Enhancing Writing Literacy Teachers' through AI Development

Fitri Wulandari[1]
Missy Tri Astuti[2]
Marhamah[3]
[123] Universitas Islam Riau, Indonesia

[1] fitriwulandari@edu.uir.ac.id
[2] missitriastuti@edu.uir.ac.id
[3] marhamah@edu.uir.ac.id

Abstract

The rapid evolution of technological tools, particularly Artificial Intelligence (AI), has resulted in the integration of technology-aided learning resources within educational environments. This study focuses on teachers' utilization of AI and technology tools in the context of English academic writing and its impact on their writing literacy. This research employs a qualitative approach, gathering data through questionnaires involving 20 English teachers from junior high schools. The findings highlight that these tools encourage and facilitate the enhancement of writing skills among teachers. Participants indicated using tools such as Grammarly, Quill Bot, ChatGPT, Mendeley, and Turnitin, which offer direct feedback, corrections, and aid in writing skills development. Specifically, the participants reported that these tools contribute to their comprehension of grammatical rules and vocabulary acquisition. Moreover, they found these tools instrumental in crafting more cohesive and coherent writing. This study suggests that integrating technology tools into English academic writing has the potential to transform the development and assessment of writing abilities. Nonetheless, it remains crucial for teachers to strike a balance between utilizing these tools and nurturing their writing skills to ensure ongoing writing enhancement.

Keywords: *writing, literacy, artificial intelligence*

Introduction

Improving writing literacy for junior high school teachers through the development of artificial intelligence (AI) is a significant step in advancing the writing skills of secondary educators. This initiative aims to utilize AI development to empower and enhance the writing skills of middle school teachers. By integrating various advanced AI tools and methods, the project aims to provide innovative and effective resources to teachers to improve their writing skills. This will contribute to a richer educational experience for both teachers and students.

Practicing academic writing is crucial, given its status as a fundamental aspect of learning English and its relevance to the study of various subjects where English serves as the global language. Consequently, disseminating academic writing allows others to gain insight into our interests, fostering the expansion of our network. (Abdulkareem, 2013).

Based on (Marzuki et al., 2023) imply that integrating AI writing tools can prove beneficial in elevating the quality of EFL student writing. Integrating AI writing tools can improve EFL student writing quality, enhancing language learning outcomes. These

findings have larger implications for educators, students, and politicians interested in using technology to improve language learning.

AI new teaching and learning experiences in assessment, tutoring, material development, and feedback for teachers and students as technology progresses. Perhaps the most significant contributions of digital writing tools are defined by formative feedback and assessment. Furthermore, the new AI Applications include a full instructional practise and plagiarism detection component that may help ESL students advance in their research writing (Nazari et al., 2021).Artificial intelligence will assist in writing, artificial intelligence will save our time too. It will also help us write higher quality articles Artificial intelligence has entered our daily lives. Rather than shunning it, we believe that we should use artificial intelligence to make our jobs easier (Duymaz & Tekin, 2023).

The development of modern technology has increased rapidly in human life. Various kinds of technology have spread in many sectors, including education, especially in the teaching and learning process. Developments in the world of education have changed along with the times when the mindset of educators has changed from conservative to more modern.

Based on observations of junior high school (SMP) teachers', there's a prevalent lack of familiarity with various artificial intelligence (AI) tools designed to assist in writing. Furthermore, some teachers never write a book. Consequently, in response to these identified issues, research is being conducted to introduce several tools aimed at aiding teachers in their writing process. These tools include Grammarly, Quillbot, ChatGPT, Mendeley, and Turnitin.

Grammarly' as an AI-powered English Writing Assistant for EFL students in Writing English. Grammarly, an acclaimed online grammar checker, is accessible for free. It stands out as one of the finest English grammar checkers globally, widely embraced by users. As a Google Chrome extension, Grammarly identifies grammar, spelling errors, and flawed sentence structures and examines them for plagiarism. These tools can be highly beneficial for learning rules and correcting errors, empowering students to undertake tasks and subsequently rectify mistakes. Recognized as an exceptionally potent tool, Grammarly effectively identifies and rectifies prepositional errors, irregular verb conjugations, inappropriate noun usage, and misused words. While users can access these features without charge, opting for the Premium version offers more advanced functionalities (Fitria, 2021).

Quill Bot is an AI-powered writing assistant designed to enhance and aid the writing process. It serves as a versatile tool that offers various features aimed at improving written content.

1. **Paraphrasing Capabilities:** Quill Bot specializes in paraphrasing text, offering multiple rephrasing options to help users articulate their ideas differently. This feature supports the development of content with varied expressions while maintaining the original context.
2. **Grammar and Sentence Structure Enhancement:** It assists in refining grammar and sentence structures, providing suggestions to improve the overall coherence and readability of the content.
3. **Vocabulary Enhancement:** Quillbot suggests synonyms and alternative words, enriching vocabulary usage and enabling writers to express ideas more precisely.
4. **Plagiarism Checker:** Similar to Grammarly, Quillbot also includes a plagiarism checker that identifies and flags duplicated content, ensuring originality in written work.

5. **User-Friendly Interface:** With its intuitive interface, Quillbot offers an accessible and user-friendly experience, catering to a wide range of writing needs.

Quillbot serves as a valuable tool for writers, students, and professionals alike, offering a range of functionalities to enhance the writing process, encourage creativity, and improve the overall quality of written content.

According to (Muliani Sukma et al., 2023) Quill Bot is an artificial intelligence-powered writing assistant developed to improve and aid the writing process. It is a versatile tool that provides a variety of features aimed at boosting written communication. Quillbot is a modern-era learning technology that many students utilise; it is also one of the online tools for improving writing. Quillbot makes it simple for students to create scientific articles, especially for those who still struggle with English; it is also simple to learn and use (Nurmayanti & Suryadi, 2023)

As (Castillo-González et al., 2022) Academic editing is a critical step in ensuring the quality and accuracy of scientific publications. Reviewing and revising enormous amounts of content, on the other hand, maybe a frightening and time-consuming effort. Artificial intelligence-based language models, such as Chat GPT, are effective in detecting and fixing grammatical problems, enhancing text structure and clarity, and producing new content.

Mendeley Reference Manager is an application of software designed for academic and research use. It functions as a reference management tool, assisting users in collecting, organizing, citing, and sharing research papers and other documents. Mendeley, one of the Reference Managers, includes a means to assist students in properly crediting and referring materials (Hudriati et al., 2018) Mendeley makes bibliography writing more productive and efficient. Understanding the citation process will result in improved verification and make it easier for other academics to trace research (Harared et al., 2022). Mendeley is a great reference manager that many academic authors use all over the world (Raharjo et al., 2022).

Turnitin is an online tool primarily used to evaluate the originality of written content and check for plagiarism. Here's a description of its functionalities in writing:

1. **Plagiarism Detection:** Turnitin compares submitted text against a vast database of academic content, internet sources, and previously submitted documents to identify similarities. It highlights passages that match existing sources, helping instructors and writers assess originality and potential instances of plagiarism.
2. **Feedback and Grading:** In addition to plagiarism detection, Turnitin provides feedback on grammar, spelling, and writing style. Educators can leave comments and suggestions directly on the submitted work, aiding writers in improving their writing skills and understanding areas that require revision.
3. **Citation and Referencing Assistance:** Turnitin can assist in recognizing and formatting citations and references, aiding writers in adhering to proper citation styles and academic integrity guidelines.
4. **Revision Support:** Through the feedback provided, writers can revise their work, ensuring that the content is original, properly cited, and meets academic standards.
5. **Educational Tool:** Turnitin serves as an educational tool, fostering a culture of academic integrity by educating writers about proper citation, attribution, and the importance of original writing.

Overall, Turnitin plays a crucial role in promoting academic honesty, assisting writers in improving their writing skills, and aiding educators in evaluating the originality and quality of written work. Turnitin is software that checks electronically submitted documents against its database of academic publications, the internet, and previously submitted materials to identify matched material (Meo & Talha, 2019).

The goal of scientific writing is to describe the importance of the Turnitin tool in detecting plagiarism in scientific work while simultaneously encouraging high-quality scientific work. To prevent plagiarism and promote high-quality scientific work, it is vital to have a detailed and intense knowledge of scientific work material in order to produce scientific writings with high originality (Lidwan et al., 2022).

Method

This research was conducted using qualitative to find out how useful grammarly, quillbot, chat gpt, mendeley, and turnitine are in scientific writing for teachers. This research was conducted who registered on workshop with Ikatan Guru Indonesia (IGI). The data taken for this study used a questionnaire sent to respondents via google form. Sampling was done randomly using quota sampling type. The population of this research consisted of active teachers on IGI comunity whose population was very large. However, the researchers determined the number of quota sampling as many as 20 people to fill out the questionnaire given to the respondents which contained a statement of 15 items. Their responses were analyzed for efficacy, efficiency, and satisfaction.

As (Creswell, 2008) states that a research design that focuses on the phenomenon or discovers social problems. Based on the topic of the study, this research is about a social phenomenon that is purposed in investigating how the student's perception on using Grammarly to check grammar in writing. The process of this research includes distributing a questionnaire, collecting data in the participant's environment, analysing the data inductively building from particulars to general themes, and the researcher doing interpretations of the data's meaning, and the final written report has a flexible structure (Creswell, 2008).

The purpose of this research is to investigate teachers' perspectives on writing. A person's level of agreement or disagreement with a given object can be measured using the Likert scale. Each statement in the survey's accompanying questionnaire will be assigned a score based on how strongly the respondent agrees or disagrees with it, using the following scale: (1) Strongly Agree = 5, (2) Agree = 4, (3) Disagree = 3, (4) Don't agree = 2, and (5) Strongly Disagree Agree = 1
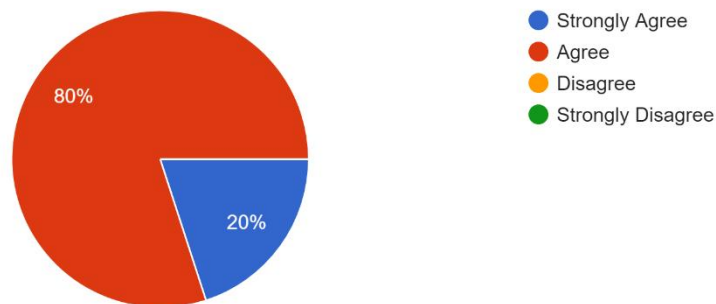
Results

The result of the technology tools showed that the various types used by teachers in the writing book process are grammarly, quillbot, chat gpt, mendeley, and turnitine, which are very useful. The teachers freely mentioned the technology tools they used to support their writing process. There were 5 technology tools of Artificial intelligence and technology used in writing a book, and they consist of Grammarly, Quill Bot, ChatGPT, Mendeley, and Turnitine The technology tools are divided into four categories based on their functions, namely language tools, sources, paraphrases, similarity checkers, and references.

Discussion

The researcher asked the first questionnaire the participants about the accessible digitals tools for used. Then, the result of each statement was calculated in percentage form. 80% participants agree that the tools are an easily accessible digitals tools for used. 20 % answered strongly Agree.

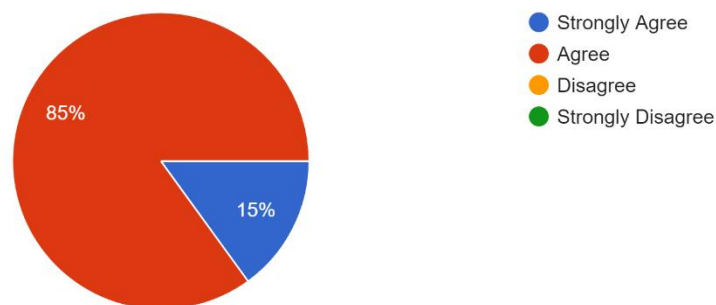### Chart 1. The Result of Tools in AI accessible digital tools

The second question is about features greatly assist them in academic writing a book. The result is 85% they are agreeing about features greatly assist them in academic writing using these tools and 15% strongly Agree.

Chart 2. The Result of features greatly assist them in academic writing

The third question is about the Result of application is effective because it includes several features that can help them to improve the quality of writing. The result is 70% they are agreeing about effective Ai tools application to improve the quality of their writing and 30% strongly Agree.

Chart 3. The Result of application is effective because it includes several features that can help them to improve the quality of writing

The Quillbot, Grammarly, Open AI, Mendeley application is effective because it includes several features that can help me improve the quality of my writing
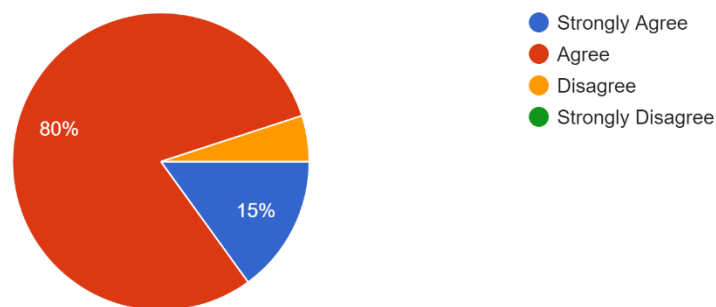
20 jawaban
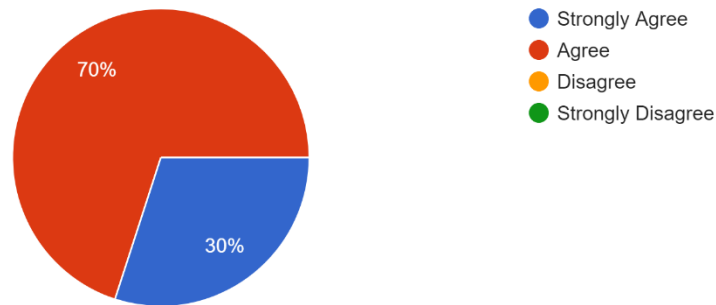
The fourth question is about the Result of application is encourages them to write and reduces their writing anxiety. The result is 80% they are agreeing about effective Ai tools application to reduce their writing anxiety, 15% strongly Agree, 5% disagree.

Chart 4. The Result of application is encouraging them to write and reduces their writing anxiety

The Quillbot, Grammarly, Open AI, Mendeley application encourages me to write and reduces my writing anxiety.
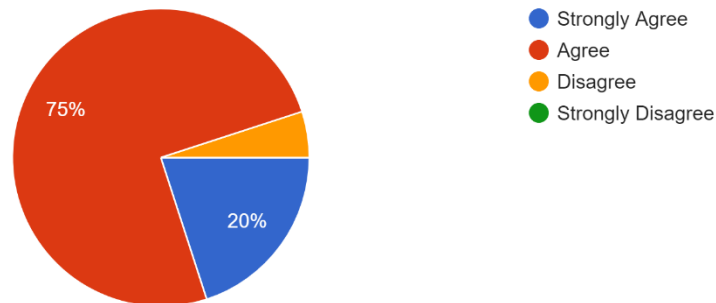
20 jawaban

The fifth question is about the result of application is boosts their confidence towards to writing. The result is 75% they are agreeing about effective Ai tools application to boost their confidence towards to writing. 20% strongly Agree, and 5% disagree.

Chart 5. The Result of application boosts their confidence towards to writing.

Using the Quillbot, Grammarly, Open AI, Mendeley application boosts my confidence towards my writing.
20 jawaban

The sixth question is about the result of application is their writing skills in organizing text have improved. The result is 70% they are agreeing about effective Ai tools application to improved their writing skill, and 30% strongly Agree.

Chart 6. The Result of application their writing skills in organizing text have improved.

By using the Quillbot, Grammarly, Open AI, Mendeley application my writing skills in organizing text have improved.
20 jawaban
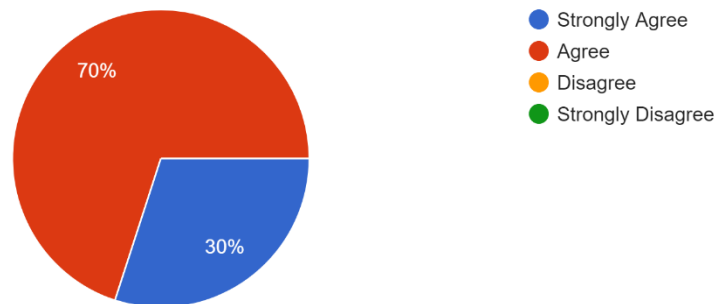
The seventh question is about of Unconsciously their vocabulary particularly the terms used in academic writing have increased. The result is 80% they are agreeing about unconsciously their vocabulary, and 20% strongly Agree unconsciously their vocabulary particularly the terms used in academic writing have increased using these tools.

Chart 7. The Result of Unconsciously their vocabulary particularly the terms used in academic writing have increased.

Unconsciously, my vocabulary particularly the terms used in academic writing have increased.
20 jawaban
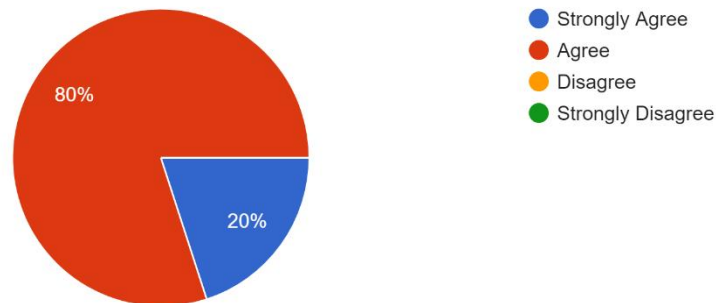
The eighth question is about of application to write academic essays has improved their grammar skills. The result is 75% they are agreeing about improved their grammar, and 20% strongly Agree, and 5 % disagree to improved their grammar skills.

Chart 8.The Result of application to write academic essays has improved their grammar skills

Using the Quillbot, Grammarly, Open AI, Mendeley application to write academic essays has improved my grammar skills
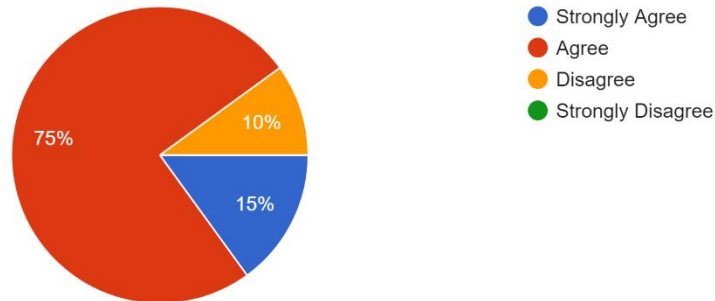20 jawaban
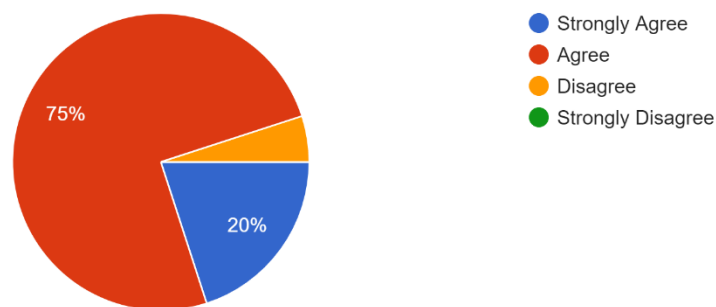
The nineth question is about of them prefer Quill Bot, Grammarly, Open AI, Mendeley over other apps. The result is 75% they are agreeing, and 15% strongly Agree, and 10 % disagree to prefer this artificial intelligence over other apps

Chart 9. The Result of them prefer Quillbot, Grammarly, Open AI, Mendeley over other apps

I prefer Quillbot, Grammarly, Open AI, Mendeley   over other apps
20 jawaban

The tenth question is about of they can write efficiently and their writing get better results when they used the Quillbot, Grammarly, Open AI, Mendeley applications. The result is 75% they are agreeing, and 20% strongly Agree, and 5 % disagree to write efficiently and their writing get better results when they used the Quillbot, Grammarly, Open AI, Mendeley applications.

Chart 10. The Result of they can write efficiently and their writing get better results when they used the Quill Bot, Grammarly, Open AI, Mendeley applications.

I can write efficiently and my writing get better results when I use the Quillbot, Grammarly, Open AI, Mendeley app
20 jawaban
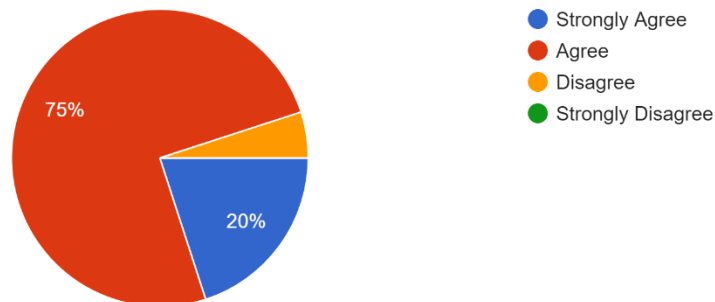
The next question is about of using these tools can enhance their positive attitude in writing, providing a variety of user-friendly writing features, and these tools to encouraging their language development most of them answered yes. One of the participants give answered *"Yes right. I really agree. Because after I use the Quillbot, Grammarly, Open AI, and Mendeley applications, it can enhance my positive attitude in writing. I become more confident when writing in English. And I can also type fluently in English"*

Conclusion

The use grammarly, quillbot, chat gpt, mendeley, and turnitine by teachers to writing is very important. These tools make it easy for students to write books, scientific papers, especially for those who are still confused about grammar. Besides that, they are also easy to understand and easy to access. Instead of writing their own work from scratch or copying and pasting from other people's work, teachers can use these tools to paraphrase text, create a more organized scientific work, and avoid plagiarism. The involvement of teachers in all aspects of the learning process led to this increase. Thus, it will be easier for teachers to try paraphrasing in English to minimize the time. Therefore, it can be said that using these tools to improve English scientific writing is a great investment of time and effort.

Acknowledgment

References

Abdulkareem, M. N. (2013). An investigation study of academic writing problems faced by arab postgraduate students at Universiti Teknologi Malaysia (UTM). *Theory and Practice in Language Studies*, *3*(9). https://doi.org/10.4304/tpls.3.9.1552-1557

Castillo-González, W., Lepez, C. O., & Bonardi, M. C. (2022). Chat GPT: a promising tool for academic editing. *Data and Metadata*, *1*. https://doi.org/10.56294/dm202223

Creswell, J. W. (2008). Educational research: planning, conducting and evaluating quantitative and qualitative research. Upper Saddle River, NJ: Merril. Creswell, JW (2009). *Research Design. Qualitative, and Mixed Methods Approaches*.

Duymaz, Y. K., & Tekin, A. M. (2023). Harnessing Artificial Intelligence in Academic Writing: Potential, Ethics, and Responsible Use. *European Journal of Therapeutics*. https://doi.org/10.58600/eurjther1755

Fitria, T. N. (2021). Grammarly as AI-powered English Writing Assistant: Students' Alternative for Writing English. *Metathesis: Journal of English Language, Literature, and Teaching*, *5*(1). https://doi.org/10.31002/metathesis.v5i1.3519

Harared, N., Somba, S., & Utomo, F. W. (2022). Mendeley: An Introduction To Online Citation In Writing Research Article As The Implementation Of The Three Missions Of Universities At Nasional University. *Society : Jurnal Pengabdian Masyarakat*, *1*(3). https://doi.org/10.55824/jpm.v1i3.98

Hudriati, A., Rusdiah, Patak, A. A., & Basri, M. (2018). Assessing Indonesian University Students' preferences on Mendeley reference manager for scientific writing. *International Journal on Advanced Science, Engineering and Information Technology*, *8*(5). https://doi.org/10.18517/ijaseit.8.5.6671

Lidwan, N., Roni, F., Siagian, S., Sopyan, S., & Sebayang, A. (2022). Peranan Perangkat Turnitin Dalam Mendorong Karya Ilmiah Berkualitas. *Akrab Juara : Jurnal Ilmu-Ilmu Sosial*, *7*(4). https://doi.org/10.58487/akrabjuara.v7i4.1960

Marzuki, Widiati, U., Rusdin, D., Darwin, & Indrawati, I. (2023). The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective. *Cogent Education*, *10*(2). https://doi.org/10.1080/2331186X.2023.2236469

Meo, S., & Talha, M. (2019). Turnitin: Is it a text matching or plagiarism detection tool? In *Saudi Journal of Anaesthesia* (Vol. 13, Issue 5). https://doi.org/10.4103/sja.SJA_772_18

Muliani Sukma, E., Lubis, N., & Dewi, U. (2023). Quillbot As An AI-powered English Writing Assistant: An Alternative For Students to Write English. *Jurnal Pendidikan Dan Sastra Inggris (JUPENSI)*, *3*(2).

Nazari, N., Shabbir, M. S., & Setiawan, R. (2021). Application of Artificial Intelligence powered digital writing assistant in higher education: randomized controlled trial. *Heliyon*, *7*(5). https://doi.org/10.1016/j.heliyon.2021.e07014

Nurmayanti, N., & Suryadi, S. (2023). The Effectiveness Of Using Quillbot In Improving Writing For Students Of English Education Study Program. *Jurnal Teknologi Pendidikan : Jurnal Penelitian Dan Pengembangan Pembelajaran*, *8*(1). https://doi.org/10.33394/jtp.v8i1.6392

Raharjo, U. D., Rosyad, Y. S., Monika, R., & Khoeriyah, S. M. (2022). Evaluation of the Mendeley Utilization Training for Academic Writing through Usability Approach. *Pengabdian Masyarakat Cendekia (PMC)*, *1*(1). https://doi.org/10.55426/pmc.v1i1.175