

USING *QUILLBOT* FOR ENHANCING EFL LEARNERS' ESSAY WRITING SKILLS

Truong Hong Ha

Faculty of English, Hanoi National University of Education

Abstract. Efficient ways of enhancing students' writing skills have long been researched. With digital tools that provide Artificial Intelligence, recent technological advancements have provided solutions to academic writing challenges. Artificial intelligence (AI) is a machine that could mimic and trace human intelligence by combining multiple functions. For academic writing and essay writing in particular, one of the most renowned AI-based tools called *QuillBot* was launched, allowing students to edit, check, summarize, and organize their writing within one single application. This study was a quasi-experimental study with a non-equivalent group design and a purposive random sampling method. The participants were 98 EFL university sophomores divided into two groups: the experimental group and the control group. Data was gathered through essay writing tests and an in-depth interview, and results were discovered through the use of frequencies and T-test analysis. The findings indicate that the AI-assisted *QuillBot* application can help students improve their essay-writing skills. The most striking findings are (1) they have seen significant improvements in their English essay writing post-test results; (2) in terms of attitudes, students believe *QuillBot* can improve their essay writing skills, particularly Grammar, Vocabulary, and Cohesion and Coherence, they enjoy their experience with the application, and they are eager to not only continue using *QuillBot* but also introduce the tool to others.

Keywords: *QuillBot*, enhance, English essay-writing skills.

1. Introduction

Writing effectively has always been a difficult aspect of language because it necessitates skills in organizing ideas that can be conveyed to readers through structured language, paraphrasing, and vocabulary. (Fitria, 2018) [1]. When it comes to writing in an EFL context, in which one is trying to express themselves in English while also learning the language, grammatical errors, and vocabulary lacking are inevitable because the individual is performing both tasks at the same time (Hyland, 2003) [2]. Academic writing is an important genre of writing since it plays an important role in the transmission, dissemination, assessment, and renewal of knowledge in academic fields. According to Lin and Morrison (2021) [3], academic writing presents challenges to students, which require critical thinking and high-quality writing skills. Scholars worldwide have recognized the importance of mastering academic writing skills, thus focusing on student's difficulties in writing academic essays (Hyland, 2016 [4]; Lin & Morrison, 2021 [3]), especially those of international EFL students, as noted by Felix and Lawson (1994) [5] and Woodward-Kron (2007) [6]. However, recent technological advancements have provided solutions to these challenges, such as automated writing evaluation (AWE), automated essay scoring (AES), and automated written corrective feedback (AWCF), which can now be integrated

Received May 20, 2023. Revised June 24, 2023. Accepted July 8, 2023.

Contact Truong Hong Ha, e-mail address: hahongtruong@hnue.edu.vn

into a single application using Artificial Intelligence (AI) (Koltovskaia, 2020) [7]. Artificial intelligence (AI) is defined by Popenici & Kerr (2017) [8] as “a machine that replicates and traces human intelligence processes such as learning, reasoning, and self-correction by combining multiple applications like AWE, AES, and AWCF that allow students to edit, check and organize their writing within an application”.

QuillBot is a widely used digital tool that employs AI to assist people with writing (Kurniati, E. Y., & Fithriani, R., 2022) [9]. It allows students to paraphrase, check grammar errors, summarize, translate, detect plagiarism, co-write, and even generate citations within an application. The effectiveness of AWE applications on academic writing has been extensively researched (Ariyanti, 2021 [10]; Zhang, 2020 [11]), but there has been limited research on using AI-powered technology, which has a variety of functions, as a tool to help students improve their writing quality. Thus, this study aimed at researching the possibilities of using *QuillBot* as an AI-assisted tool to improve the academic writing skills of EFL learners, presented by a group of Vietnamese sophomores who found it difficult to master the features of academic writing in their first exposure to IELTS writing task 2.

From that goal, two specific objectives have been drawn, which were (1) to explore the effectiveness of using *QuillBot*, in its free version, to enhance sophomores' essay writing skills at a university in Vietnam and (2) to find out their attitudes towards this AI digital tool. Specific research questions have to be answered as part of this investigation:

(1) To what extent did the students improve their writing skills when practicing writing essays with QuillBot?

What were the students' attitudes toward practicing writing essays with QuillBot?

2. Content

2.1. Writing skill

English has become the dominant language used in many aspects of human life, making the mastery of the four essential skills of English (listening, speaking, reading, and writing) crucial for many students worldwide. Writing, in particular, is prioritized by Vietnamese students due to its importance in both informal and formal contexts, from social networking to academic studies. However, it can be challenging to define exactly what constitutes writing ability, and different teaching approaches to writing that have diverse definitions. The three main approaches are the Text-Oriented Approach, Genre-Based Approach, and Process/Cognitive Approach (Yi, 2009 [12]). The Text-Oriented Approach defines writing ability as the capacity to produce “contextually” appropriate forms of language while adhering to predetermined patterns (Hyland in Yi, 2009 [12]). The Genre-Based Approach emphasizes the importance of considering the reader's expectations and needs when writing, satisfying specific discourse communities' structures and content, and communicating effectively. The Process/Cognitive Approach focuses on the writer's thought process when writing, including the ability to generate and develop ideas and use revising and editing techniques to bring them to maturity (Nunan in Yi, 2009 [12]). Teachers can choose a definition of writing ability that suits their pedagogical needs from these different approaches.

2.2. Academic writing

Academic writing is a complex writing genre. In academic writing, the following must be taken into account: the writing has to be organized and structured, formal, and objective; and the terminology utilized is frequently abstract and technical (Taylor, 2009 [13]). Academic writing can pose a challenge for many students, especially those who are learning English as a foreign

language. EFL learners face many obstacles when it comes to academic writing, including differences in grammar, word choice, and organization of ideas that may differ from their own linguistic and cultural backgrounds (Oshima, A., & Hogue, A., 2007 [14]). These difficulties have led to extensive research on academic writing skills, particularly in higher education settings (Lin and Morrison, 2021 [3]; Hyland, 2016 [4], Fatimah, 2018 [15]; Odena & Burgess, 2017 [16]).

2.3. Essay writing

One specific type of academic writing that is commonly assigned is the essay (Van Geyte, 2013 [17]). The essay consists of an introduction, body paragraphs, and a conclusion. Despite being a common assignment, many students struggle with essay writing, especially in English (Bulqiyah, S., Mahbub, M., & Nugraheni, D. A., 2021 [18]). This has led to the development of various teaching approaches, including the process approach, which focuses on the stages of the writing process rather than the final product (Leki, 1991 [19]). These stages include pre-writing, drafting, revising, editing, and publishing. Based on this theory, and adapted from Scott (1996) [20], Tangpermpoon, T. (2008) [21] has drawn out a model of the writing process including five steps, which are pre-writing, first draft composing, feedback (including peer feedback and teacher feedback), second draft writing, and proofreading. Many educators support the process approach and believe that it will benefit students significantly (Raimes 1983 [22], Stewart and Cheung 1989 [23], White and Arndt 1991 [24]).

To evaluate students' essay writing skills, various scoring methods can be used, including analytic, primary trait, and holistic. Analytic scoring involves using specific scales to rate different aspects of the writing, while primary trait scoring focuses on specific aspects of the writing, and holistic scoring assesses the overall quality of the writing.

In this study, in class, the students were given instructions on how to write essays step by step, following the model of the writing process (Tangpermpoon, T., 2008 [21]), and their writings were evaluated using the holistic scoring method.

2.4. Artificial Intelligence (AI)

Modern English teaching and learning processes have been transformed by the incorporation of technology, as it provides more accessible and engaging means of learning. Digital tools are particularly helpful for learners who grew up with technology, and they can help students to understand and learn English courses better (Lynch, 2018 [25]). In particular, AI-aided digital writing tools can improve students' writing skills. At first, technology was restricted to applications providing a single function, like automated writing evaluation (AWE), automated written corrective feedback (AWCF), and automated essay scoring (AES). Recently, these apps can now be combined into one application called "AI-aided digital writing tools". AI is a type of automated device that has the capabilities of human intelligence, such as learning, reasoning, adapting, and self-correction (Popenici & Kerr, 2017 [8]). With technological advancements, AI-powered technology can assist teachers and learners in several areas of teaching and learning, including assessment, tutoring, content generation, and feedback. *QuillBot* is an example of an application that utilizes AI technology to assist students in their writing skills.

2.5. QuillBot

Recent advances in technology have allowed for the development of AI-assisted writing tools such as *QuillBot*. *QuillBot* uses artificial intelligence to paraphrase, summarize, check grammar, and detect plagiarism in written content. Additionally, it offers co-writing, citation-generating, and translating tools. *QuillBot* is available in two versions: free and premium. The free version does not include the plagiarism checker, and it has a character limit of 400 characters that can be paraphrased while the premium version allows you to increase the maximum character limit to 10,000. In this study, the free version was chosen to be explored its potential of helping learners

boost their essay-writing skills.

2.6. Attitudes

Van den Berg et al. (2006) [26] and Eagly and Chaiken (1998) [27] defined “attitudes” as having three basic components: cognitive, affective, and behavioral. Tra, P.T. (2020) [28] adapted the ABC model to fit Vietnamese undergraduates’ attitudes toward mobile-assisted language learning (MALL). The framework has three major components: cognitive, affective, and behavioral. Cognitive addresses perceptions of the usefulness and ease of use of mobile devices for English learning, while Affective tells about feelings (excitement/ enjoyment/ anxiety), and Behavioural provides information about future decisions. Based on this adapted ABC model of attitudes, a semi-structured interview with nine questions was generated to explore the learners’ attitudes toward using *QuillBot* to enhance their essay-writing skills.

2.7. Related previous studies

Studies have explored the potential of *QuillBot* in improving different aspects and types of writing. Fitria, T. N. (2021) [29], Khabib, S. (2022) [30], Miranda, D. Y., & Fithriani, R. (2023) [31], Nurmayanti, N., & Suryadi, S. (2023) [32] suggest that students have positive responses to *QuillBot*’s useful functions such as increasing optimistic attitudes, assisting language learning, boosting students’ involvement in writing, and improving the quality of their writing. *QuillBot* has also been shown to assist teachers and researchers in composing research papers by reducing errors for more efficient writing with better accuracy (Khabib, S., 2022 [30]; Adams, D., & Chuah, K. M., 2022 [33]).

It can be seen that the majority of these studies focus solely on the use of *QuillBot* as a paraphraser, rather than investigating its utility as an AI-powered technology with multiple functions for improving users’ writing skills. Thus, the purpose of this study is to investigate the potential of *QuillBot* as an AI-powered technology with multiple functions in improving EFL learners’ writing skills, as well as to explore the learners’ attitudes towards the use of the application.

2.8. Research methodology

2.8.1. Research design

The study employed a mixed-method approach to investigate if *QuillBot* had a positive impact on the writing skills of the participants. Both quantitative and qualitative data were collected as follows:

To evaluate the effectiveness of using *QuillBot* AI-aided tool in improving learners’ English essay-writing skills in an EFL context, a quasi-experimental design was utilized. A pre-test was administered to assess the initial essay-writing abilities of the participants. The results were used to create two groups that were deemed equivalent in terms of ability: the experimental group which, besides receiving teacher feedback and peer feedback, had access to *QuillBot* during their at-home writing practice, and the control group which received no other assistance but teacher and peer feedback. Both groups were enrolled in a university writing course teaching the “Advantages and Disadvantages Essay” type for the IELTS exam. After eight weeks of treatment, the researcher analyzed the outcomes to compare the student writing results.

Moreover, participants’ attitudes towards the use of *QuillBot* were explored through a semi-structured interview. This aimed to provide a more comprehensive understanding of the participants’ attitudes towards *QuillBot*.

2.8.2. Research settings and participants

This study was conducted in the second semester of the academic year 2022/2023. 98 undergraduate students (n=98) were split into two classes having the same curriculum for the Reading–Writing 4 course during their second year at a university. To be able to take part in the

course, all students had achieved 4.0-5.0 in English writing according to the IELTS writing band descriptor. The coursebook used for writing skills was IELTS Advantage Writing Skills by Richard Brown and Lewis Richards (2011) [34]. Based on the book content and the theory of the process approach in teaching writing, in class, the students were guided step by step to be able to write a full IELTS task 2 essay. However, the teacher was only able to help students understand task types and create an outline for each specific essay question. The more difficult activity, practicing writing essays, was mostly completed at home by the students, resulting in a severe lack of long-term assistance during their writing time.

2.8.3. Data collection and data analysis instruments

To compare the differences in students' writing skills before and after treatment, quantitative data were collected using a pre-test and a post-test. The tests were identical in structure as participants were asked to complete an IELTS task 2 essay in 40 minutes, with a question taken from the real IELTS writing exams. Because the course's target level for essay writing is 6.0 (equivalent to CEFR B1), the tests were graded using a rating scale adapted from the IELTS band descriptor for writing task 2, with scores ranging from 0 to 10, equivalent to 0 to 6.0 in IELTS. To ensure the validity of the results, both the researcher and another lecturer assessed the tests. Because the most popular functions of this AI tool are Paraphraser and Grammar Checker, it was expected that *QuillBot*'s assistance would have a greater impact on the learners' grammar and vocabulary than other aspects of essay writing.

The qualitative data were collected through a semi-structured interview for the experimental groups only to discuss the students' attitudes towards using *QuillBot* to improve their essay writing skills. The utilized questions were nine open-ended questions based on the adapted ABC model of attitudes by Tra, P.T. (2020) [28], allowing for more in-depth discussions with the interviewees.

SPSS was used to perform the quantitative data analysis. The researcher then analyzed and synthesized both qualitative and quantitative data.

2.8.4. Research procedure

Step 1: Examined students' initial essay-writing skills. Divided the students into the control group and the experimental group based on the test results.

Step 2: Both groups followed the same essay-writing learning curriculum in class; for the homework, the students had to complete a full essay for different questions each week. After the students had finished the first draft, the control group received peer feedback as their only assistance to rewrite their essays, while the experimental group used the *QuillBot* AI tool, in addition to peer feedback, to help them reproduce their writings. The experimental group was encouraged to freely explore all features of the application to assist them in writing better essays. For example, they could use *QuillBot*'s Paraphraser to paraphrase the essay questions or any other necessary texts, Grammar Checker to check for grammatical errors throughout the essays, or the Co-Writer to get writing tips for particular questions and even conduct web searches as they worked on their essays. The course of treatment lasted for eight weeks.

Step 3: Tested the students' writing again after the treatment to determine any differences in their English essay writing skills, if any. Additionally, the students were interviewed to gather their attitudes regarding the use of *QuillBot* in enhancing their essay writing.

Step 4: Synthesized and analyzed the obtained data.

2.9. Research findings and discussion

2.9.1. The effectiveness of using QuillBot AI-aided tool in enhancing EFL students' English essay writing skills

The following tables show the frequency data of the two groups pre-test and post-test results.

Table 1. Frequency table of the experimental group's pre-test results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5.00	12	24.5	24.5	24.5
	6.00	14	28.6	28.6	53.1
	7.00	12	24.5	24.5	77.6
	8.00	11	22.4	22.4	100.0
	Total	49	100.0	100.0	

Table 2. Frequency table of the control group's pre-test results

		Frequency	Percent	Valid Percent	CumulativePercent
Valid	5.00	12	24.5	24.5	24.5
	6.00	13	26.5	26.5	51.0
	7.00	16	32.7	32.7	83.7
	8.00	8	16.3	16.3	100.0
	Total	49	100.0	100.0	

Table 3. Frequency table of the experimental group's post-test results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7.00	12	24.5	24.5	24.5
	8.00	18	36.7	36.7	61.2
	9.00	19	38.8	38.8	100.0
	Total	49	100.0	100.0	

Table 4. Frequency table of the control group's post-test results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6.00	7	14.3	14.3	14.3
	7.00	17	34.7	34.7	49.0
	8.00	21	42.9	42.9	91.8
	9.00	4	8.2	8.2	100.0
	Total	49	100.0	100.0	

The obtained data show that the pre-test scores for both the control and experimental groups range from 5 to 8, while the post-test scores range from 6 or 7 to 9. Only 11 of 49 (equivalent to 22,4%) members of the experimental group and 8 out of 49 (equivalent to 16,3%) members of the control group achieved an 8 on the pre-test. However, the experimental group's post-test results show significant improvement. While the minimum score observed in the control group is 6, and only 4 out of 49, or 8.2% of the group members, could achieve a mark 9, the minimum score observed in the experimental group is 7, and 19 out of 49, or 38.8% of the group members, could achieve mark 9.

The following three tables compare the pre-test and post-test results of the control and experimental groups using paired-sample T-test analysis. In these tables, some long phrases have been coded as capital letters to ensure conciseness. Respectively, EPR stands for the Experimental group's Pre-test results; CPR for the Control group's Pre-test results; EPO for the Experimental group's Post-test results; and CPO for the Control group's Post-test results.

Table 5. Paired samples t-test statistics of the pre-test and post-test results between the control and experimental groups

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	EPR	6.4490	49	1.10040	.15720
	CPR	6.4082	49	1.03920	.14846
Pair 2	EPO	8.1429	49	.79057	.11294
	CPO	7.4490	49	.84314	.12045

Table 6. Paired samples t-test statistics of the pre-test and post-test results between the control and experimental groups

		N	Correlation	Sig.
Pair 1	EPR & CPR	49	-.382	.007
Pair 2	EPO & CPO	49	.027	.855

Table 7. Paired samples t-test result of the pre-test and post-test results between the control and experimental groups

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	EPR & CPR	.04082	1.77904	.25415	-.47018	.55181	.161	48	.873
Pair 2	EPO & CPO	.69388	1.14025	.16289	.36636	1.02140	4.260	48	.000

Though the median pre-test scores for both groups were nearly identical (6.45 and 6.41, respectively), the difference in post-test scores was remarkable, with the experimental group earning 8.1 and the control group 7.45. When comparing the pre-test scores of the two groups in Table 7, the value of p (sig. (2-tailed)) was found to be 0.873 > 5%. This denotes a negligible difference between the two outcomes. However, the p-value for the difference in the results of the same exercise post-experiment was 0.000 5%, indicating a significant difference in the Tables, which was 0.69 according to the 'Mean' column in Table 7.

All in all, after eight weeks of teaching experimentation, it is possible to conclude that using AI-aided *QuillBot* as a writing-supported tool has a significant impact on learners' essay writing skills.

2.9.2. Students' attitudes toward the use of *QuillBot* in enhancing essay-writing skills

The interview results revealed details about students' post-experiment attitudes, particularly in cognition, affection, and behavior.

In terms of cognitive ability, all interviewees agreed that their essay writing had improved significantly overall. Turning to the specific criteria of essay writing, all participants stated that

they made significant progress in grammar and vocabulary, which is to be expected given that the two most commonly used functions of *QuillBot* are Paraphraser, which provides users with a variety of synonyms, and Grammar Checker, which assists users in detecting and correcting grammar mistakes. Participants revealed that they wrote down all of the words suggested by *QuillBot* to learn, thereby strengthening and expanding their vocabulary banks, and that they could also master sentence structures thanks to these two *QuillBot* functions. Furthermore, unexpected information was discovered when many interviewees claimed that their cohesion and coherence had improved. Students were able to re-arrange their ideas logically and well-interpret the close relationships between sentences in each paragraph after receiving feedback on their linking words, word arrangement in sentences, and even paragraphs. As a result, their coherence and linearity in essay writing were significantly improved. Some noteworthy shares from the interviewees are “My coherence in essay-writing has been improved. The way I express my ideas has been clearly improved. I can see *QuillBot* correct my use of linking words to fit in the contexts”; “I feel like my cohesion and coherence are much better than before because *QuillBot* helps me to correct some conjunctions, and it helps me to connect the ideas more naturally and correctly”; “About coherence, *QuillBot* makes my essays more logical by employing linking words”; or “My ideas are arranged and expressed more clearly in the essays”.

Regarding students’ affection, only one interviewee felt neutral, while the rest found the application enjoyable, comfortable, and convenient. The reasons given for these feelings are that *QuillBot* has an easy-to-use interface and various useful functions combined in one application; additionally, the tool is available to use anytime and anywhere with Internet access, is time-saving, and is completely free for the basic version. Because of all of the foregoing, the interviewee claimed that they even introduced *QuillBot* to their coworkers and relatives. The only drawback that all of the students interviewed agreed on was that the Paraphraser function provided them with far too many synonyms, making it difficult to select the appropriate equivalent words and phrases for each context. This can be avoided by using *QuillBot* in conjunction with a dictionary to discover more about the usage of each word.

Last but not least, when it comes to the behavioral aspect, the students used *QuillBot* three to four times per week to help them with their essay-writing exercises. Although the Paraphraser and Grammar Checker are the most popular functions, they had the exciting experience of trying others as well. Based on what the application can support, all interviewees confirmed that they were willing to continue using *QuillBot* to improve their writing skills.

Overall, it could be concluded that in terms of attitudes, the participants believe that *QuillBot* could boost their essay writing skills, especially Grammar, Vocabulary, Cohesion, and Coherence; most of them feel enjoyable exploring the application and are eager to not only continue using *QuillBot* but also introduce the tool to others.

3. Conclusion

The purpose of this study was to investigate the potential of the AI-assisted tool *QuillBot* in improving the English essay writing skills of EFL students in the context of a Vietnamese university. The findings reveal that *QuillBot* can help students strengthen their essay-writing skills. This finding is consistent with Kurniati, E. Y., & Fithriani, R. (2022) [9] and Miranda, D. (2022) [31], who claimed that using an AI-powered technology like *QuillBot* in writing, particularly academic writing, can improve overall writing quality and aid students’ language development. In addition, the students were shown to be highly engaged and enjoyed the experience with *QuillBot*, which was previously supported by Kurniati, E. Y., and Fithriani, R. (2022) [9], who concluded that *QuillBot* could aid students’ positive attitudes toward writing, as well as Khabib, S. (2022) [30], who pointed out that this AI-based tool promotes students’

engagement and interest in writing.

Regardless of the positive results mentioned above, the research process still has some weaknesses due to the small sample size and the limited amount of time, both of which had an impact on the research findings. As a result, future studies should take this study as a reference and try to overcome the aforementioned limitations to produce more accurate results.

REFERENCES

- [1] Fitria, T. N., 2018. Error analysis found in students' writing composition of simple future tense. *ELS Journal on Interdisciplinary Studies in Humanities*, 1(3), 240– 251. <https://doi.org/10.34050/els-jish.v1i3.5028>.
- [2] Hyland, K., 2003. Genre-based pedagogies: A social response to process. *Journal of second language writing*, 12(1), 17-29.
- [3] Lin, L. H., & Morrison, B., 2021. Challenges in academic writing: Perspectives of Engineering faculty and L2 postgraduate research students. *English for Specific Purposes*, 63, 59-70.
- [4] Hyland, K., 2016. Methods and methodologies in second language writing research. *System*, 59, 116-125.
- [5] Felix, U. & Lawson, M., 1994. Evaluation of an integrated bridging course on academic writing for overseas postgraduate students. *Higher Education Research and Development*, 13, 59-69.
- [6] Woodward-Kron, R., 2007. Negotiating meanings and scaffolding learning: Writing support for non-English speaking background postgraduate students. *Higher Education Research and Development*, 26(3), 253-268.
- [7] Koltovskaia, S., 2020. Student engagement with automated written corrective feedback (AWCF) provided by Grammarly: A multiple case study. *Assessing Writing*, 44, 100450.
- [8] Popenici, S. A., & Kerr, S., 2017. Exploring the impact of artificial intelligence on teaching and learning in higher education. *Research and Practice in Technology Enhanced Learning*, 12(1), 1-13.
- [9] Kurniati, E. Y., & Fithriani, R., 2022. Post-Graduate Students' Perceptions of Quillbot Utilization in English Academic Writing Class. *Journal of English Language Teaching and Linguistics*, 7(3), 437-451.
- [10] Ariyanti, A., 2021. Technology-Enhanced Paraphrasing Tool to Improve EFL Students' Writing Achievement and Enjoyment. *Journal of English Language Teaching and Linguistics*, 6(3), 715-726.
- [11] Zhang, Z. V., 2020. Engaging with automated writing evaluation (AWE) feedback on L2 writing: Student perceptions and revisions. *Assessing Writing*, 43, 100439.
- [12] Yi, Jyi-yeon, 2009. Defining Writing Ability for Classroom Writing Assessment in High School. *Pan-Pacific Association of Applied Linguistics*. 13(1)
- [13] Taylor, L., 2009. Developing assessment literacy. *Annual Review of Applied Linguistics*, 29, 21-36.
- [14] Oshima, A., & Hogue, A., 2007. *Introduction to academic writing* (p.3). Pearson/Longman.
- [15] Fatimah, N., 2018. Students' Needs for Academic Writing at the English Education Department. *English Language Teaching Educational Journal*, 1(3), 161-175.

- [16] Odena, O., & Burgess, H., 2017. How doctoral students and graduates describe facilitating experiences and strategies for their thesis writing learning process: A qualitative approach. *Studies in higher education*, 42(3), 572-590.
- [17] Van Geyte, E., 2013. *Writing: Learn to write better academic essays* (First Edition). New York: HarperCollins Publishers.
- [18] Bulqiyah, S., Mahbub, M., & Nugraheni, D. A., 2021. Investigating Writing Difficulties in Essay Writing: Tertiary Students' Perspectives. *English Language Teaching Educational Journal*, 4(1), 61-73.
- [19] Leki, I., 1991. Twenty-five years of contrastive rhetoric: Text analysis and writing pedagogies. *Tesol Quarterly*, 25(1), 123-143.
- [20] Scott, V.M., 1996. Rethinking Foreign Language Writing. (pp.140-168). Massachusetts: Heinle and Heinle.
- [21] Tangpermpoon, T., 2008. Integrated approaches to improve students' writing skills for English major students. *ABAC Journal*, 28(2).
- [22] Raimes, A., 1983. *Techniques in teaching writing*. Oxford University Press, 200 Madison Ave., New York, NY 10016 (ISBN-0-19-434131-3, \$5.95).
- [23] Stewart, M., & Cheung, M., 1989. Introducing a process approach in the teaching of writing in Hong Kong. *Institute of Language in Education Journal*, 6(1), 41-48.
- [24] White, R., & Arndt, V., 1991. *Process writing*. London: Longman.
- [25] Lynch, M., 2018. A vision for the future of virtual reality in education. Early Childhood & K-12 EdTech. Retrieved 2018-04-23 from: <http://www.thetechedvocate.org/visionfuture-virtual-reality-education/>
- [26] Van den Berg, H., Manstead, A., Van der Pligt, J., & Wigboldus, D., 2006. The impact of affective and cognitive focus on attitude formation. *Journal of Experimental Social Psychology*, 42, 373-379.
- [27] Eagly, A., & Chaiken, S., 1998. Attitude structure. *Handbook of social psychology*, 1, pp.269-322.
- [28] Tra, P. T., 2020. Mobile-assisted language learning in a university context in Vietnam: students attitudes. *VNU Journal of Foreign Studies*, 36(1).
- [29] Fitria, T. N., 2021. QuillBot as an online tool: Students' alternative in paraphrasing and rewriting of English writing. *English: Journal of Language, Education, and Humanities*, 9(1), 183-196.
- [30] Khabib, S., 2022. Introducing artificial intelligence (AI)-based digital writing assistants for teachers in writing scientific articles. *Teaching English as a Foreign Language Journal*, 1(2), 114-124.
- [31] Miranda, D., 2022. *The Impact of Paraphrasing Tools on Students' Paraphrasing Skills* (Doctoral dissertation, UIn Ar-Raniry).
- [32] 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).
- [33] Adams, D., & Chuah, K. M., 2022. Artificial Intelligence-Based Tools in Research Writing: Current Trends and Future Potentials. *Artificial Intelligence in Higher Education*, 169-184.
- [34] Richard, B., & Richard, L., 2011. *IELTS Advantage Writing Skills*. Published August 12th.