Undergraduate Students' Perceptions on Quillbot Paraphrasing Tool

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Abstract. The purpose is to investigate the students' perceptions of QuillBot utilization in writing class based on the framework of TAM 3. The problems include the students' perceptions of QuillBot in terms of usefulness, ease of use, and behavioral intention. The methodology is a descriptive study using a closed-ended questionnaire in the form of a Likert scale with five scales from strongly disagree to strongly agree. The questionnaire consists of 11 items covering three aspects: perceived usefulness, perceived ease of use, and behavioral intention to use QuillBot. The responses were then analyzed through a descriptive statistics framework, including frequency, percentage, and mean score. All aspects of TAM are perceived positively by the students. The perceived usefulness reaches 81.6%, categorized as positive perception, with a mean value of 4.26. The perceived ease of use reaches 90.75%, with a mean value of 4.34 categorized as strongly positive. The behavioral intention reaches 100% with a mean value of 4.82, categorized as strongly positive. This study has presented the result of an investigation of students" perceptions of three aspects of TAM, including PU, PEU, and BI, towards QuillBot utilization. Therefore, QuillBot can be recommended as an alternative paraphrasing tool for EFL learners, especially in writing class.

Keywords: Perception, Paraphrasing, Quillbot, Undergraduate

1. Introduction

Paraphrasing plays a crucial role in academic writing as it aids writers in avoiding plagiarism [1], [2]. However, for EFL learners, especially those who are not experienced in the academic world, paraphrasing is a challenging skill [3]. It is an essential skill in writing that plays a sinificant role in helping EFL learners develop their writing ability successfully. According to Syahnaz and Fithriani [4], there are many challenges when it comes to produce a well-structured piece of writing. EFL learners need to consider many aspects of writing to produce one piece of writing such as language, content, mechanics, structure, ideas, grammar, and so on [5]–[9]. An important aspect to cater all the aspects is the skill to effectively rephrase and rearticulate the idea or the information. EFL learners need to become proficient in paraphrasing to ensure their compositions are clear and origninal [4], [10]–[14]. Thus, paraphrasing is highly significant in the academic context, particularly in when it comes to writng. Paraphrasing not only helps to develop a better understanding of the source material but also shows a scholar's skill in critically analyzing and combining complex information which are then presented in their writing product.

Study about artificial intelligent which connected to technology media. It scaffold the student to produce more efficient and effective [15]–[18]. In writing, there is tool applying for new technic in paraphrasing. It is quilbolt. This is the factor why these days paraphrasing tools is popular. Paraphrasing tools have gained its popularity, especially among academics, because they play a crucial role in improving the writing skills, of students, including the undergraduate students. The reason for this growing prominence is the rising demand for higher writing standards in academic and professional fields [19]–[21]. These tools have become essential aids in a time when plagiarism and incorrect citation can seriously hinder students' academic progress. Several studies highlight the importance of being skilled at paraphrasing, not just for maintaining academic honesty, but also for improving critical thinking and comprehension skills [11], [22]–[24]. Paraphrasing tools offer a convenient way to improve your skills while also reducing the unintentional risks of duplicating content.

Fitria in her studies observed that tools such as Quillbot have given EFL students, including the undergraduates the ability to rephrase complex ideas and concepts more concisely [12], [25]. Quillbot which was developed by Rohan Gupta in 2017 helped improve the clarity and coherence of studenys' written work. This quality becomes even more important in writing classes, where the goal is not just to share information but to make it understandable to a wider audience. The use of this tool reflects the changing teaching methods in writing courses, which focus on developing skills and applying them in real-world situations [4], [12], [26]–[28]. Moreover, Quillbot has also completely changed how students approach the skill of paraphrasing. The use of Quillbot in writing instruction reflects the ongoing digital revolution in education. Integrating Quillbot paraphrasing tool into writing classrooms has multiple benefits. It not only keeps students engaged and motivated but also helps avoiding plagiarism, as well as develop essential digital literacy skills [4], [11], [12], [26], [29], [30].

In the light of the matter above, understanding how undergraduate students perceive Quillbot and how it affects their writing skills is important for both educators and researchers. Nevertheless, within the Indonesian context, a significant reserach gap emerges due to th eliited studies conducted in tis specific area. The existing studies conducted by Kurniati and Fithriani [29], Fitria [12], [25], Syahnaz and Fithriani [4], and Nurmayanti and Suryadi [26] are the examples. However, the gap of these studies with the current research relies on the focus in which the current study used the framework of the latest version of Technology Acceptance Model (TAM) 3 by Vanketesh and Bala in 2008 [31]. The reason was primarily because Quillbot was still considered a relatively new technology for the students, particularly in the participants context. It only gained popularity around 2020 during the outbreak of COVID-19 where students needed to study online, as well as during the emergence of Artificial Intelligence in the field of education [12], [32]–[34].

Therefore, it is crucial to consider the perceptions of students on the usefulness (PU), ease of use (PEU), and behavioral intention (BI) while examining their behavior as users of new technology, such as Quillbot, within the framework of the Technology Acceptance Model (TAM). The primary value of this work lies in its provision of valuable insights for educators and researchers in the field. Specifically, it addresses a gap in the existing literature by employing the Technology Acceptance Model 3 (TAM 3) to investigate students' perceptions of Quillbot. This study represents a fresh approach to understanding the attitudes and beliefs of students towards this particular technology. As such, it serves as a valuable resource for educators and academics seeking to get a deeper understanding of student perspectives on Quillbot.

2. Method

This study was conducted through the framework of descriptive research since the purpose was to investigate EFL students' perceptions or behaviors, and present their responses in detail. According to Sahin and Mete [35], descriptive research entails the collection of data to examine hypotheses or address inquiries pertaining to the present state of the issue under investigation. It aims to acquire comprehensive and detailed facts and information regarding the object of inquiry. The participants were 56 second-semester students of English Language Education, Teacher Training and Education Faculty, Universitas Tanjungpura who enrolled in writing subject.

During the initial phase of the study, the researcher issued a survey questionnaire to the participants in order to get data on the usage of the Quillbot paraphrasing tool in writing classes. The questionnaire included an item that asked participants whether they utilized the Quillbot tool. This was done to obtain an estimated count of the number of participants who had used Quillbot (Do you use Quillbot paraphrasing tool in your writing class?). Subsequently, subsequentto obtaining the responses, the researcher proceeded to administer the questionnaire as the principal instrument of data acquisition to the students who utilized Quillbot in their composition course. The questionnaire comprises 12 items that were formulated according to the framework of the TAM 3 model. These items are categorized into three dimensions: perceived usefulness (consisting of 5 items), perceived ease of use (consisting of 4 items), and behavioral intention (consisting of 3 items). Diagram 1 below presents these dimensions.
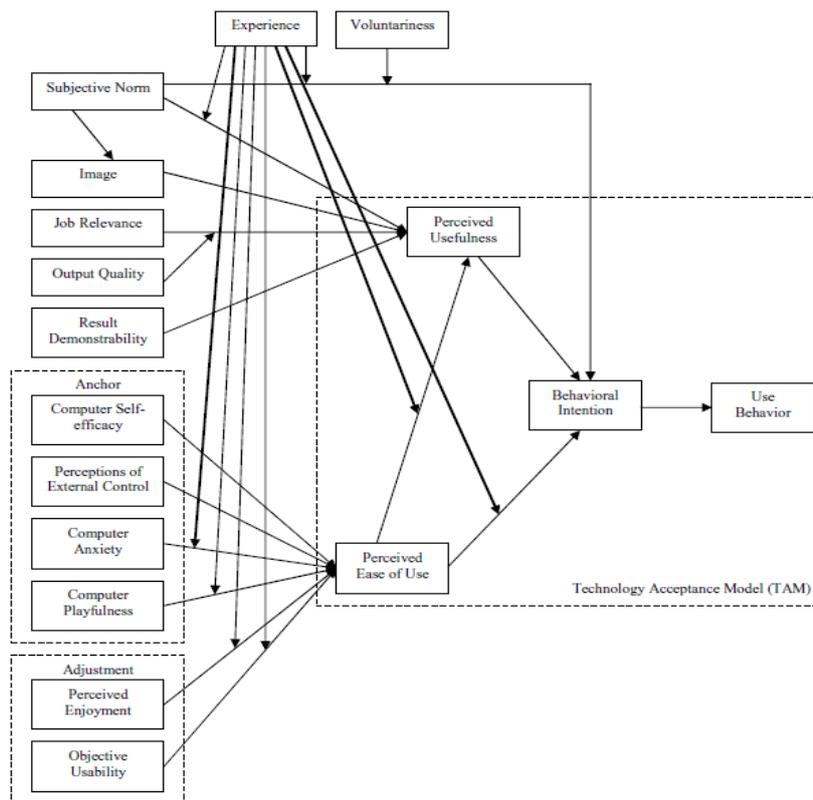
Fig 1. TAM 3 Model by Vankatesh and Bala (2008)

After gathering the intended data, the researcher analyzed the questionnaire items through descirptive statistic analysis involving frequency, mean score, and percentile of each item resonse. Then, the researcher describe and communicate the results in findings section. To interpret the descriptive statistics data, the researcher used perception classification suggested by Gay et al. [36], as presented in Table 1 below.

Table 1. Perception Classification

Range of scale	Students' Perception Positive Category
85-100	Strongly positive
69-84	Positive
53-68	Moderate
37-52	Negative
20-36	Strongly negative

3. Findings

Overall, the findings indicate that the students' perceptions towards the use of Quillbot paraphrasing tool in their writing class in strongly positive. The three aspects of the questionnaire: perceive of usefulness, perceive of ease of use, and behavioral intentions were majorly responded by the scale 4 to 5. Below is the detail of the data analysis and tabulation.

Initial Survey Result

The initial survey is distributed to the 98 students of second semester of English Language Education Department. There is one item only asking about **"Do you use Quillbot paraphrasing tool in your writing class?"**
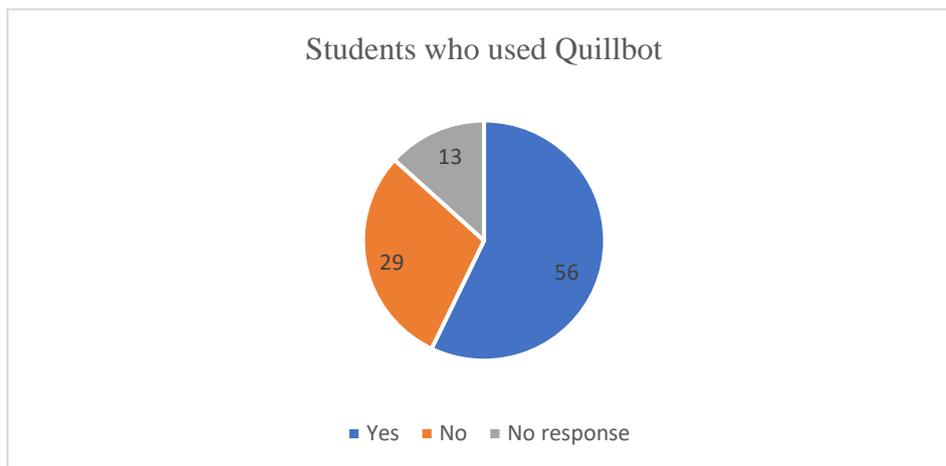
Fig 2. Initial survey result

As can be seen in Chart 1, out of a total of 98 students, 56 of them utilized Quillbot tool for paraphrasing in their writing lessons. On the other hand, 29 students indicated that they did not use Quillbot by selecting the option No. In addition to that, thirteen students decided not to answer the questions on the questionnaire. These preliminary findings were quite important in deciding who would be included in the final research participant's pool. As a consequence of this, the research questionnaire was delivered to the group of 56 students who were chosen for the study.

Perceive of Usefulness (PU)

There are four items asked in this aspect. The result is presented in Table 2 and Chart 2 below.

Table 2. Perceive of Usefulness (PU) Result

Statement	Frequency and Percentage					Mean score
	1	2	3	4	5	
Using Quillbot features would help me with my writing tasks	0 0%	0 0%	5 9%	29 52%	22 39%	4.30
Using Quillbot would help me paraphrase my writing and make it much better and readable.	0 0%	0 0%	4 7%	21 38%	31 55%	4.48
Quillbot would help me improve my grammar skill and vocabulary enrichment.	0 0%	0 0%	11 20%	30 54%	15 27%	4.07
Quillbot is useful to help me choose proper words (diction) for my writing.	0 0%	0 0%	1 2%	32 57%	23 41%	4.39
Using Quillbot would enhance my productivity in producing pieces of writing.	0 0%	0 0%	11 20%	32 57%	13 23%	4.03

The data above suggests that participants generally have a positive view when it comes to the "Perceived Usefulness" (PU) aspect. Notably, none of the participants expressed strong disagreement (Point 1) or disagreement (Point 2). The predominant responses fall within the range of 'agree' (Point 4) to 'strongly agree' (Point 5). Out of the five items presented, four received responses indicating agreement, while one received a 'strongly agree.' In the first item, a majority of respondents (52%) indicated their agreement that Quillbot's features would assist them in their writing tasks, with an average score of 4.30. Moving on to the second item, a substantial 55% strongly agreed that using Quillbot would greatly enhance the quality and readability of their paraphrased writing, earning it an average score of 4.48. Similarly, the third item revealed that 54% (or 30 students) agreed that Quillbot contributed to improving their grammar skills and enriching their vocabulary, with an average score of 4.07. As for the fourth and fifth items, 57% of students agreed with the statements regarding Quillbot's usefulness in word choice and productivity enhancement, yielding mean scores of 4.39 and 4.03, respectively. In accordance with the perception classification table, the "Perceived Usefulness" aspect falls under the 'positive' category. This is based on an average percentage of positive responses of 81.6% (falling between 69% and 84%) and an overall mean value of 4.26.

Perceive Ease of Use (PEU)

There are four items asked in this aspect, as presented in Table 3 below.

Table 3. Perceive Ease of Use (PEU) result

Statement	Frequency and Percentage					Mean score
	1	2	3	4	5	
I could access and use the features of Quillbot easily	0	0	15	26	15	4.00
	0%	0%	27%	46%	27%	
I would find it easy to paraphrase using Quillbot	0	0	0	21	35	4.63
	0%	0%	0%	38%	63%	
I could choose modes of paraphrasing easily in Quillbot	0	0	6	29	21	4.27
	0%	0%	11%	52%	38%	
I could change or choose appropriate words based on my necessity in Quillbot easily	0	0	0	30	26	4.46
	0%	0%	0%	54%	46%	

The data provided above illustrates the positive perceptions of the "Perceived Ease of Use" (PEU) aspect of Quillbot. Interestingly, none of the participants expressed strong disagreement (Point 1) or disagreement (Point 2) across all the items. Additionally, two out of the five items (Item 3 and Item 5) did not receive any responses in these categories. For the four items that did receive responses, the prevailing perception were either 'agree' (Point 3) or 'strongly agree' (Point 4), signifying the participants' agreement and overall positive outlook on Quillbot's user-friendliness. For instance, in Item 1, 46% of students agreed that accessing and using Quillbot's features was easy, with a mean score of 4.00 followed by 27% of students strongly agreed. Moving to Item 2, the majority, at 63%, strongly agreed that Quillbot was easy to use for paraphrasing, with a mean score of 4.63. Item 3, comparably, indicates that 52% of students found it easy to choose modes of paraphrasing in Quillbot, followed by 38% who strongly agreed, and the mean score of 4.27. Lastly, Item 4 revealed that 54% of students agreed that changing or selecting appropriate words based on their needs in Quillbot was a straightforward process, while 46% strongly agreed, resulting in a mean score of 4.46. In summary, the participants held positive views regarding the ease of using Quillbot, with an overall average percentage of 90.75% and a mean value of 4.34, placing it in the 'strongly positive' category (85 < 90.75 < 100).

Behavioral Intention to Use (BI)

The behavioral intention aspects focus on three items as presented in Table 4 below.

Table 4. Behavioral Intention to Use (BI) Result

Statement	Frequency and Percentage					Mean score
	1	2	3	4	5	
I presently intend to use Quillbot for my future writings	0	0	0	12	44	4.79
	0%	0%	0%	21%	79%	
I intend to learn and explore more features of Quillbot effectively for my writings	0	0	0	0	56	5.00
	0%	0%	0%	0%	100%	
I intend to suggest my colleagues to use Quillbot for paraphrasing their writing	0	0	0	18	38	4.68
	0%	0%	0%	32%	68%	

Table 4 provides illustrates the positive perceptions associated with Behavioral Intention (BI) regarding the utilization of Quillbot. Notably, the respondents uniformly refrained from expressing 'strongly disagree' (Point 1), 'disagree' (Point 2), or even opting for a 'neutral' stance (Point 3). Instead, their responses were consistently aligned with 'agree' (Point 4) and 'strongly agree' (Point 5) options. In the context of Item 1, a substantial 79% of students (44 individuals) expressed strong agreement regarding their intention to utilize Quillbot for their future writings. This was followed by a 21% response indicating agreement (12 students), resulting in a noteworthy mean score of 4.79. Moving to Item 2, the data revealed that all participants (100%) firmly asserting their intention to explore and harness Quillbot's features effectively for their writing tasks. This is reflected in the remarkable mean score of 5, underlining their resolute commitment to learning and utilizing the tool comprehensively. Lastly, Item 3 was responded dominantly (68% or 38 individuals) with strong agreement concerning their intention to recommend Quillbot to their peers for paraphrasing purposes. Overall, the students exhibit a strongly positive perception regarding their Behavioral Intention (BI) to use Quillbot, achieving an average percentage of 100%. This classification aligns with the 'strongly positive' category according to the conversion table, accompanied by an overall mean value of 4.82.

4. Discussion

The purpose of this paper is to investigate the students' perceptions of the English Language Education Department towards Quillbot as the paraphrasing tool for their writing referring to the framework of TAM 3. The researchers have presented three aspects of TAM 3 involving the perceive of usefulness, perceive ease of use, and behavioral intention to use the Quillbot. From the findings, it is indicated that all of the aspects are perceived positively by the students with the response range within 'agree' and 'strongly agree'. Referring to the conversion table of perception category, two aspects (PEU and BI) are categorized strongly positive, and 1 aspect (PU) is categorized as positive.

It is important to note from the findings that more than 80% of the students agreed or strongly agreed that Quillbot features are helpful for their writing tasks aligns closely with the framework of Perceive of Usefulness (PEU) of TAM 3 model. It involves improving the quality and clarity of their rephrased content, strengthening their grammar skills, and expanding their vocabulary, as well as heling them selecting the right words for their writing. Quillbot's assistance in this regard can be seen as a valuable aid in enhancing the overall quality of their writing tasks [11], [12], [27], [29]. The positive perception that Quillbot contributes to strengthening grammar skills and enriching vocabulary is also in line with the educational goals in majority writing classes as those elements are the fundamental aspects of effective writing [19], [24], [37], [38]. In a broader sense, this finding indicates that students view Quillbot as a valuable tool. This aligns with its purpose of helping students enhance their writing skills in an academic environment [4], [11], [30].

Another notable aspect of this study is that all the students agree that Quillbot is user-friendly or easy to use. No one expressed any disagreement or neutrality on this matter. The fact that no student expressed any disagreement or neutrality about Quillbot ease of use suggests that the tool is highly accessible and intuitive. This accessibility likely contributes to a more positive user experience that majority of the students found Quillbit's features easy to access and use [11], [27]. A significant percentage strongly agreed that it was straightforward tool for paraphrasing. The fact that students strongly agree shows that they see Quillbot as a tool that is not just helpful, but also easy to use and understand. This confirms that Quillbot has a positive effect on their writing assignments [12], [26], [27], [29].

The strong agreement regarding Quillbot's ease of use contributes to the overall positive effect of the tools on students writing. The logic is when the students find a new tool is easy to use, they are more likely integrate it seamlessly into their writing workflows. This can in turn lead to more efficient paraphrasing, improved writing quality, and enhanced productivity [12], [25], [27], [29]. Furthermore, the strong agreement that Quillbot as an easy-to-use tool could have been a broader implications for the adoption of technology in educational setting, as the framework of TAM 3[39], [40].

Continuing to the aspect of behavioral intention (BI) to use Quillbot, the results indicates that the students are highly committed to using Quillbot in their future writing projects. It is worth mentioning that there were no negative responses in this aspect. Majority of students strongly agreed that they intend to use Quillbot for future writing tasks. This shows that they genuinely want to include it in their writing process. In addition, every participant strongly agrees that they want to thoroughly explore Quillbot's features and recommend it to others. This shows proactive exploration, commitment, and intention to support this tool show a positive attitude towards using technology in education. They also recognize that Quillbot has the potential to improve their writing skills and academic performance.

The novelty of this research lies in the aspect of behavioral intention (BI) to use Quillbot. Previous studies did not report on how students' behavioral intentions towards Quillbot. They reported on solely the perceptions of students towards the use of Quillbot which can be inferred covering two aspects of TAM: perceive of usefulness and perceive ease of use. On contrary, this current study explores the students' perceptions in terms of the usefulness of Quillbot, the easy use of it, and the students' behavioral intention. Therefore, this study presents a more comprehensive content. Finally, this study contributes to enrich and complete the research of technology in education field, focusing on Quillbot as a paraphrasing tool used by EFL learners in English writing class.

5. Conclusion

This study aims to thoroughly investigate students' opinions on three important aspects of the Technology Acceptance Model (TAM) in relation to using Quillbot. These aspects include perceived usefulness (PU), perceived ease of use (PEU), and behavioral intention (BI). The results of this investigation suggest a promising recommendation that Quillbot can be recommended as a valuable

paraphrasing tool, especially for English as a Foreign Language (EFL) learners, particularly in writing classes.

However, it is important to recognize the limitations that have arisen during the course of this research. One main limitation is related to the study's scope. Although the current investigation has yielded valuable insights into students' overall perception, there is still a clear need for further exploration of their views and experiences in greater detail. To overcome this limitation and gain a better understanding of how Quillbot affects EFL learners, future researchers should consider using open-ended questionnaires or conducting interviews with the students.

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