary words, and even punctuation (Student 4, Semi-structured interview, Researcher translation).

Based on the excerpts, Student 7 showed that the free version was good enough to help correct the grammatical mistakes. It aligns with the statement from the interview excerpt, Student 4 stated that the QuillBot free version provided suggestions for increasing clarity by fixing misspelt words and unnecessary words. Therefore, the researcher concluded that QuillBot's grammar checker is one of the advanced tools that offers a variety of features to help users improve the grammar quality of their writing.

Sider AI

Sider AI is an intelligent grammar checker that can assist users improve the correctness and clarity of their written work. Based on the interview, the students said that its advanced systems and extensive library of grammar rules allow it to detect and correct a wide range of grammatical errors, from simple typos to complex sentence constructions. It can be seen from the excerpt above as follows.

I used Sider AI to correct my grammar in writing an article. This online grammar checker integrates with GPT as the name of the web says (Student 2, Semi-structured interview, Researcher translation).

According to the statement, Student 2 relied on Sider AI to provide corrections and suggestions for improvement, allowing them to write without grammatical problems. The integration of GPT in Sider AI's grammar checker represents an influential development in language processing technology. Moreover, by exploiting GPT, Sider AI can provide users with a highly accurate correction tool that not only identifies grammatical errors but also suggests corrections to improve sentence structure. This technique not only simplifies the proofreading process but also allows users to improve their writing abilities and communicate more effectively. Therefore, the researcher found that the collaboration between GPT and Sider AI demonstrates the potential for advanced AI-powered solutions to improve the quality of written communication in a variety of settings.

Google Docs automatic correction

Google Documents provides an automatic grammar checker that facilitates users in detecting and correcting any grammatical errors present in their written content. According to the interview, this grammar checker feature proves to be highly beneficial in enhancing the quality and clarity of the document by identifying potential mistakes, such as spelling, punctuation errors, and incorrect sentence structures. It can be seen from the excerpt below as follows.

... I also used Google Docs Automatic Correction which helps me to re-check if any errors were not identified. It was easy to use because it is already attached to the platform, so I could automatically correct errors ... (Student 4, Semi-structured interview, Researcher translation).

From the interview data, Student 4 relies on the automatic correction feature in Google Docs to re-check their work for any errors that may have been ignored. In addition, Student 4 mentioned that the automatic correction feature in Google Docs is a built-in tool that is easily accessible within the platform without installing the grammar checker. This eases students to identify and correct grammar in real time as they write an article on Google Docs. As a result, the researcher found that Google Documents' automated grammar checker is a necessary tool for academic writing since it helps to improve the accuracy of writing and offers students a convenient way to integrate the tool.

Rather than relying on a single tool, they can utilize two, three, or even several tools simultaneously to achieve more comprehensive results. Each tool has its strengths and weaknesses, along with unique features that can complement each other. It can be seen from the excerpt below as follows.

During the moment I wrote my article, I integrated three kinds of online grammar checkers which are Grammarly, QuillBot, and Google Doc Automatic Correction. I combined those three online grammar checkers to make sure that my grammar was written properly, hoping that combining three kinds would maximally improve the accuracy since I checked and corrected the grammar three times (Student 4, Semi-structured interview, Researcher translation).

The excerpt shows that combining Grammarly, QuillBot, and Google Docs Automatic Correction in academic writing presents a detailed and comprehensive technique to ensure the accuracy and quality of the writing. Each grammar checker has its algorithms and capabilities, which can help identify different types of errors and provide various suggestions for improvement.

Based on the findings that have been found, Grammarly is the most online grammar checker used by students in academic writing that has received huge popularity among college students. It is supported by the study conducted by Rejeki (2023) which stated that 106 out of 114 students in writing courses have used the Grammarly application in their academic writing. The tool also employs advanced algorithms to identify and correct grammatical errors in written form. Its wide grammar check not only corrects grammar mistakes but also suggests improvements in sentence structure, punctuation, and vocabulary. It aligns with the statement from Faisal & Carabella (2023) that the integration of Grammarly into academic writing has helped writers produce more polished and error-free content, thereby enhancing the overall quality of their article.

Surprisingly, QuillBot, primarily a paraphrasing tool that helps students rewrite and rephrase sentences, benefits students with its AI system to correct grammar in writing. This

accessibility to a paraphrasing tool may convince students to choose QuillBot over Grammarly for their academic needs. Based on the data obtained from students' interview, QuillBot gets number two in the most common online grammar checkers used by students as QuillBot also has emerged as a popular tool among students for its ability to correct grammar and enhance the overall quality of writing. It is in line with the statement from Kurniati and Fithriani (2022), with its user-friendly system, QuillBot offers a range of features that cater to the specific needs of students looking to improve their writing skills. It is really helpful from identifying and correcting grammatical errors to offering suggestions for sentence structure and vocabulary enhancement.

The GPT system of Sider AI not only assists students in making the writing error-free but also provides valuable suggestions for improving the coherence and clarity of the content. The unique feature of Sider AI, which offers suggestions for improving sentence structure after correcting grammar, sets it apart from other grammar checkers such as QuillBot and Grammarly. Based on the interview, after students correct their grammar using Sider AI's improving sentence feature, the AI will analyze the changes they have made and provide feedback. This feedback may include suggestions for restructuring the sentence, using more precise language, or improving the flow of ideas. Additionally, Dale (2021) also supported the advance of AI-enabled integration of phrases into text and online writing, as well as suggestions for alternative wording. In other words, this includes the ability of AI to suggest better wording in writing, particularly in online contexts. In contrast, Harrer (2023) stated that the content produced by AI may be biased, inaccurate, or harmful if the dataset on which a model was trained contains inappropriate references.

One of the students implemented Google Docs Automatic Correction to help correct grammar while writing an article. The grammar checker will automatically highlight and suggest corrections for grammatical mistakes which help students ensure that the writing is error-free. This functionality assists the student in identifying and rectifying errors promptly without the need for manual proofreading, ensuring that the writing is free from grammatical errors before finalizing the piece. This statement is in line with the findings of the study conducted by Kartepe & Atmaca (2024) that showed that there was a significant difference in score between the post-test of the experimental and control group regarding content, organization, spelling and punctuation when writing in Google Docs. In sum, the built-in grammar checker in Google Documents can contribute to enhancing the overall quality of the writing by providing instant feedback and guidance on grammar rules.

Correcting layers with three layers of online grammar checkers such as Grammarly, QuillBot and Google Docs Automatic Correction can greatly improve the quality of written communication. According to the interview, one student combined the three kinds of grammar checker to identify and correct errors in the article writing, ensuring that the article is free of errors. Firstly, Grammarly offers a comprehensive proofreading process for grammatical errors, misspelt, punctuation and punctuation issues. QuillBot helps to improve readability by suggesting alternative phrasing and word choices. Additionally, Google Docs Automatic Correction provides a final layer of correcting to catch any remaining mistakes. Perdana and Farida (2019) implied that using Grammarly only was still less effective to refine the content and organization of the writing. Therefore, the student tried to correct grammar using three layers. This method of proofreading is supported by the study from McCarthy et al (2022) that combining spelling and grammar checkers can enhance various dimensions of

essay quality by providing comprehensive feedback on grammar, style, and mechanics. Yet, while online grammar checkers can correct basic errors and offer style suggestions, the AI system of the tools might misinterpret sentences, leading to incorrect suggestions that can alter the intended meaning of the text. Therefore, a study conducted by Escalante et al (2023) contrasts that instead of AI-based grammar checker, human editors can provide a level of depth and understanding to maintain the tone, style and coherence of a text throughout. By utilizing all three tools, the student hopes to be able to significantly improve the accuracy and clarity of the writing. Combining AI with human oversight ensures that writing is not only grammatically correct but also contextually accurate.

Students' reasons of using online grammar-checking tools in academic writing

The purpose of utilizing an online grammar checker varies from one student to another, but it generally revolves around the common goals of improving grammar, spelling, and writing style. By incorporating an online grammar checker into one's writing process, students can enhance the overall quality of their written work, ensuring that it is clear, concise, and error-free. According to the interview, the students shared the reasons they implemented the online grammar checkers in academic writing which follows:

Online grammar checkers offer convenience and time-saving

Online grammar-checking tools are easily accessible and can be used anytime, anywhere, making them a convenient option for students who need to quickly check and correct grammar mistakes in their academic writing. Based on the interview, some students felt the pressure to finish the article section due to the deadlines; however, incorporating online grammar checkers is the choice they can be with, helping them rapidly correct grammatical errors. It can be seen from the excerpt as follows.

I've been using online grammar checkers like Grammarly or QuillBot to quickly correct my article writing. My lecturer always sets deadlines for every meeting. It's a fast and efficient way to make sure everything is correct as I only have to visit the website to correct my grammar with one click (Student 4, Semi-structured interview, Researcher translation).

I decided to use Grammarly for grammar correction. Besides its high level of accuracy, it quickly became my go-to choose for proofreading my articles (Student 8, Semi-structured interview, Researcher translation).

When students are working on tight deadlines and do not have enough time to carefully proofread and correct their article writing, they may turn to online grammar checkers to quickly identify and correct grammatical errors. As highlighted in the interview data, Student 4 stated that the online grammar checker plays a crucial role in allowing students to meet submission deadlines without compromising the quality of the writing. It conveys that the online grammar checker has proven to be extremely beneficial in helping students ensure the accuracy of their grammar within the specified time constraints set by the lecturer. Student 4 also got the effectiveness of QuillBot's website correction so the student did not have to install other extensions or software anymore.

At the same time, based on the interview data, Student 8 mentioned that the student was drawn to Grammarly due to its high level of accuracy and preferred choice for proofreading the article. This implies that Grammarly has proven to be efficient and effective in helping

students review and polish their writing. The convenience, accuracy, and efficiency of Grammarly have made it a go-to choice for the writer.

Online grammar checkers improve accuracy and readability

Utilizing online grammar-checking tools can be highly advantageous for students who want to improve accuracy and readability. Online grammar checkers can be a helpful tool for them to ensure their article writing is clear and error-free. According to the interview, some students face difficulties in English grammar, especially non-native English speakers like the students here. They struggle with grammar rules and feel less confident in writing articles academically. It can be seen from the excerpt below as follows.

The reason I utilized Grammarly is obviously due to my less grammar knowledge. I lack grammatical proficiency and of course, I need help from the tool to correct grammar in my article writing. After using it, I felt that Grammarly has improved the accuracy of my article (Student 3, Semi-structured interview, Researcher translation).

I have used an online grammar checker to improve my grammar skills as I don't have confidence in English grammar. It has helped correct errors in my article writing. And then I realized that QuillBot has resulted in my article being more readable as it is error-free (Student 7, Semi-structured interview, Researcher translation).

Personally, I know that I have limited knowledge of grammar. That's why I require assistance from Grammarly to keep my article free of grammatical mistakes, punctuation errors, and spelling issues (Student 1, Semi-structured interview, Researcher translation).

From the interview data, the students prove that implementing an online grammar-checking tool can serve as an advanced tool for students to proofread their article writing and prove that their grammar is correct and proper before submitting their work to a lecturer. According to the interview vignette, Student 3 stated that the student had limited grammatical understanding and then chose to integrate an online grammar checker which is supposed to be a valuable tool in improving the quality and accuracy of article writing. It is the same with the statement from Student 7 who also needs the assistance of an online grammar checker due to the lack of proficiency in English grammar. In addition, Student 7 also confirmed that the article is more readable when using an online grammar checker to correct grammar. Moreover, Student 1 conveyed that the existence of an online grammar checker can improve grammatical knowledge by reviewing the errors and giving explanations of the correction. In another way, error-free writing is easier to read and comprehend, as readers are not distracted by grammar mistakes or typos that can disrupt the flow of the text.

Online grammar-checking tools have become invaluable tools for scholars and researchers seeking to polish their work before submission to academic journals. Students as article writers, can improve the overall quality of their writing and increase the chances of their work being accepted for publication in prestigious academic journals by utilizing online grammar checkers. It can be seen from the excerpt below as follows.

At that time, I tried many kinds of grammar checkers and found that Grammarly was the most accurate grammar checker, ensuring my writing was error-free. So, this tool is suitable for me as I thought the article I wrote would be sent to an academic journal (Student 4, Semi-structured interview, Researcher translation).

Because the writing is academic and is supposed to be submitted in an academic journal, I started to use Grammarly to refine and ensure that the overall grammar usage and writing are error-free and well-written. I also read reviews on social media and they say Grammarly offers accuracy correction with its advanced

algorithm, so I give it a try and yeah, it is proven (Student 5, Semi-structured interview, Researcher translation).

Students aiming to submit their research articles to academic journals can use online grammar checkers to ensure that their writing meets the publication standards of the target journal. According to the interview data, Student 4 implied that the student had high expectations for the quality and standard of the article and found Grammarly the most accurate grammar checker. Whereas, academic journals typically have strict guidelines and expectations for the quality of the content they publish, including grammar, style, and clarity. It shows that Student 4 recognized the importance of presenting the work in the best possible light and wanted to make sure it was of the highest quality before being considered for publication in an academic journal by considering the goal is to improve the overall quality and clarity of the article that could produce well-written and error-free writing.

At the same time, based on the interview data, Student 5 stated that using online grammar checkers aimed to refine and improve the overall quality of the writing to meet the standards expected in academic settings. This implied that Student 5 was proactive in seeking tools to enhance the chances of acceptance for publication in an academic journal. Altogether, the researcher found that implementing grammar checkers can help students correct grammar errors, improve sentence structure, and enhance the overall readability of their manuscripts before submission.

Online grammar checkers help the students in the process of revising and editing the draft

Some students have completed a draft of their article and want to ensure that it is free of grammar errors before submitting it. Students may use online grammar-checking tools as a final step in the revision and editing process to polish and catch any overlooked errors. It can be seen from the excerpt below as follows.

Once I wrote my whole article, I used Sider AI obviously to correct grammar. Additionally, I have to make sure that my grammar use is correct before submitting it (Student 2, Semi-structured interview, Researcher translation).

While drafting the article, I don't mind if the grammar used is a mess. I refined my article using a grammar checker and started to polish my grammar in the revising and editing stage after having a consultation with a lecturer (Student 9, Semi-structured interview, Researcher translation).

Given that students do not worry about their grammar in the drafting stage, this way, they run the paper through an online grammar checker to catch any grammatical errors that may have been overlooked during the drafting or writing process. According to the interview data, Student 2 mentioned that the student needs to ensure the grammar usage is correct before submitting the article. This shows that Student 2 values proper grammar and wants to ensure the writing is error-free before submitting it for the final article to the lecturer. It also aligns with the statement from Student 9 who also stated that a student did not pay much attention to grammar and is okay with being messy. However, the student later refined the article using an online grammar checker during the revision and editing stage. This shows that the student recognizes the importance of grammar and takes steps to improve it before finalizing the work.

Online grammar checkers help the students to learn and improve grammar skills

The use of online grammar checkers nowadays has become increasingly a medium to learn and internalize proper grammar rules. Additionally, the tools provide valuable feedback and suggestions for improvement, helping students enhance their writing skills and improving the overall quality of their article writing to be more polished. It can be seen from the excerpt below as follows.

... and then I realized that indirectly I can also learn and make improvements through the way the tool corrects, by identifying errors and providing correction along with explanations (Student 6, Semi-structured interview, Researcher translation).

From the interview excerpt, Student 6 implemented an online grammar-checking tool to meet their needs in learning and improvement. It shows that by learning from the grammar checker's suggestions, the student can improve grammar skills. The student intentionally used online grammar-checking tools as a learning tool to better understand grammar rules and enhance their writing skills. Due to the correction of the tools, the students can feel more confident in the quality of their work and present a polished piece of writing to the lecturer. Here, the researcher found that by implementing online grammar checkers to correct grammar in an article writing, students can develop and refine their writing skills and grammar skills, preparing them for future academic and professional endeavors that may require strong grammar and writing abilities. This can help them structure their thoughts effectively and avoid the same grammar mistakes while writing in the other conditions.

Students nowadays can access many features of online grammar checkers to help their learning process such as paraphrasing tools, AI checkers, plagiarism checkers, summarizers and so on. Here, online grammar checkers which contain multi-features are the alternative way for students to learn and improve grammar in writing. It can be seen from the excerpt below as follows.

What I like about Sider AI is that the tool contains other functional features supported by GPT such as generating ideas, translating, and grammar checker. So, I also find it helpful in learning and improving my grammar (Student 2, Semi-structured interview, Researcher translation).

I know QuillBot also provides other tools, and the most interesting is a paraphrasing tool. That's why I prefer to use this tool since it also offers another tool which I can utilize sometimes (Student 7, Semi-structured interview, Researcher translation).

According to the interview excerpts, Student 7 chose Sider AI due to its various features supported by GPT, including translation, ideas generation and asking questions. It shows that the tool provides a variety of features enabled by powerful language processing abilities, making it easier for students to learn and improve grammar in the writing process. Student 2 found QuillBot beneficial because it serves with supporting features to improve the quality of their work. Therefore, the researcher concludes that online grammar checkers are useful to students, offering multiple features that help them learn grammar and improve their writing. By utilizing multiple functionalities, students can enhance experience and efficiency in completing tasks.

Based on the findings that have been found, the students highlighted the convenience of online grammar-checking tools, implying that students can easily use them whenever and wherever they need to. Gain et al. (2019) also stated that with all the convenience and easiness offered, no wonder online grammar checkers get the popularity among academicians and

researchers. This accessibility is emphasized as a key trait of these tools, indicating that students can rely on them for immediate assistance with their academic writing. The students also emphasize that tools such as Grammarly, QuillBot, Sider AI and Google Docs Automatic Correction, are readily available and can be utilized at any time and place, making them a convenient tool for students to correct grammar errors in their academic writing efficiently. This statement aligns with the findings by John and Woll (2020) and Barrot (2022) that the convenience and accessibility of online grammar checkers serve to significantly facilitate the correction process, ultimately utilizing them at any time and from any location. It can be concluded that online grammar checkers offer easy accessibility to students to quickly identify and correct grammatical errors whether checking via the website directly or installing an extension/software.

The students also address the specific situation of students feeling pressured to complete their writing assignments on time. This suggests that deadlines are a common concern for students and can potentially lead to stress or anxiety. Lim and Phua (2019) also supported the time-saving and effortless benefits of using online grammar checkers such as LiFT (Linguistic Feedback Tool) when compared to manual proofreading. It implies that relying on these tools can lead to a more effective correction, ultimately helping students save time and energy. By introducing the idea of incorporating online grammar checkers into the writing process, the sentence proposes a solution to this issue, thus alleviating some of the stress associated with meeting deadlines. It can be concluded that online grammar checker namely Grammarly, QuillBot, Sider AI, and Google Docs Automatic Correction can serve as a valuable resource for students to enhance the quality of their academic work while also managing time constraints effectively.

Klare (2000) states readability is concerned with the selection of words and relates to sentence construction. Hence, improving the readability of article writing and ensuring that students convey a clearer message across the target audience is necessary. Just like with the grammatical errors, one useful solution is to use online grammar checkers that not only correct errors but also give tips on how to change or omit sentences to sound clearer. Khabib (2022) also stated that using AI-based DWA enabled teachers to save time, improve the accuracy and readability of their writing, and detect errors quickly. Yet, O'Neill and Russell (2019) reported that some users found the suggestions confusing and sometimes unhelpful, which can detract from the overall readability of the text. In line with O'Neil and Russel, John and Woll (2020) also revealed that online grammar checkers sometimes gave the wrong suggestion for the errors which may result in confusion, frustration, more error. In conclusion, online grammar checkers can be valuable tools in improving writing quality and readability, nonetheless students should use them judiciously and be mindful of their potential limitations in order to achieve the desired outcomes effectively.

A range of features such as paraphrasing tools, AI assistance and plagiarism detection in online grammar checkers also serve as valuable tools for supporting students in their learning and improvement of grammar skills. Using paraphrasing tools helps students to practice restructuring sentences and enhance their vocabulary, thereby contributing to their grammar proficiency. Dale (2020) found that QuillBot is an excellent tool for paraphrasing which has an essential role in scientific writing. Ariyanti and Anam (2021) also claimed that paraphrasing activities achieved positively in improving EFL students' writing performances. It aligns with Syahnaz and Fithriani (2023) who concluded that AI assistance such as paraphrasing tools

supports EFL students in overcoming some difficulties they have while writing academic papers, and consequently improves their writing products. Moreover, plagiarism checkers promote ethical writing practices and encourage students to develop their research and citation skills. Overall, these tools are valuable aids in the learning and improvement of grammar skills for students as they serve diverse features leading to improved grammar proficiency and writing ability.

Conclusion

The main objective of this current research was to investigate the presence of online grammar-checking tools to correct grammar in academic writing and explore the reasons behind students' use of the tools for academic purpose. This study has discovered the existence of several online grammar-checking tools to correct grammar in students' academic writing such as Grammarly, QuillBot, Sider AI, and Google Docs Automatic Correction. Among various tools, Grammarly is the most used online grammar checker, valued for its accuracy in error detection and correction. Students often combine multiple tools like Grammarly, QuillBot, and Google Docs' Automatic Correction, believing that this layered approach improves accuracy and helps them meet the standards for academic publication. Students use online grammar checkers for four main reasons: first, to save time and increase convenience by correcting their work without manual proofreading; second, to improve accuracy and readability; third, to receive constructive feedback and editing suggestions; and fourth, to develop grammar skills essential for future academic writing.

The scope of this research is students' use of online grammar-checking tools in academic article writing. The researcher also explored the reasons for using online grammar checkers in academic writing. The types of online grammar checkers can be free or premium versions. The findings suggest areas for further investigation, such as the long-term impact of using grammar checkers on students' writing skills and their ability to internalize grammatical rules. By exploring these dimensions, future researchers can develop more comprehensive pedagogical strategies that integrate technology in a way that maximizes learning outcomes. Additionally, this study underscores the need to evaluate the role of digital tools in reducing academic anxiety and enhancing students' confidence, paving the way for research on mental health and educational technology.

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