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## Artificial Intelligence in Education (AIEd): Utilization Frequencies in EFL Writing Class of Higher Education

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### ABSTRACT :

Artificial Intelligence in Education (AIEd) has been a very popular subject of many studies (Zawacki-Ritcher, 2019). The emergence of various online AIEd platforms is an interesting topic to discuss. One of the most popular AIEd is QuillBot. Several studies regarding perception, views, content analysis, and experimental studies dealing with this application have been done. However, students' frequency of utilizing each feature of QuillBot has not been discussed yet. Therefore, the objectives of this research are to seek students' awareness of the emergence of AI, such as QuillBot, for writing, how frequently students incorporate QuillBot in writing activities, and also their reasons for integrating QuillBot in writing activities. The study is a survey research design that employs a questionnaire to collect the data. 22 EFL students from several semesters at Nahdatul Ulama University of Blitar were selected randomly as participants. The findings show that the majority of students are aware of QuillBot's existence and have experience using it, and their frequency level of using QuillBot's features is average, as indicated by 55% of their overall score. Further, the most frequent feature used by the students is Paraphraser, which they access using their computer to check sentence grammar, level up the quality of their writing, and avoid plagiarism.

**Key words:** *artificial intelligence in education, digital awareness, frequency, writing in higher education*

## INTRODUCTION

The use of artificial intelligence in education (AIEd) is one of the outcomes of technological advancement. Among them is QuillBot. It is one of the educational technologies that uses artificial intelligence, especially in writing workshops. Many students have exploited QuillBot to some extent dealing with writing activities. A study done by Ariyanti & Anam (2021) has proved that in this era of technology, students have utilized QuillBot to paraphrase texts,

summarize long sentences, and check sentence grammar in English writing class to avoid plagiarism. In addition, QuillBot can also be used to provide instant comments on students' writing (Nazari, et al, 2021; Kurniati & Fithirani, 2022). This indicates that using this state-of-the-art equipment has aided students in completing their assignments. Moreover, it also gives a beneficial contribution in education as it gives gamification advantage (Dergunove et al., 2022). In fact, AIED is not something recently popping up as it has been popular subject of studies for about 30 years (Zawacki-Ritcher, et al., 2019). Nevertheless, another fact shows that not every student is aware of the existence of this promising technology among them. As it is stated by Alimi, et al., (2021) that majority of students (80.3%) in Kwara State Nigeria are not aware and do not have access to the use of Artificial Intelligence for learning.

Several studies have been conducted on the use of QuillBot in writing classes by university students. A survey-based study by Nurmayanti & Suyadi (2020) revealed that utilizing QuillBot to learn English is crucial for students in higher education at the University of Riau. In addition, 48 English Department students from a private university in Samarinda enhanced their writing performance and satisfaction after using QuillBot, according to a study by Ariyanti and Anam (2021). At the postgraduate level, QuillBot has a significant role in creating a high quality students' academic writing (Kurniati & Fithriani, 2022). In addition, Hieu et al., (2022) concluded that Quillbot also received generally positive ratings from study participants, notably about its capacity to assist students at Thai Nguyen University. Definitely, from the aforementioned before, it shows that artificial intelligence in education such as QuillBot has an important effect on education in terms of the effectiveness of its usage. Concurrently, the utilization of AIED in higher education is also anticipated to alter how pupils view using technology. The perceptions of students are led by their awareness of digital, as Alimi, et al. (2021) concluded that students' ability in exploring artificial intelligence depends on their awareness toward such tools.

Regarding the importance of digital technology in the present era, little did the researchers do in investigating how the students' awareness of the QuillBot utilization. Marx (1983) explained that students' perceptions could affect learning the designs of learning activities and teachers' classroom management for their learning as well. As added by Shar (2019) that students' perceptions play a critical part in the education setting. Aldosari (2020) argued that distributing smart products, such as AI, may not work well without awareness in terms of the advantages or disadvantages in teaching and learning methods. Besides, to make significant progress in the teaching and learning process and to create a supportive environment (Ariyanti & Syaiful, 2021), it might be argued that teachers or technology developers need to analyze students' points of view on various topics, including writing in a higher education setting. However, it is indisputable that

many pupils are unaware of QuillBot's advancement. This is probably the case in Nigeria, one of the countries with limited access to the internet (Alimi, et al., 2021). It is in line with the statement by Pinkwart (2016 in Holmes, et al. 2022) that the designers tend to develop AIED in high-income WEIRD (western, educated, industrialized, rich, and democratic) countries since they assumed that AIED is less familiar for young people in developing countries. Contrary to Indonesia, a developing nation with easily accessible internet, it is crucial to discover students' awareness of QuillBot utilization in writing classes for higher education. Demographic data on postgraduate students' use of digital writing tools previously portrayed that the majority of students are familiar with AIED as a writing helper and that the majority of students (70%) commonly use QuillBot to help them in writing academic articles (Kurniati & Fithriani, 2022). Nonetheless, investigation on students' awareness on the use of QuillBot and how frequent they utilize the features in that tool in writing class of EFL undergraduate students in Indonesia, a developing country, remains few. While it needs to be taken into account.

Based on social and literature facts, the emergence of AIED has evoked numerous reactions from all students and practitioners. The thing occurs based on the argument that in this era of digital citizenship education practice, the AI development can greatly impact instruction in higher education (Holmes, et al; 2019; Schamol et al, 2020; Bearman, et al, 2022). This research investigates the EFL university students' awareness regarding QuillBot utilization in assisting their writing work. This study aims at filling the void of the previous studies on students' frequencies in incorporating Artificial Intelligence for writing in higher education in Indonesia. This research highlights the use of QuillBot features in writing EFL higher education classroom. This void needs to be fulfilled by providing holistic view throughout these questions; 1) are undergraduate students aware of the use of AI powered technology for writing?; 2) how are the students' frequencies in using Quillbot feature for writing?; 3) what are the reasons of undergraduate students in incorporating QuillBot for writing?

## **Methods**

In this study, quantitative research is used. According to Ary et al. (2010), surveys are a frequent research approach for gathering data ranging from quantitative counts and frequency distributions to qualitative attitudes and opinions. It is in line with the objectives of the study which investigate students' awareness regarding the use of Quillbot in EFL writing of higher education and students' competence in utilizing QuillBot for writing in EFL courses.

The study was conducted at Nahdlatul Ulama University (UNU) of Blitar. 22 undergraduate students majoring English Language Teaching (ELT) students of UNU Blitar were

recruited to participate to meet the research objectives. The participants were selected using purposive sampling. As suggested by Ary et al (2010) purposive sampling can be used for the quantitative survey.

The data in this study were collected using a questionnaire. The researcher synthesizes the theories proposed by Karakus & Kilic (2022) and Al Kanaan (2022) regarding the awareness of AIED. The questionnaire consisted of three sections, A, B, and C, they are in line with the research questions. In A section, it answered questions about students' awareness of Quillbot for writing. In this section, the questionnaire applied close-ended question (yes or no) in order to collect demographic data of students' awareness of QuillBot for writing. In the B section, the questionnaire aims at gathering information on students' length of awareness toward the existence of QuillBot for writing. In addition, this section also presents the range of time from '<1 month', '1-6 months', '1 year', '>1 year' and 'never' in order to collect information on how long students have known or used the application. Then, still in B section, the indicator of students' frequencies in using QuillBot were dug up by raising questions regarding the use of features in QuillBot. Deliberately, the questions in this section were in form of Likert Scale, from Always, Often, Sometimes, Rarely, and Never. In C Section, the data were collected to know the reasons of students in integrating Quillbot for writing class. The evidence was gathered by distributing short answer questions in the questionnaire.

The data obtained from the questionnaire's closed-ended questions were quantitatively analyzed using a frequency count and it is presented in the form of a demographic chart. While for the second section using Likert Scale: Always, Often, Sometimes, Rarely, and Never. The data obtained from the questionnaire's closed-ended questions were quantitatively analyzed use a frequency count and it will be presented in the form of demographic chart. While for the second section using Likert Scale, the data will be analyzed by using a scoring system as follow;

**Table 1.** Questionnaire Scoring System

Scales	Scores
Always	5
Often	4
Sometimes	3
Rarely	2
Never	1

There are 20 questions available in this section, so the maximum score will be 100. Then, the answer gotten from the respondents will be counted using this following formula;

$$F = \frac{Ts}{S - max} \times 100\%$$

F = Frequency Level

Ts = Total Score

S-Max = Maximum Score

After tabulating the score, the criteria of frequency levels are interpreted using this following scale;

**Table 2.** Frequency Level

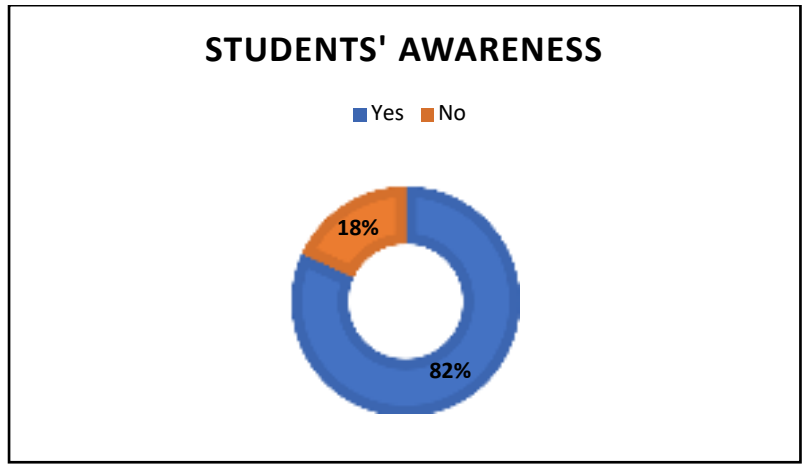
Percentage	Criteria
70% - 100%	High Frequency
30% - 69%	Average frequency
1% - 29 %	Low frequency

Furthermore, to gain comprehensive data, students' reasons in utilizing Quillbot for writing activity in EFL higher education are obtained through students' answer in Section C. The evidences are presented in the form of classification regarding various reasons written by the students in order to get effective data presentation.

## Results

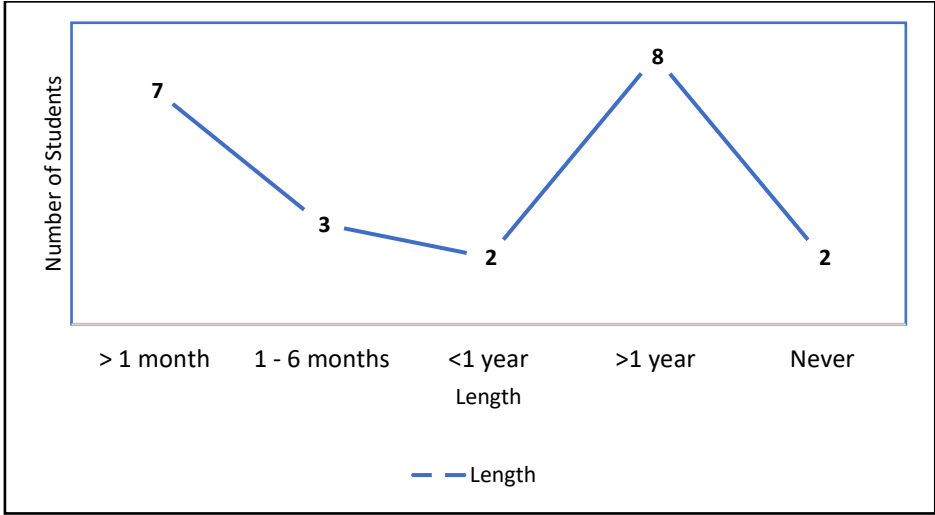
### Undergraduate Students' Awareness toward QuillBot

Answering the first research question which is regarding students of undergraduate level awareness towards the existence of AIEd, 22 respondents (14 Females= 63.6%, 8 Males=36.4%) who are undergraduate students majoring English Language Teaching from various semester (2 – 8 semester) and they age around 18 – 23 years old. 4 students (18.2%) stated they do not know about the QuillBot while 18 students stated they are familiar with the tool. From the total percentage point scale of 81.8% (n=18) that is greater than the benchmark 50% (n=11), thus it can be concluded that majority of undergraduate students of UNU Blitar are aware toward the existing such an AI tool to help them writing. Moreover, most of them agree (81.8%, n=18) that QuillBot can be utilized in order to support writing activity and it is easy to access QuillBot.



**Figure 1.** Students' Awareness toward QuillBot

However, the length of time students know QuillBot are vary. Based on the diagram shown in Figure. 2, most of students (n=8, 36.4%) have known Quillbot more than a year. Second most students (n=7, 31.8%) stated they have been aware toward QuillBot existence more than a month, while 3 students (13.6%) and 2 students (9.1%) have known and used Quillbot around six month but not more than a year. While the rests 2 students (9.1%) stated that they never know and use QuillBot.



**Figure 2.** The Length of Time Students Know QuillBot

### Students' Frequency in Utilizing QuillBot's Features

According to the information in Table 4.2.1, the frequency score for the first statement, "I use the free version of QuillBot," is 80%. When utilizing the free version of QuillBot in an EFL classroom for writing, the results can be classed as having a "high" frequency based on the frequency level criterion. The second statement, on the other hand, received unfavorable feedback from the respondents, as indicated by the 22% figure, which indicates that students use QuillBot's premium edition only sometimes.

The majority of respondents agreed, as seen by the percentage level that reached 73%, that they frequently access the program through a computer or laptop in the accessibility locations. It is classified as high frequency level based on the frequency level criterion. Nevertheless, the statement 'I access this apps by downloading it to my mobile phone' is indicated as 'average' frequency level as it obtained frequency score 46% from the calculation result.

**Table 3.** Students' Frequencies in Utilizing QuillBot's Features

No.	Statements	Score	Ts	F	Criteria
1.	I use free version of QuillBot	Always	45	80%	High
		Often	16		
		Sometimes	12		
		Rarely	2		
		Never	3		
2.	I use premium version of QuillBot	Always	0	22%	Low
		Often	0		
		Sometimes	2		
		Rarely	0		
		Never	20		
3.	I access this apps through may computer or laptop	Always	40	73%	High
		Often	12		
		Sometimes	15		
		Rarely	4		
		Never	4		
4.	I access this apps by downloading it to my mobile phone	Always	10	46%	Average
		Often	8		
		Sometimes	12		
		Rarely	2		

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		Never	13		
5.	I use Grammar Checker Feature in QuillBot to check grammar in my passage	Always	10	60%	Average
		Often	16		
		Sometimes	24		
		Rarely	4		
		Never	6		
6.	I use Summarize Feature of QuillBot to summarize sentence or text from other resources to support my passage	Always	5	55%	Average
		Often	16		
		Sometimes	15		
		Rarely	14		
		Never	5		
7.	I use Paraphraser Feature of QuillBot to paraphrase my sentence, or one's sentence	Always	25	74%	High
		Often	8		
		Sometimes	21		
		Rarely	8		
		Never	8		
8.	I use Standard Mode in Paraphraser Feature of QuillBot in paraphrasing sentence or passage	Always	20	63%	Average
		Often	20		
		Sometimes	6		
		Rarely	12		
		Never	5		
9.	I use Fluency Mode in Paraphraser Feature of QuillBot in paraphrasing sentence or passage	Always	10	60%	Average
		Often	16		
		Sometimes	24		
		Rarely	4		
		Never	6		
10.	I use Creative Mode in Paraphraser Feature of QuillBot in Paraphrasing sentence or passage	Always	0	56%	Average
		Often	16		
		Sometimes	18		
		Rarely	15		
		Never	7		
11.	I use Formal Mode in Paraphraser Feature of QuillBot in paraphrasing sentence or passage	Always	0	51%	Average
		Often	12		

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		Sometimes	24		
		Rarely	8		
		Never	7		
12.	I use Simple Mode in Paraphraser Feature of QuillBot in Paraphrasing sentence or passage	Always	0	49%	Average
		Often	12		
		Sometimes	21		
		Rarely	8		
		Never	8		
13.	I use Expand Mode in Paraphraser Feature of QuillBot in Paraphrasing sentence or passage	Always	0	46%	Average
		Often	5		
		Sometimes	24		
		Rarely	6		
		Never	11		
14.	I use Co-Writer Feature of QuillBot to assist me in writing activity	Always	0	41%	Average
		Often	0		
		Sometimes	18		
		Rarely	14		
		Never	9		
15.	I use Plagiarism Checker of QuillBot to check plagiarism and avoid plagiarism	Always	5	50%	Average
		Often	8		
		Sometimes	18		
		Rarely	12		
		Never	7		
16.	I use Citation Generator Feature to check citation from references I use	Always	10	49%	Average
		Often	4		
		Sometimes	12		
		Rarely	16		
		Never	7		
17.	I use Citation Feature to help me writing citation based on the correct form	Always	5	48%	Average
		Often	8		
		Sometimes	12		
		Rarely	16		
		Never	7		

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18.	I use Translation Feature of QuillBot in order to translate from Indonesia to English and vice versa	Always	5	49%	Average
		Often	12		
		Sometimes	12		
		Rarely	12		
		Never	8		
19.	I access QuillBot features during writing activity in classroom	Always	0	58%	Average
		Often	16		
		Sometimes	30		
		Rarely	8		
		Never	4		
20.	I access QuillBot features if I have take-home assignment for writing course	Always	5	63%	Average
		Often	24		
		Sometimes	15		
		Rarely	14		
		Never	3		
		Total		55%	Average

A questionnaire was included with a statement about adopting any QuillBot feature in an EFL writing lesson in order to obtain further information about the frequency of use of these features. Since 57% of students said they occasionally use QuillBot's grammar checker to check the passages they are writing, the majority of students do so. Additionally, 55% of students reported using QuillBot's Summarize feature, which represents the "average" frequency result. The unexpected findings in the statement show that the majority of students used the QuillBot application's Paraphraser Tool in writing assignments because it received a high frequency score of 74%. However, students' responds on the utilization of Paraphraser Features such as Standard, Fluency, Creative, Formal, Simple, and Expand Mode are categorized 'average' as shown by evidences score 63%; 60%; 56%; 51%; 49%; and 46%.

Furthermore, respondents did not show that they frequently use other QuillBot features, such as Co-Writer. The statement "I use the Co-Writer feature of QuillBot to assist me in writing activities" obtained a frequency level of 41% of the overall score, which indicates "average". In terms of avoiding plagiarism in writing, most students ( $n = 6$ ,  $Ts = 18$ ) sometimes utilized the Plagiarism Checker. Students' frequency level in integrating this feature as one of their writing activities shows 50%, and based on the criteria, it is categorized as 'average'. Taking advantage of the Citation Generator available in QuillBot. The Evidence suggests that most students hardly ever

use this feature. With a total score of 49%, Citation Machine usage frequency falls into the average category. In a similar vein, using the Citation Feature to assist students in creating citations that follow the proper format received a rough score of 48%, which is also referred to as an average frequency level. QuillBot nevertheless offers a translation option to assist users who are writing from their native language (L1) to the target language, such as EFL students. The data indicates that the score is 49%, hence the results of the frequency calculation do not indicate that students commonly use this function. Based on the criteria, it can be determined that students' frequency level in utilizing Translation Feature is average level.

Writing is an activity that cannot be done in a single sitting. That is why sometimes teacher assigns students to do take home activity for writing. Thus, the statement 'I access QuillBot features during writing activity in classroom' was raised as well as 'I access QuillBot features if I have take-home assignment for writing course'. From the finding, most of students claimed that they sometimes use QuillBot during writing activity and they often access it during take home assignment. The overall score for students' frequency in accessing QuillBot in classroom is 58% and 63% at home or outside the class. In a nutshell, students' frequency level of utilizing QuillBot features in writing activities in EFL higher education is categorized as average level as it is indicated by the total percentage.

### **Students' Reasons in Utilizing QuillBot for Writing**

Referring to the third indicator of students' awareness and reason in using of QuillBot for writing, an analysis of data collected from questionnaire section C revealed five major themes as the following;

#### ***Theme 1: No reason***

Surprising answers shown in Table 4.3.1 that three respondents (3, 4, and 12) who truly never know and use QuillBot before. Thus, they did not provide any reasons why they incorporate such tool for writing. Students admitted by stating;

"I was not aware of such writing tool." (Respondent 3)

"I never use it." (Respondent 4)

"I'm sorry previously, I don't know about this apps and I have never accessed it." (Respondent 12)

## ***Theme 2: Easy to access and use***

As it was elaborated previously, the majority of undergraduate students claimed that they use QuillBot because this application is easy to use and access from the internet. As evidenced by the following statements from the students;

“Because Quillbot is easy to use, especially to paraphrase the sentences I need.” (R 8)

“Because it is very accessible.” (R 11)

“It is very easy to access and easy to use.” (R 13)

Besides, not only this accessibility, QuillBot is also promising for students since it can be accessed for free. As it was conveyed by the students;

“It is very easy to use to correct grammar error and etc. Also, it can be access for free.” (R19)

“Because QuillBot is very accessible and there are available many features in this application.” (R20)

## ***Theme 3: Avoid Plagiarism***

QuillBot is a popular tool that can help students or writer paraphrase text or sentence. While paraphrasing skill is also key part in writing activity. One of the reason in paraphrasing is to avoid plagiarism. In this case, respondents are indicated that they are aware of the harmful of plagiarism by stating these following statements;

“I can check whether my sentence that I write is grammatically correct. Moreover, I sometimes use QuillBot to check the plagiarism level or to paraphrase sentence that I cite from journal or book to support my writing and avoid plagiarism.” (R 2)

“I want to make sure that my writing is grammatically correct and also I want to avid plagiarism.” (R 7)

“It can minimalize plagiarism.” (R 14)

“To make it easier to paraphrase and to minimize plagiarism.” (R 21)

“It is easy to use and it help me to make meaningful sentence and avoid plagiarism.” (R 22)

Thus, they incorporate such tool to help them avoiding plagiarism in writing activity, especially when they cite sentence or statement from journal or book. In avoiding plagiarism, one of ways is by paraphrasing sentence from article or book, which is why a respondent claimed that one reason in using QuillBot is to paraphrase texts, it is shown in the following statement;

“To make it easier to paraphrase in writing activity” (R 15)

By avoiding plagiarism, the writing result is assumed to be qualify as it is genuinely produced. This may be the reason of a respondent in incorporating QuillBot to support writing.

“I use Quillbot because I want to make sure that my passage is qualified enough” (R 1)

#### *Theme 4: Generate Idea*

As one of cognitive activity, writing step needs to generate idea from the writer so thus the writing can be understood by readers. In fact, this reason in using QuillBot is very acceptable. Writing, in fact, is a time consuming activity, so writer can take advantage of technological development in supporting this activity such as using QuillBot. Several respondents admitted that they use QuillBot to help them writing such as generating idea. Moreover, AI developers are assumed to develop AI-based tool as a solution for some problems in writing. The following statements are the evidences;

“The application makes me easier to generate idea.” (R 6)

“I think this AI is very useful for me. As Student College this app is so helpful during finishing my task. I always use it when I have no idea to summarize or paraphrase sentences to other form. I think student should know about this app.” (R 18)

#### *Theme 5: Technology Advancement*

One of the indicator of awareness toward technology-based application is the capability in exploring and utilizing it. This is probably the case that a respondent wanted to share his reason in integrating QuillBot for writing, as the following statement;

“As the advantage of technological advancement.” (R 16)

## **Discussion**

### **Undergraduate Students' Awareness of QuillBot Utilization in Writing**

According to previously published data, the majority of students are familiar with QuillBot and have been using it for more than a month. Additionally, a few of them claimed to be familiar with this AIED for over a year. QuillBot is typically used by students to help them write, such as by checking their grammar, punctuation, and sentence structure. According to Zhao (2022), QuillBot and other forms of artificial intelligence have drawn a lot of interest from English language learners. Given that the participants range in age from 18 to 23, it is obvious that the majority of students are quite familiar with technology-based applications. They are undoubtedly members of the Z generation, who have grown up with a variety of technologies (Ramirez, 2018). Moreover, Indonesia is one of developing countries with easily accessible internet. However, it is an avoidable fact that students might do not have awareness toward this application (n=4, 18.2%). It is assumed that the students competence in exploring and accessing beneficial tool influence the

awareness. Similarly to the research results done by Alimi (2021), in Nigeria, that the majority of students (80.3%) in Kwara State Nigeria are not aware of Artificial Intelligence for learning as they do not have access to it.

In term of their length of time in knowing such application, the majority of respondents (n=8) admitted they have known QuillBot for over a year. Respondents who are EFL students from various semester, they frequently use this application since they starting learning in EFL higher education or some of them are taking writing course which has high demand such as argumentative writing. Thus, integrating the application can ease their work and make them learn better. It is in line with the finding from a study done by Kurniati and Fitriani (2020) that postgraduate students of EFL classroom in the second semester integrated QuillBot in writing course as it helped them to manage more specific and complex writing assignment to produce writing results which fulfill the criteria for scholarly publication.

### **Students' Frequency in Using QuillBot's Features in Writing Activity**

The final result is striking, as it can be seen that the total percentage of students' frequency level in integrating QuillBot features is average level as it is indicated by 55% of the total score. In term of its utilization, the online paraphraser, Quillbot, offers both premium (paid) and free options. QuillBot is an artificial intelligence (AI) tool that makes paraphrasing comparatively easy for many people. The findings show that the majority of students access the free version of QuillBot instead of the premium version. Nonetheless, it should be noted that for software with both a free and a premium edition, the free version provides fewer functionality than the premium one. QuillBot which has been developed since 2017 designs many features and modes to help its user in writing. Based on the finding results, few students who explore many features and modes available in QuillBot.

Based on the findings, the majority of students are frequently use QuillBot in order to check grammar sentence or punctuation. Besides, the usage of QuillBot by the students are intended to paraphrase. It is the process of re-expressing a sentence or text from one source into another without changing its meaning. This is carried out to prevent plagiarism. This technique helps writers avoid plagiarism (Bairagi & Munot, 2019). The paraphrasing method, according to Lina and Supriyono (2021), is essential for students and necessary to reduce the prevalence of plagiarism. However, teaching and learning to avoid plagiarism is a difficult undertaking (Fitria, 2022). Thus, the existence of tool to minimalize plagiarism is popular among students, especially they who are taking writing course.

Furthermore, students acknowledge that QuillBot has some advantages for writing. As it can be used to check grammar sentence, assist citation activity, summarize sentence, paraphrase text, or to generate ide. In higher education context, students are expected to produce or publish reputable article It can be a good thing that there are tools available to assist people in revising their work. These technologies will make it simpler for instructors and students to teach and study English as a second language (Fitria, T.N, 2022). An experimental study done by Hieu et al (2022) proved that the utilization of QuillBot in writing significantly improved students' writing quality.

According to the results, there are three categories for how frequently students use QuillBot: high, average, and low level. The unexpected findings reveal that, based on 80% of the final score, students frequently use the free version of QuillBot as opposed to the premium one. Additionally, students most frequently use the free edition of the Paraphraser application. In reality, QuillBot is one of the most widely used and widely available paraphrase tools, according to Fitria (2021; Kurniati and Fitria, 2022). The Standard and Fluency modes, which are available even in the free version of the Paraphraser function, strike a balance between adding medications to the text, maintaining the meaning, and making it seem as natural as possible (Fitria, 2021). Additionally, it agrees with Nurmayanti's (2023) assertion that Fluency Mode favors the use of good English syntax and a more casual font design. Fitria (2020) emphasized that, even in the free version mode, there may be flaws and inadequacies in the correctness of the paraphrasing findings. Additionally, the results show that rather than utilizing their mobile phone, the majority of students typically access the program via laptop or PC.. It can be vividly assume that students prefer do writing activity using laptop or computer to using mobile phone in term of practicality. Moreover, QuillBot is compatible with Windows or macOS (QuillBot, 2023). Thus, it is acceptable if a few students download or access the app through their mobile phone.

Students' frequency level is considered average while checking grammar. Students in EFL classes struggle with the grammatical norms since they differ from those in their L1. As a result, grammar mistakes may be present in the sentences. Their passage could be error-free with the application of this feature (Fitria, 2020). Similar to this, William and Davis (2017) assert that using such a tool can enhance grammar by making it more exact and presentable. Students' frequencies are also determined as an average level when utilizing the Summarize feature, Co-Writer, Plagiarism Checker, Citation Generator, Citation Feature, and Translation feature. Although Quillbot's functions as a paraphraser, grammar checker, summarizer, and citation generator are seen to be useful for assisting students in the writing process (Ariyanti & Anam, 2021). However, the findings confirmed that those features are not really popular among students. As it is mentioned before that QuillBot is popular paraphrasing tool (Fitria, 2021; Kurniati & Fitria, 2022).

## **Students' Reasons in Utilizing QuillBot for Writing**

From the findings section, students stated various reasons in incorporating QuillBot features in writing activities. The researcher identified four themes which are significant in terms of the advantages of utilizing QuillBot in writing in EFL higher education, they are accessibility and practicality, Plagiarism free, idea generator, and results of technology advancement.

Referring to five data sources, some of students admitted that QuillBot was easy in the usage especially for paraphrase sentence. Moreover, it is very easy to access QuillBot as it is compatible with Windows or macOS (QuillBot, 2023). Some of them also stated that QuillBot could be accessed for free and it has many features available. It is in line with the statement from Class (2020) that QuillBot is an affordable paraphrasing tool available on the market that uses state-of-the-art AI to paraphrase any piece of content and it does not only provide s a paraphrasing tool, but also a summarizing and grammatical checking tool all in one place (Fitria, 2021). However, Hieu et al. (2022) have found that the majority of students (60%) in Thai Nguyen University were willing to upgrade the version of QuillBot from free to premium version. As the growing demand of writing activity in higher education the willingness of students to purchase premium QuillBot are increasing as well.

Based on the results of open ended questions in questionnaire, some students stated that they frequently use QuillBot to check grammatical structure and to paraphrase sentence. In paraphrasing activity, writers attempt to restate ideas expressed by someone else in a new form (Fandl & Smith, 2014) As it is supported by Kurniati and Fitria (2022) that The Quillbot application allows students to proofread, edit, and organize their writing and paraphrase, avoid plagiarism, shorten sentences, and accommodate proper grammar. Thus, QuillBot can be categorized as one powerful artificial intelligence which help students elevate their writing product by controlling the grammar and avoiding plagiarism in writing. According to Harmer (2007), writing encompasses a process of generating, formulating and refining one's ideas. However, many students find difficulties in generating ideas during writing (Wahyuni, 2020; Saprina, 2021). Thus, incorporating technology help students to face the challenges. Respondents also show positive awareness of technology especially in the emerging of a tool which can be beneficial for learning activity such as QuillBot. Alimi (2021) underlined that students' awareness towards technology advancement does not have correlation in gender but it purely depend on the students' capability in exploring and keeping up the new features of learning. It is also supported, of course by the providing of internet access such as in Indonesia, a developing country.

However, Fitria (2022) argued that using online paraphrasing platform is not entirely effective since there are words that are changed and produce meaningless sentence. Furthermore,



Nurmayanti and Suyadi (2023) suggested that students need to reread the paraphrasing resulted by the tool in order to ensure that the meaning of sentence remains consistent. Thus, QuillBot user or any paraphrasing tools need to recheck the paraphrasing results. Moreover, do paraphrasing manually can be an alternative solution.

From this discussion, it can be underlined that students integrate QuillBot as they have awareness of technology development and also of the harmful effects of plagiarism. Even though not all features of QuillBot are utilized in writing activities, Paraphraser is the most popular among them. Several studies have also proven that the most common usage of QuillBot is to help students paraphrase sentences or texts. Moreover, it can be concluded that students have various reasons for incorporating QuillBot into their learning activities. Artificial Intelligence in Education, which has been very popular among students, can be very beneficial to aid students writing. It cannot replace human resources or teachers' roles, yet the use of technology with teachers' engagement will make learning transformative.

## **Conclusion**

Artificial Intelligence in Education (AIEd) is not a recent development in the realm of education. For educators or students, it presents both difficulties and opportunities. Many students in EFL writing classes are already familiar with QuillBot, an AI-based writing tool that can be useful to them. An online platform with a free and a paid edition was created when QuillBot was created. Many students use QuillBot's free edition to help their learning by integrating it into writing assignments in class. The students' frequency level in utilizing features in the application is categorized 'average'. Moreover, QuillBot is most frequently used to paraphrase passages in EFL writing classes at colleges and universities in order to verify sentence structure and prevent plagiarism. However, a few students stated that they were unfamiliar with QuillBot. In other words, students nowadays have access online platform which can help them to ease their academic work, specifically in writing activity. Thus, the future researchers are suggested to do an analysis of EFL teachers' strategies in teaching writing which incorporate AIEd and maintain the quality of teaching and learning process.

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