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English students' perceptions of Automated Writing Evaluation (AWE) in writing engagement at the university level

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ABSTRACT

The background of this study is the development of AI in the digital era, specifically AWE, which is currently very popular among universities and has many benefits in student writing. This study investigates how university-level English students' perceptions of AWE influence their engagement in the academic writing process. This research employs a qualitative case study. The participants were 27 students of Argumentative Writing 2022 in the Faculty of Teacher Training and Education, Department of English Education, Universitas PGRI Jombang. The instruments utilized to collect the data are observation and Questionnaires. The data analysis technique models Miles and Huberman includes data condensation, data display, and conclusion. The data analysis shows that this study contributes to understanding English students' perception of how AWE tools influence writing engagement towards technology-automated writing evaluation, and the potential benefits and challenges associated with the integration of AWE at the university level. The result shows that AWE tools have a positive perception of students at the University level, showing that students benefited from the feedback provided by AWE.

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1. Introduction

Integrating technology into educational practices has transformed the learning landscape in the digital era, providing innovative tools and methods to improve student engagement and learning outcomes. One of the most significant technological advances is AWE, which uses algorithms to provide immediate, objective, and detailed feedback on student writing. These technologies are up-and-coming in higher education, where writing proficiency is essential for academic success, critical thinking, and future career opportunities. The existence of AWE is hoped to contribute positively to improving the quality of teaching and learning in higher education and preparing students for the

academic and professional challenges they will face in the future (Rahman et al., 2022, Miranty et al., 2023, Wei et al., 2023).

AWE tools, such as Grammarly, Paraphraser.io, Pro writing aid Grammarly, Ginger, etc, have been widely adopted in universities worldwide, providing valuable support to students and teachers through real-time corrections, suggestions, and assessment of writing quality (Wei et al. 2023). These tools effectively target common problems in student writing, such as grammar, syntax, style, and consistency. By providing immediate feedback, AWE systems can potentially improve students' writing skills more effectively than traditional methods. This study aimed to investigate English students' perceptions of AWE and the impact of these perceptions on their engagement in writing activities at the university level. The objective of this study lies in examining students' perceptions of AWE (independent variable) and their levels of writing engagement (dependent variable), which include writing quality, behavioral, affective, and cognitive aspects (Shen et al. 2023). Through this exploration, the study aims to shed light on the role of AWE in shaping students' attitudes and behaviors toward writing, thereby contributing to the ongoing debate on integrating technology in higher education.

Artificial Intelligence could be explained as intelligence that is reached artificially, something that does not exist naturally but is created as a copy of something already existing, in this case, the human intelligence written (Mueller & Massaron, 2018). Integrating artificial intelligence (AI) in higher education brings several challenges and benefits felt by academics and students there is an increased reliance on AI technology, including AWE, to facilitate the educational process Pisica et al. (2023). AI in education, particularly in the form of AWE, offers opportunities and challenges—the importance of developing university strategies to utilize new technology to maintain competitive advantage. The systems display intelligent behavior by analyzing their environment and taking actions—with some degree of autonomy—to achieve specific goals (Sheikh et al. 2023).

AWE is a cutting-edge tool that revolutionizes how students evaluate, analyze, and improve writing (Zhang, 2021). Seamlessly integrating advanced algorithms and natural language processing, AWE provides unprecedented accuracy and efficiency in evaluating written content, be it essays, reports, or creative works, AWE provides instant feedback on grammar, style, coherence, and more again, allowing writers to hone their skills and produce original work. Hockly (2019) stated that AWE software like Criterion or Write and Improve provides immediate feedback on writing in an interactive format: students can move through the text, stopping at paragraphs highlighted by the software and reading feedback on their specific language. According to Kruse et al. (2023) “AWE tools are used for formative assessment and to provide writing development practice, they have been widely promoted and deployed as innovations in writing instruction, emphasizing the value of repeated writing fuelled by feedback and other forms of support”.

In addition, student perception refers to students' thoughts, beliefs, and attitudes toward various aspects of their learning experience, including the learning environment, teaching methods, and content (Ahmed et al. 2018). Two kinds of perception are positive and negative. Positive perception is perceptions that describe all knowledge and responses. In contrast, negative perception is a perception that describes all knowledge and responses that are not aligned with the object being perceived (Irwanto, 2002). Students have 2 perceptions when using AWE, positive and negative perceptions. One of the negative perceptions is that they are not confident in their writing abilities, while one positive ex-

ample is that they only need a short time to find out if their writing has an error or not when entered into the AWE tool (Ummah & Bisriyah, 2022).

AWE refers to the use of AI in writing, writing is a language skill that is used to communicate indirectly, without meeting other people face to face Tarigan (2008) this involves the activity of expressing ideas or ideas using written language as a medium of delivery. In an educational context, writing is very important to make it easier for students to think critically and as an indirect means of communication between the writer and the reader. According to Marks (2000), Student engagement is a psychological process, specifically the attention, interest, investment, and effort exerted in learning activities. It can be define writing engagement the level of interest, attention, and curiosity that students demonstrate during classroom writing activities, characterized by students' active involvement in the writing process, their willingness to participate in collaborative assignments, and their emotional and cognitive investment in the learning experience (Farizka et al. 2020).

The current body of research has provided significant insights into the effectiveness and general attitudes toward AWE, however, there is a clear gap in understanding the exact impact of AWE on student writing engagement. According to Shen et al. (2023), writing engagement is a multifaceted construct that includes writing quality (good writing skills) behavioral engagement (active participation in writing tasks), affective engagement (interest and motivation to write), and cognitive engagement (investing in understanding and mastering writing skills). Previous studies have primarily focused on the consequences of AWE use concerning writing performance and general attitudes, with little attention to the impact of these tools on the multifaceted nature of engagement in terms of writing.

This study attempts to fill this research gap by focusing on the perceptions of English students at the university level and investigating the influence of these perceptions on their engagement in writing. The novelty of this study is underscored by its meticulous examination of the dynamic relationship between students' perceptions of AWE and comprehensive engagement in writing activities, thereby providing an in-depth understanding and more comprehensive on the pedagogical implications of AWE tools.

2. Method

This research uses a qualitative case study, where the researcher extends an in-depth analysis of several cases. A total of 27 students from the Argumentative Writing class of 2022 participated in completing the questionnaire. These students are enrolled at Universitas PGRI Jombang and include individuals of diverse genders. The participants were chosen because they have undergone the Argumentative Writing course, which equips them with foundational skills in academic writing. Additionally, these students represent a generation deeply immersed in rapid technological advancements, such as AI development. Their experiences highlight unique challenges when using AI-driven feedback tools, particularly Automated Writing Evaluation (AWE) applications, for completing writing assignments. The study uses observation and a questionnaire to collect the data (Creswell, 2017), the researchers appears to be a non-participant observer. Observation was used to seek a lot of information from lecturers and students, with several questions regarding the implementation of AWE in the classroom.

While questionnaires were used to gain information from lecturers regarding the use of AWE in class, the researcher distributed questionnaires that were used to determine their perceptions of the contribution of AWE in their writing engagement. The observation was conducted from June 11th to June 25th, 2024. Data for this research was collected through participant observation, lecturer input following the observation, and a questionnaire. The observation data included information provided by the lecturer, offering insights into the students' backgrounds and experiences. Additionally, the researcher utilized open-ended questionnaires distributed via online platforms such as Google Forms, ensuring easier accessibility for students. The data was analyzed by using three steps: 1) Data condensation, 2) Data display, and 3) Conclusion drawing or verification (Miles & Huberman, 2014). To ensure the validity of the data, this research employed a triangulation technique. Through this method, the displayed data was thoroughly examined for its robustness and reliability, enhancing the accuracy of the findings.

3. Results and Discussion

3.1 Results

Primary data in this research was obtained or collected from the open-ended questionnaire in the form of a Google Form distributed to students, and the secondary data was obtained from observation of student experience. There are 27 students from the Argumentative Writing class of 2022, consisting of men and women, Universitas PGRI Jombang students were involved in filling out the questionnaire. Based on the data exposure, it can be seen that the English Student's Perception of AWE in writing engagement for Argumentative Writing class 2022 at the Universitas PGRI Jombang is different for each student.

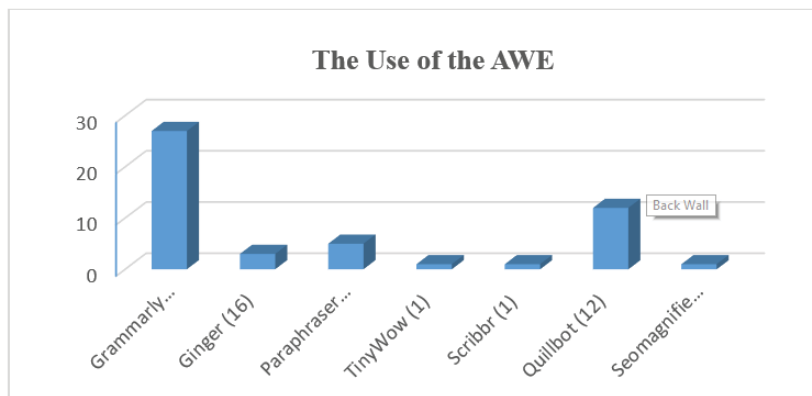


Figure 1. The use of AWE in Argumentative Writing 2022

Based on Figure 1 shows the use of AWE in the argumentative writing class of 2022. It looks very varied, with a total of 7 types of AWE applications used in this class. Among them, 27 students use Grammarly, 16 students use Ginger, 5 students use Paraphraser.io, 1 student use TinyWow, 1 student use Scribbr, 12 students use Quillbot, and 1 student use Seomagnifier. Every student responds not only to one AWE application, but some students respond that they use more than 1 AWE

application. This shows that students in the argumentative writing class of 2022 actively use applications that help with writing to improve the quality of their writing. The use of various types of AWE applications can be useful in developing students' writing skills. With the AWE application above, students can improve their grammar, writing style, and even paraphrase their writing, which can help them develop their writing skills better.

3.1.1 The Dimension of Writing Quality

The analysis of the dimension of writing quality in this study focuses on key aspects that determine the effectiveness of students' written outputs. These dimensions include content relevance, organization, coherence, language accuracy, vocabulary usage, and adherence to academic writing conventions. By evaluating these elements, the study aims to identify how well students are able to integrate these dimensions into their writing, particularly when using AI-assisted tools. The following table presents a detailed summary of the findings, highlighting key aspects of the data related to the dimension of writing quality and its evaluation.

Table 1. Students' perception on the dimension of writing quality

Questionnaire item	Indicator	Positive	Negative
How do you feel when AWE helps you correct grammatical errors in your writing assignments?	Grammatical Accuracy	100%	0%
What are your reasons for using different words after being suggested by AWE feedback in your writing assignment?	Vocabulary	89%	11%
What are your reasons for using a different sentence structure after being suggested by AWE feedback in your writing assignment?	Sentence Structures	85%	15%
How do you perceive AWE feedback helping you write assignments faster?	Writing Speed	85%	15%
What do you think about AWE feedback which can help you improve the quality of your writing?	Content	93%	7%

The student responses to the first question of the questionnaire show that using AWE has a positive impact in helping students improve their writing quality. The students responded that they felt beneficial when using AWE for writing. They considered that AWE provided significant auto-correction of grammar errors, which ultimately improved the overall quality of their writing.

S19. *“Saya merasa sangat terbantu dan lebih percaya diri dengan kualitas tulisan saya dan AWE membantu saya menyadari kesalahan yang mungkin saya lewatkan dan memberikan saran yang meningkatkan tata bahasa dan alur tulisan saya”*

Second question, the student response to the second question of the questionnaire shows that AWE not only helps in improving grammar but also makes a positive contribution to enriching students' vocabulary.

- S4. *“Saya menggunakan kata-kata yang berbeda untuk memperkaya kosa kata saya dan membuat tulisan saya lebih menarik dan variatif. Selain itu, saran dari AWE sering kali membuat tulisan saya lebih tepat dan sesuai konteks”*

Third question, the student response to the third question of the questionnaire shows AWE helps students with sentence structure suggestions that can help them avoid ambiguity and misunderstandings in their writing, thereby ensuring that their writing is effective and appropriate to their desired context, both in terms of sentence structure and grammar.

- S17. *“Karena kejelasan dan pemahaman AWE sering kali mengidentifikasi struktur kalimat yang rumit atau tidak jelas. Dengan mengikuti saran untuk mengubah struktur kalimat, tulisan menjadi lebih mudah dipahami oleh pembaca, struktur kalimat yang disarankan oleh AWE dapat membantu menghindari ambiguitas atau kesalahpahaman dalam tulisan”*

Forth question, the students revealed that when they used AWE, it made it easier to revise their writing quickly and efficiently, and it was easy to find words, grammar, or sentence structures that still had errors. Compared to correcting their writing manually, using AWE doesn't take much time.

- S5. *“Umpan balik dari AWE sangat membantu dalam mempercepat proses menulis. Dengan identifikasi otomatis terhadap kesalahan dan saran perbaikan yang diberikan, saya dapat menghemat waktu yang biasanya saya habiskan untuk menyunting dan merevisi tulisan secara manual”*

Fifth question, the students feel that AWE helps them improve the quality of their writing, with all its correction features they feel that there are many benefits of AWE in writing which they would otherwise have difficulty correcting sentence structure, layout language, and writing style, by using AWE the problem was resolved.

- S19. *“Sangat membantu dalam meningkatkan kualitas tulisan saya. AWE memberikan analisis yang mendetail mengenai tata bahasa, struktur kalimat, dan gaya penulisan, yang semuanya bisa diperbaiki untuk keseluruhan kualitas tulisan saya”*

Overall, the dimension of writing quality as influenced by AWE reflects a significant improvement across multiple aspects of students' writing. From grammar correction to vocabulary enhancement, sentence structure refinement, and efficient revision processes, AWE has proven to be a valuable tool in helping students produce clearer and more effective written outputs. The students consistently highlighted how AWE fosters confidence in their writing abilities, provides constructive feedback, and streamlines the editing process. These findings underscore the potential of AWE not only as a writing aid but also as a means to support the broader development of academic writing skills.

3.1.2 The Dimension of Cognitive Engagement

The dimension of cognitive engagement focuses on students' mental efforts in understanding and applying AWE feedback to improve their writing. It explores how easily students can comprehend and respond to the feedback provided by AWE and their ability to revise assignments effectively based

on the suggestions. It also examines how AWE enhances students' grammatical knowledge for future writing tasks and their use of additional tools, such as Word spelling and grammar checkers or Bing Translator, to aid in revisions. Lastly, it evaluates how AWE helps students recognize the strengths and weaknesses in their writing, fostering deeper engagement with their learning process. Table 2 shows the results of the questionnaire aspect.

Table 2. Students' perception on the dimension of cognitive engagement

Questionnaire item	Indicator	Positive	Negative
What is your perception when it is easier to understand and respond to AWE feedback provided by the system?	Understanding	85%	15%
How do you feel about knowing how to properly revise a writing assignment after using AWE feedback to improve the quality of your writing?	Revision Strategies	93%	7%
How do you think using AWE feedback gives you grammatical knowledge you can use in future writing?	Grammatical Knowledge	78%	22%
What is your perception when using learning resources or other tools (Word spelling & grammar, Bing Translator, etc) to revise your writing assignments?	Incorporating Learning Resources	74%	26%
How do you think AWE feedback helps you realize the strengths and weaknesses of the writing you are working on?	Strengths and Weaknesses Awareness	81%	19%

In the sixth question, regarding student perception of easier to understand and respond to AWE feedback by the system, the students think that the AWE issued by the system is easier to understand and easier to respond to. The AWE feedback system is indeed easy to understand and the way to respond is also very easy, but if they feel that it is made easier by AWE.

S25. *“Persepsi saya adalah bahwa lebih mudah memahami dan menanggapi feedback dari AWE karena sistem memberikan saran yang jelas dan terperinci untuk membantu saya memperbaiki tulisan saya. Hal ini memudahkan saya untuk melakukan perbaikan yang diperlukan dan meningkatkan kemampuan menulis saya secara keseluruhan”*

In the seventh question, regarding students' feelings about knowing the correct way to revise after using AWE to improve their writing quality, the students expressed their opinion that they felt very happy, more confident, and also motivated when they knew the correct way to revise their writing after using AWE feedback.

S5. *“Saya merasa lebih percaya diri dan terarah ketika merevisi tugas menulis setelah menggunakan umpan balik dari AWE. Saya merasa memiliki panduan yang jelas tentang apa yang perlu diperbaiki dan bagaimana cara melakukannya”*

The eight questions regarding opinions on using AWE give you knowledge of Grammar for the next writing. The students thought that when using AWE, they gained grammatical knowledge that could be used for further writing.

- S25. *“Penggunaan umpan balik dari AWE memberi saya pengetahuan tata bahasa yang berharga yang dapat saya terapkan dalam penulisan selanjutnya. Dengan memperhatikan saran dan perbaikan yang diberikan, saya dapat belajar tentang aturan tata bahasa yang benar dan menghindari kesalahan yang sama di masa mendatang. Hal ini membantu saya untuk terus meningkatkan kualitas tulisan saya secara konsisten”*

The ninth question concerns the perception when using another tool, such as Spelling & Grammar, Microsoft Word, and BING Translator, for writing revision. The students thought that learning resources or other tools such as Spelling & Grammar, Microsoft Word, Bing Translator, etc., helped them complement AWE and provide a different perspective. Some compared these tools with AWE, which was more specific in providing feedback.

- S9. *“Menggunakan sumber belajar atau alat lain seperti Ejaan & tata bahasa Microsoft Word atau Bing Translator memberi tambahan panduan dalam merevisi tugas menulis, tetapi umpan balik AWE cenderung lebih spesifik dan langsung dalam memberikan saran perbaikan”*

The tenth question focused on how AWE feedback helps students recognize the strengths and weaknesses in their writing. The responses indicated that students found AWE effective in identifying areas where they excelled as well as aspects that needed improvement.

- S9. *“Feedback AWE membantu saya menyadari kelebihan dan kekurangan tulisan dengan memberikan analisis yang terperinci tentang aspek-aspek tertentu, sehingga saya dapat lebih memahami area yang perlu diperbaiki dan mempertahankan kekuatan tulisan saya”*

In conclusion, the dimension of cognitive engagement underscores the students' active involvement and reflective thinking when utilizing AWE tools to improve their writing. The feedback provided by AWE enables students to understand better and address corrections and enhances their confidence and motivation by offering clear and actionable guidance for revisions. Furthermore, students expressed that using AWE enriched their grammatical knowledge, which they could carry forward to future writing tasks, demonstrating a lasting educational benefit. While additional tools like Microsoft Word and Bing Translator provided general support, AWE stood out for its detailed and targeted feedback, helping students identify strengths and improvement areas. These findings illustrate how AWE fosters deeper cognitive engagement by encouraging students to critically evaluate their work, effectively implement changes, and develop their writing skills over time.

3.1.3 The Dimension of Behavioural Engagement

The dimension of behavioral engagement in this study focuses on the student's actions and efforts in responding to feedback on their writing assignments. Behavioral engagement encompasses students' time and energy in analyzing feedback, making revisions, and applying suggestions to improve their work. This dimension is explored through questions such as why students spend significant time analyzing lecturer feedback, how they respond to evaluation reports, and the extent of changes made

to grammar, vocabulary, sentence patterns, structure, and content based on feedback. These actions reflect the students' commitment to actively engaging with the learning process, improving their writing skills, and demonstrating a conscientious approach to academic tasks. Table 3 presents the results of the students' responses.

Table 3 - Students' perception on the dimension of behavioural engagement

Questionnaire	Indicator	Positive	Negative
Why do you spend a lot of time analyzing the feedback and revisions given by the lecturer on your writing assignment?	Time Allocation	70%	30%
How did you respond to the evaluation report and did you make many changes based on the feedback?	Careful Review	78%	22%
Why do you make many grammatical changes in writing assignments after seeing feedback from your lecturer?		81%	19%
What are your reasons for changing vocabulary and sentence patterns after you read the feedback given by the lecturer?	Changes Based on Feedback	67%	33%
What is the reason you made many changes to the structure and content after understanding the feedback from the lecturer on your writing?		70%	30%

The eleventh question, regarding why spend a long time analyzing feedback and revision given by the lecture. The students responded to the questionnaire regarding the amount of time they spent on feedback and revisions given by lecturers.

S17. *“Menghabiskan banyak waktu untuk menganalisis masukan dan revisi yang diberikan oleh dosen pada tugas menulis sangat penting karena beberapa alasan. Untuk peningkatan Kualitas Tulisan (masukan dari dosen sering kali didasarkan pada pengalaman dan pengetahuan mendalam mereka tentang subjek dan penulisan akademis. Menganalisis dan menerapkan saran mereka dapat secara signifikan meningkatkan kualitas tulisan saya)”*

The twelfth question regarding the opinion of students responds to the evaluation report and makes any changes according to that feedback. The students thought that the respondents appreciated the feedback given by the lecturers.

S3. *“Saya sangat menghargai laporan evaluasi dan biasanya membuat banyak perubahan berdasarkan masukan tersebut karena saya percaya bahwa umpan balik dari dosen sangat berharga untuk meningkatkan kualitas tulisan saya”*

The thirteenth question concerns making changes to Grammar after seeing lecture feedback and suggestions. The students made many grammatical changes after the lecturer gave them suggestions and feedback.

- S17. *“Saya banyak melakukan perubahan tata bahasa dalam tugas menulis setelah melihat masukan dari dosen saya karena beberapa alasan yang sangat penting, seperti perubahan tata bahasa yang dianjurkan oleh dosen sering kali bertujuan untuk meningkatkan kualitas tulisan secara keseluruhan. Dengan melakukan perubahan ini, tulisan saya menjadi lebih jelas, akurat, dan professional”*

The fourteenth question concerns changing vocabulary after reading lecture feedback and suggestions. The students actively changed vocabulary and sentence patterns to make their writing more varied and interesting.

- S4. *“Saya mengubah kosa kata dan pola kalimat untuk membuat tulisan saya lebih bervariasi dan menarik. Saran dari dosen sering kali membantu saya menemukan cara yang lebih baik untuk menyampaikan ide saya dengan jelas dan efektif”*

The fifteenth question is regarding to the change of structure and content after reading lecture feedback and suggestions. The students made structural and content changes in their writing to better organize their thoughts, strengthen their arguments, and ensure that their writing was coherent and logically structured.

- S10. *“Saya melakukan perubahan struktural dan isi untuk mengatur pemikiran saya dengan lebih baik, memperkuat argumen saya, dan memastikan bahwa tulisan saya koheren dan terstruktur secara logis”*

In conclusion to the behavioral dimension, the students' responses highlight the significant impact of lecturer feedback on various aspects of their writing. The feedback process is considered essential for improving writing quality, with students dedicating considerable time to analyzing and implementing the revisions suggested by their lecturers. Students emphasized the importance of grammatical, vocabulary, and structural changes in enhancing the clarity, accuracy, and effectiveness of their writing. Moreover, the active engagement with feedback, including changes to both content and structure, demonstrates the students' commitment to refining their work and developing their academic writing skills. This process underscores the value of constructive feedback in fostering continuous improvement and growth in writing proficiency.

3.1.4 The Dimension of Affective Engagement

The dimension of affective engagement focuses on the emotional and motivational aspects of students' interactions with the AWE feedback system. The questionnaire explores how students feel about revising their writing based on AWE feedback, their sense of pride after making revisions, and how the feedback influences their interest and motivation to write. It also examines how AWE has contributed to improving their writing skills and whether they would continue using it in the future. Table 4 shows the student's responses toward this dimension.

Table 4. Students’ perception on the dimension of affective engagement

Questionnaire item	Indicator	Positive	Negative
Why do you enjoy revising the writing assignment more based on the AWE feedback system?	Enjoyment	89%	11%
After using AWE, is there a sense of pride and satisfaction after making revisions based on the input provided by the AWE feedback system?	Sense of Pride and Satisfaction	74%	26%
What do you think about AWE feedback being successful in helping increase your interest and motivation in writing?	Interest and Motivation	88%	12%
How do you think AWE feedback has successfully helped improve your overall writing skills when using AWE feedback?	Improvement	67%	33%
How about using AWE in your future writing, will you still use AWE and why do you still use it?	Future Intentions	96%	4%

The sixteenth question, regarding the reason, is revisions by using AWE feedback. The students thought that AWE feedback often provided details about grammar, spelling, and writing style errors.

S2. *“Umpan balik AWE sering kali memberikan detail tentang kesalahan tata bahasa, ejaan, dan gaya penulisan, memungkinkan saya untuk memahami dengan jelas di mana saya perlu melakukan perbaikan”*

The seventeenth question is regarding the sense of pride and satisfaction after using AWE feedback for writing revisions. Based on the data, the students felt proud and satisfied with the real improvement in their writing. This led to an increase in their self-confidence and motivation to continue developing.

S10. *“Ya, saya merasa bangga dan puas karena melihat peningkatan nyata dalam tulisan saya, sehingga menambah rasa percaya diri dan motivasi saya untuk terus berkembang”*

The Eighteenth question concerns students’ opinions on AWE’s success in increasing interest and motivation in writing. Based on the data, the students stated that feedback from AWE was very helpful in increasing respondents’ interest and motivation in writing.

S10. *Feedback dari AWE sangat membantu meningkatkan minat dan motivasi saya dalam menulis. Melihat perbaikan dalam tulisan saya membuat saya lebih termotivasi untuk terus belajar dan menulis dengan lebih baik.*

The nineteenth question concerns students’ opinions of how AWE is successful in helping increase writing skills overall. Based on the data, the students stated that AWE feedback was successful in helping them improve their overall writing skills by providing specific and detailed suggestions.

S14. *Umpan balik AWE berhasil membantu meningkatkan keterampilan menulis saya secara keseluruhan dengan memberikan saran yang spesifik dan terperinci. Sistem ini menunjukkan kesalahan tata bahasa, struktur kalimat, dan penggunaan kosa kata yang kurang tepat, serta*

memberikan alternatif yang lebih baik. Dengan demikian, saya bisa belajar dari setiap kesalahan dan memperbaiki kualitas tulisan saya secara berkelanjutan.

The twentieth question is regarding the student's reason for using AWE for further writing and the reason for still using it. Based on the data, 26 students thought that feedback from AWE was very helpful in improving the quality of their writing.

- S5. *“Saya akan tetap menggunakan AWE pada tulisan saya selanjutnya karena saya merasa bahwa umpan balik dari AWE sangat membantu dalam meningkatkan kualitas tulisan saya. AWE memberikan saran yang cepat dan spesifik, sehingga saya bisa segera memperbaiki kesalahan dan belajar dari pengalaman tersebut”*

As a result, in the dimension of affective engagement, the findings indicate that AWE feedback plays a significant role in enhancing students' writing abilities and motivating them to continue improving. Students appreciated the detailed feedback on grammar, spelling, and writing style errors, which allowed them to make clear and effective revisions. The sense of pride and satisfaction from seeing tangible improvements in their writing boosted their self-confidence and motivation. Additionally, students reported that AWE feedback increased their interest in writing by providing specific suggestions that helped improve their overall skills. The students expressed a strong intention to continue using AWE in the future, recognizing its value in refining their writing quality.

3.2 Discussion

The research revealed that AWE significantly improves the quality of students' writing. The use of AWE allowed students to understand the feedback provided, which helped them identify and correct grammatical errors, sentence structure issues, and writing style problems. This aligns with the findings of Rahman et al. (2022) those Miranty et al. (2023) who suggested that AWE positively impacts students' writing skills and the overall quality of their work. Furthermore, the study found that skilled students exhibited higher levels of cognitive and metacognitive strategies when interacting with AWE. This supports the notion that AWE facilitates deeper cognitive engagement, as noted by (Shen et al. 2023). Students who are adept at using AWE can better comprehend the areas needing improvement and make more efficient revisions. This enhanced understanding fosters stronger writing abilities and improved outcomes, as these students can internalize feedback and apply it to their writing processes. High-level students performed more revision operations in response to AWE feedback, reflecting greater behavioral engagement. The feedback from AWE and lecturers encouraged students to carry out more in-depth revisions, enhancing the clarity, accuracy, and professionalism of their writing. This aligns with the findings Wei et al. (2023), indicating that AWE positively influences students' revision behaviors and writing quality. The iterative process of receiving feedback and revising helps students refine and articulate their ideas more effectively. AWE-specific and detailed feedback motivated students to continue learning and improve their writing, which supports the findings Armanda et al. (2022) that AWE feedback enhances students' interest, motivation, and writing skills. Students' emotional and attitudinal responses were largely positive, as they felt motivated and saw

improvements in their writing skills. The specific nature of AWE feedback allows students to see tangible improvements in their writing, which can be a significant motivational factor.

Furthermore, the perception of AWE's effectiveness can be highly subjective. While some students found AWE feedback enjoyable and motivating, others perceived it as boring or overly critical. This subjectivity indicates that individual differences in students' attitudes and preferences can influence their perception of AWE, potentially affecting its overall efficacy. Understanding these individual differences and tailoring the use of AWE to meet the needs and preferences of different students can help maximize its effectiveness. Providing opportunities for students to give feedback on their experiences with AWE and using this feedback to make improvements can help ensure that AWE tools are used most effectively and beneficially for all students. On one hand, AWE demonstrates considerable benefits by significantly enhancing the quality of students' writing. It enables students to identify and correct grammatical errors, sentence structure issues, and writing style problems with greater precision, as supported by Rahman et al. (2022) and Miranty et al. (2023). Skilled students, in particular, exhibit heightened cognitive and metacognitive engagement, using AWE to gain a deeper understanding of their writing strengths and weaknesses, leading to more effective revisions.

To reconcile these benefits and concerns, a balanced approach is essential. Integrating AWE with traditional teaching methods can address the limitations of both. Providing personalized guidance and additional support for less skilled students can help bridge the gap in AWE's effectiveness across proficiency levels. Ensuring that AWE is used as a supplementary tool, rather than the sole source of feedback, can prevent over-reliance and foster the development of critical thinking and self-editing skills. Additionally, acknowledging and addressing individual differences in students' attitudes towards AWE can enhance its overall impact. By combining AWE with traditional feedback methods and promoting a reflective and balanced use of technology, educators can maximize its benefits while mitigating its drawbacks, leading to a more inclusive and effective approach to writing instruction.

4. Conclusion

The conclusion stated AWE tools have a positive impact on student writing engagement. Many students find AWE tools helpful in identifying and correcting grammar errors, suggesting alternative words, and improving sentence structure, ultimately improving their writing quality. Additionally, AWE tools positively influence students' writing quality and cognitive, behavioral, and affective engagement. Students find AWE feedback easy to understand and respond to, spend a short of time analyzing the feedback and making revisions based on it, and feel proud and satisfied after using AWE feedback to write revisions. However, it is important to note that some students found AWE difficult to use and were unsure about its suggestions. Therefore, personal preferences and experiences must be considered when implementing AWE.

The results presented allow us to make several recommendations for the future. First, teachers should provide adequate training to ensure that users can use AWE optimally according to their individual needs. This will help students exploit the full potential of AWE tools to improve their writing skills. Second, future researchers should consider exploring the use of different AWE tools, as this study demonstrates that AWE use varies across students and positively impacts the quality of

their writing. By examining specific or different types of AWE tools, researchers can build on the results of this study to further improve students' writing experiences and performance. This can be achieved by referring to this research and considering the factors that influence the use of AWE tools. These recommendations aim to enhance the effectiveness of AWE tools in improving student's writing skills and experiences, thereby contributing to the advancement of research in this area.

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