

**PRE-SERVICE ENGLISH TEACHERS'  
ACCEPTANCE OF AI-BASED WRITING TOOLS  
IN ENGLISH ACADEMIC WRITING**

**THESIS**

Submitted in Partial Fulfillment of the Requirement for Gaining the  
Degree of Bachelor of English Language Education



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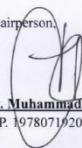
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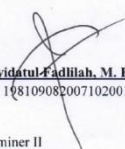
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
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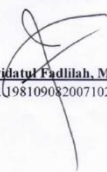
  
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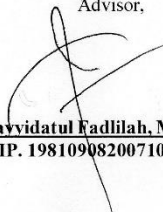
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## ABSTRACT

Name of Student : Fadhilah Endina Mahirah  
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Title : Pre-Service English Teachers' Acceptance of AI-based Writing Tools in English Academic Writing

In the current era of rapid technological advancement, a new phenomenon has emerged with the increasing integration of Artificial Intelligence in various educational contexts. This study addresses a gap in the literature, differing from previous in terms of research location, methodological approach and data analysis techniques. The study aims to explore the various factors that may influence pre-service English teachers' acceptance of adopting AI-based writing tools in their English academic writing. To achieve this goal, an exploratory qualitative methodology was used in this study involving pre-service English teachers from an Islamic university in Semarang. Questionnaires and interviews were used to collect data. Then, the results were analysed using the construct of the Technology Acceptance Model theory by David (1989). The participants consisted of 15 pre-service English teachers enrolled in the seventh semester of the English education department. The results show that the most widely used AI-based writing tools are ChatGPT then QuillBot and lastly Grammarly. Furthermore, this study also found that the factors influencing pre-service English teachers' acceptance of AI-based writing tools is the factor of external variables, namely pre-service English teachers' experience in using AI that can affect perceived ease of use and perceived usefulness. The study suggests that pre-service English teachers should balance between utilizing technology and demonstrating their skills to produce exemplary English academic papers.

**Keywords:** *Artificial Intelligence (AI), Writing Tools, English Academic Writing, Acceptance of AI*

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I realize that this thesis is far from perfect. Hence, I would mind the suggestions to make the research perfect. Hopefully, this thesis will be beneficial to everyone. Amiin...

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## **LIST OF ABBREVIATIONS**

TAM	:	Technology Acceptance Model
AI	:	Artificial Intelligence
EFL	:	English as a Foreign Language
ELT	:	English language Teaching
CALL	:	Computer-Assisted Language Learning
PEOU	:	Perceived Ease of Use
PU	:	Perceived Usefulness

# CHAPTER I

## INTRODUCTION

### A. Background of the Research

Technology is a potent instrument that has a big impact on many facets of society, including education. Thus, it is essential to incorporate technology into education, particularly when it comes to teaching and studying English. Technology can provide the convenience of supporting English education. According to Hidayat et al. (2022) is to give Indonesian students a proper English education through the use of technology. The technology could help students and teachers of English by providing them with learning resources (Arif & Handayani, 2021). Therefore, in English classes, technology-assisted learning resources can help pupils, especially with academic writing.

This era is characterised by a human-centred and technology-based society, which is expected to solve various social challenges and problems to improve the quality of human life sustainably (Tavares et al., 2022). Artificial Intelligence (AI) is now a part of everyday life. The phrase was created in 1956 by John

McCarthy."Research will proceed on the supposition that every aspect of learning or other feature of intelligence can in principle be described so precisely that machine can be built to simulate it". According to John McCarthy's proposal, An effort to figure out how to teach robotic machines to talk, create abstractions and concepts, solve issues that are unique to people, and advance themselves (Pokrivcakova, 2019).

Artificial intelligence (AI) is defined as computing systems, which engage human-like processes such as learning, adapting, synthesising, self-correction and the use of data for complex processing tasks (Fahimirad & Kotamjani, 2018). Higher education's use of artificial intelligence technology presents additional difficulties that must be solved. The process of adaption to accept technology can be seen in various models. One of them is the Technology Acceptance Model (TAM). Consists of several factors to explain behaviour and use of technology directly or indirectly (perceived usefulness, perceived ease of use, and attitudes toward technology) and other external factors (Scherer et al., 2019).

In Asia, researchers investigated the impacts of peer and teacher support on perceived technology usefulness, ease of use, and acceptance of computer-mediated writing (Wang et al., 2022), explored the acceptance of Artificial Intelligence in writing publication (Salam et al., (2024); Farooq et al., 2024). In Europe, researchers investigated factors that determine the intention to utilise AI (Zhang et al., 2023) explored the factors of students' acceptance to verify the behavioral intention and user behavior of students (Strzelecki, 2024). The gap in the current study is that has differences with previous studies in terms of research location, research methods and data analysis techniques.

The reason for choosing this topic is because a new phenomenon has emerged in the current era, the development of AI-based writing skill technology is increasingly commonly used in education. In addition, this study uses the Technology Acceptance Model (TAM) theory by David (1989), which highlights TAM variables such as perceived ease of use, perceived

usefulness, the behavioral intention of use, and actual use of AI-based writing tools.

## **B. Research Questions**

1. What AI-based writing tools are used by pre-service English teachers in English academic writing?
2. What factors influence pre-service English teachers' acceptance of AI-based writing tools in their English academic writing with the Technology Acceptance Model?

## **C. Objectives of the Research**

1. To explore AI-based writing tools used by pre-service English teachers in English academic writing.
2. To explore the various factors influencing pre-service English teachers' acceptance of AI-based writing tools in their English academic writing with the Technology Acceptance Model.

## **D. Significance of the Research**

The results of this research are intended to assist positive contribution both theoretically and practically:

### 1. Theoretical Significance

This study, focuses on the factors that can influence preservice English teachers' acceptance of adopting AI-based writing tools in their academic writing.

### 2. Practical Significance

I hope that the results of this study can be used practically by teachers and college students for the following purposes:

#### a. For English teachers

It is hoped that the findings of this study can provide information and support to English instructors in their teaching. In addition, the researcher believes this study will inspire educators to use AI-based writing tools technology to teach more innovatively.

b. For college students

This study is expected to provide an understanding of using AI-based writing tools in the learning process. In addition, college students are expected to be more adaptable to the ever-changing technological developments to develop themselves for their future learning

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

#### **A. Previous Research**

##### **1. Artificial Intelligence-based Writing Tools**

Academic writing in English has greatly benefited from the use of AI-based technological solutions. Ribeiro (2021) In computer science, Artificial Intelligence (AI) is the discipline that focuses on developing intelligence systems capable of performing writing tasks. Proficiency in written communication has become increasingly important in competitive academic and professional environments (Wu, 2024). Woodworth & Barkaoui (2020) suggests that the best improvement through individualised feedback is writing proficiency. With the assistance of AI-based writing tools, pre-service English teachers can gain experience immediately (Alharbi, 2023).

Lu (2019) indicated that English students who use AI in the writing process can receive assistance in grammar and language correction, aiding in the identification and rectification of errors. These tools included grammar checks, writing aids, and programs to

create written works like essays without human help. They are easy to use and effective, saving time and effort for students and teachers (Marzuki et al., 2023; T. S. Chang et al., 2021; Gayed et al., 2022).

Furthermore, students can use AI technology techniques to detect academic writing plagiarism (Khabib, 2022) and assist students in modifying their English writing to fit particular forms, like formal or casual (Fitria, 2023). The integration of technology tools and writing skills is becoming increasingly necessary. According to Rahman et al. (2022) students had a good impact when they used AI-based technology to provide feedback in the writing process.

#### a. Grammarly

Grammarly is an innovative tool for examining linguistic errors, such as grammar, punctuation and spelling, to ensure clarity, precision and excellence in written English (Wu, 2024). According to J. Zhang et al. (2020) Grammarly is a useful tool that helps students with their English writing assignments. The program helps students improve their writing and

language skills by pointing out grammatical faults and offering suggestions for corrections.

Teachers' workloads are reduced and EFL students' English writing abilities are improved when Grammarly is integrated. By eliminating the need for teachers to manually evaluate and edit student writing, Grammarly's ability to recognize and correct linguistic problems benefits educators. Students' entire learning experience is improved as a result of teachers being able to concentrate on more creative and interesting teaching techniques (Huang et al., 2020).

#### b. Quillbot

Quillbot is one of the AI-powered language tools that has attracted interest since it may help students with problems of grammar, vocabulary, and paraphrasing (Fitria, 2021). In addition, it provides extra functions such as grammar checking and summarisation, giving it a complete package for pre-service English teachers. According to Wu (2024), Writing in one's own words while retaining the original's intended meaning is a complex talent that is

particularly required when paraphrasing. While it can be difficult for EFL students, this approach is essential to developing writing skills.

Since paraphrasing requires advanced cognitive abilities, EFL students frequently find it difficult (Na & Nhat Chi Mai, 2017). A study was carried out by Mohammad et al. (2024), to evaluate Quillbot's usefulness in helping EFL students paraphrase, in light of the difficulties students encounter. The results confirm that Quillbot is useful for helping students paraphrase, making it a valuable tool for language learners looking to get better at writing in English.

### c. ChatGPT

ChatGPT as a potential learning tool has received more attention in academics. Being a conversational agent, ChatGPT may respond to questions, give an explanation, and hold in-depth conversations about a wide range of topics (Lund & Wang, 2023; Tlili et al., 2023). According to Salvagno et al. (2023) ChatGPT application helps students think creatively and

improves their writing abilities in areas, such as structure, coherence, grammar, and vocabulary.

The real-time feedback and suggestions offered by ChatGPT allow writers to recognise and correct errors in their writing so that they can perfect their craft with today's technological advancements (Wu, 2024). The way writing instruction is taught has changed as a result of ChatGPT's inclusion in educational environments. ChatGPT will surely stimulate originality, writing abilities, and enthusiasm for writing as it develops and gets better.

## **2. Acceptance of AI-based writing tools**

Zhang et al (2023) discover the factors that determine pre-service teachers' acceptance and intentions to utilise AI-based educational applications and determine whether gender differences exist within determinants that affect those behavioural intentions. Georgiou et al (2023) address the gap in the utilization of the technology acceptance models and explore the relationship between primary school teachers' computer self-efficacy beliefs, attitudes, and intention

to incorporate computer-based technology in times of disruption.

Yutdhana & Kohler (2023) to light on the factors that contribute to pre-service teachers' acceptance of technology and to determine the applicability of the Technology Acceptance Model in the context of English language Teaching (ELT). Ngabiyanto et al. (2021) to investigate the factors that affect teachers' intention to use online learning based on the extended Technology Acceptance Model (TAM) approach. To provide a practical framework to measure the effect of current English as a foreign language (EFL) teacher education programmes on preparing preservice teachers for computer-assisted language learning (CALL) normalisation (Mei, 2019).

### **3. Writing Skill Productivity**

Sinta et al. (2019) state that one of the key components of learning English is writing, which is ultimately seen as a productive skill in the capacity to produce words. Writing is an important skill that deals with how to develop and organize ideas, making it a

necessary skill that must be mastered by learners. Writing involves arranging ideas into statements and paragraphs that need to be developed and outlined, and working through how to present them (David, 2010). Writing becomes a productive skill demonstrating students' writing proficiency and identifying gifted pupils in this area, making it a significant language competency (Harsyaf, 2009).

Harmer (2004) indicates that writing is produced in a variety of formats and used for a variety of purposes. The development of students' critical thinking can be enhanced by writing. Students acquire the skill of organizing their experiences into words through writing. Writers think as they write, may inspire pupils to concentrate on correctness and language usage (Sinta et al., 2019). As they work through the issues that the writing raises in their minds, it might encourage language development.

## **B. Literature Review**

### **1. Pre-service Teacher Acceptance of AI-based Writing Tools**

The key to using technology in the classroom effectively is the teacher, so educators must comprehend the role that technology plays in instruction so that they can effectively manage the pressures of constantly developing educational technology and having to prioritize its use (Teo et al., 2008). An analysis of the factors influencing teachers' acceptance of technology becomes imperative to comprehend the critical role that educators play, as well as their contributions to the integration of computer technology in the classroom and its hindrances (Teo, 2009).

To examine how well Asian university students adopt artificial intelligence (AI) writing tools that support sustainable writing practice and focus on student perspectives, attitudes, and intentions regarding the application of AI in sustainable writing (Farooq et al., 2024). Wang et al. (2022) the impact of teacher and peer support on the acceptance of

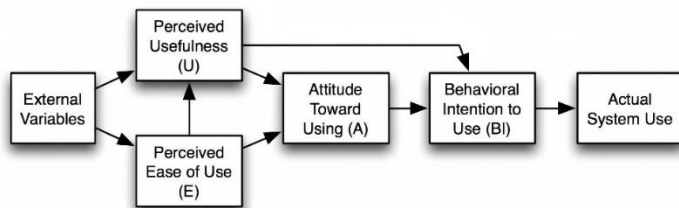
computer-mediated collaboration in English writing among primary school students in Hong Kong shows that teacher support has no direct effect on the acceptance of collaborative technology. However, support from peers had a favorable influence.

## **2. Technology Acceptance Model (TAM)**

The Technology Acceptance Model was proposed by Davis et al. (1989) to ascertain why users are determined to embrace or reject information technologies. As a result, Davis et al. (1989) developed the Technology Acceptance Model (TAM), which is an information systems theory that illustrates how people start to embrace and employ a specific technology. The usability of a certain technology, attitudes regarding the technology, and behavioural beliefs are all covered under the Technology Acceptance Model. Additionally, it enables the evaluation of external variables that might influence technology use (Ursavaş, 2022).

The aspects perceived of ease of use are easy to learn, controllable, clear & understandable, flexible,

easy to become skilled, and easy to use. Meanwhile, perceived usefulness can be seen in working faster, job performance, increased productivity, and effectiveness making work easier, and more useful (Davis, 1989). In addition, this TAM also refers to five constructs namely perceived ease of use, perceived usefulness, attitude towards use, intention to use, and actual use (Davis, 1989).



*Figure 1.1 Conceptual Framework of Technology Acceptance Model*

### **3. English Academic Writing**

Student proficiency in writing is a necessary ability in research-focused writing such as ELT (English Language Teaching), linguistics and literature. Gayed et al. (2022) emphasised that a variety

of abilities, including cognitive and working memory are required for academic writing. The thesis and students' final project is one of the results of academic writing (Nurkamto et al., 2022). Formal writing employed in universities and scholarly publications is known as academic writing (Octaberlina et al., 2022).

The fundamental skill for lifelong learning is writing UNESCO, (2014). Essays, term papers, research papers and other terms are some form of academic writing. However, these titles have the same principle and purpose (Whitaker, 2009). Zawacki (2022) defined academic writing as writing that satisfies the requirements of all educational settings, including schools and universities. Increasing writing proficiency and knowledge, particularly in English is the aim of academic writing (Sinta et al., 2019).

In higher education, academic writing is essential for students to develop their understanding of written communication. According to Swales and Freak (1994), academic writing is a writing style that supports graduate students in communicating their thoughts to an audience through formal writing

content. Therefore, academic writing in English usually consists of multiple steps that enable students to successfully communicate their thoughts. There are three stages of English academic writing, namely pre-writing, drafting, and revising (Aliotta, 2018).

The explanation of the academic writing stages is as follows. The first stage is pre-writing, to investigate the topic in depth, analyze existing literature, and obtain relevant information or evidence (Oshima & Hogue, 1998). The next stage is drafting, where the writer starts to put their ideas into writing with an emphasis on coherence, clarity, and following academic rules (Aliotta, 2018). The final step is proofreading and editing, which involves carefully checking for errors, polishing the text, and making sure that all references and citations are correct (Thomson, 2022). Students can create excellent academic writing in English that benefits society by adhering to these steps.

## **4. AI-based Writing Tools Used in English**

### **Academic Writing**

Implementing technology must be used appropriately in English teaching and learning, especially when it comes to English writing. Murray (2007) technology tools are a component of instructional media used in language teaching and learning that takes interaction and authenticity into account. Warschauer (2007) asserts that by offering a variety of interactive tools, including web pages and email, technology has helped students write appropriately. Additionally, Wen & Walters (2022) note that technological tools like word processing, internet resources, mobile devices, and assistive technologies could be utilized in writing classes.

Pre-service English teachers can write electronically using word processors, which are computer programs that include writing tools like grammar and spell check. In addition, a variety of tools included in teach-assisted learning materials have been found to help pre-service English teachers with the English writing process (Zulfa et al., 2023). By

providing educational software with feedback, correction, and evaluation features, AI could help students with their writing (Gayed et al., 2022). Also, by offering comments and other features, Godwin Jones (2022) noted that AI-based assistants might be used to edit and evaluate students writing.

AI-based assistants were part of the earlier technological tools, but new AI-based assistants have been created to encourage student writing. Lee (2020) introduce machine translation as a component of AI-based assistants to help students write better since allows them to express their ideas in appropriate language. Grammarly is a technology designed to help pre-service English teachers write better in English. Grammarly is a tool used to check pre-service English teachers writing for grammar and linguistic structure.

In addition, Grammarly is used as a tool to proofread pre-service English teachers writing. Student can utilize Grammarly to receive feedback on their writing drafts by offering information about coherence, substance and word choice (Sahu, 2020). Barrot (2022) states Grammarly is available in both free and premium

editions. All writing check features are available in the premium version, although the free version has limitations. Research conducted by Barrot (2022) and Miranty et al. (2021) demonstrated how effective Grammarly is as a technology-assisted learning tool for enhancing students' writing abilities.

Many people use this media to get references, and new ideas to make efficient of their writing. ChatGPT is a useful tool with intelligence interaction that can give students new experiences when writing academically (Eke 2023). Chen (2023) by adopting a natural and understandable linguistic structure, ChatGPT helps students investigate reliable sources for academic writing. Chat GPT has various features that allow users to construct writing based on topics, lengths, and tones, students could use it to better their academic writing in English (Zhao, 2022).

In this era, QuillBot were widely used to paraphrase writing. Students can speed up the writing process and replicate their English writing with QuillBot without losing the original meaning (Nurmayanti & Suryadi, 2021). Kurniati & Fithriani

(2022) stated that post-graduate students find that QuillBot makes it simple to improve the quality of their academic writing in English. According to Kurniati & Fithriani (2022), the study found that Quillbot fosters students' linguistic development, which impacts their academic writing abilities in English. In addition, pre-service English teachers used paraphrasing tools to generate new ideas in writing.

## **5. Exploratory Research Methodology**

Qualitative exploratory research is used to develop initial ideas and insight to provide direction for further research if needed. Exploratory research is essential for researchers to accurately identify and characterize the problem, as well as determine the specific goals of the problem and data needs that can be addressed by further research. Elman et al. (2020) exploratory research is an attempt to research a topic to discover something new and interesting and it is the soul of good research. Exploratory research is characterized by a high degree of flexibility, a lack of organization, and is qualitative (Swaraj, 2019).

#### a. The Purposes of an Exploratory Research

According to Swaraj (2019), the purpose of an exploratory research may be:

1. To generate new ideas
2. To increase the researcher's familiarity with the problem
3. To make a precise formulation of the problem
4. To gather information for clarifying concepts
5. To determine whether it is feasible to attempt the study.

#### b. The Process of Exploratory Research

Selltiz (1959) has suggested the steps of exploration, Selltiz (1959) states that there are 3 steps or methods in exploratory research.

##### 1. Literature Survey

A study of related and pertinent books, articles and reports turns up several lead clues for further investigation that will advance the research. A

workable hypothesis may be formulated important variables may be identified.

## 2. Experience Survey

The researcher will gain insight into the topic and its many facts by conducting informal interviews with people who have experience in the field of study. When choosing a participant for this survey, consideration should be given to several aspects of their background. To get a sense of the problems and facets of the topic that could be the subject of inquiries, the researchers should draft an interview guide. Naturally, this interview guide should be adaptable enough to cover a range of topics that come up throughout the interviews.

## 3. Analysis of insight-stimulating cases

An in-depth analysis of a few chosen cases can provide intriguing new information in an uncharted field of inquiry. Researchers frequently come into unfamiliar circumstances, events, or contexts when they delve into an uncharted field of inquiry. These

unexplored areas offer a chance to learn new things that can greatly advance our current understanding.

### C. Conceptual Framework

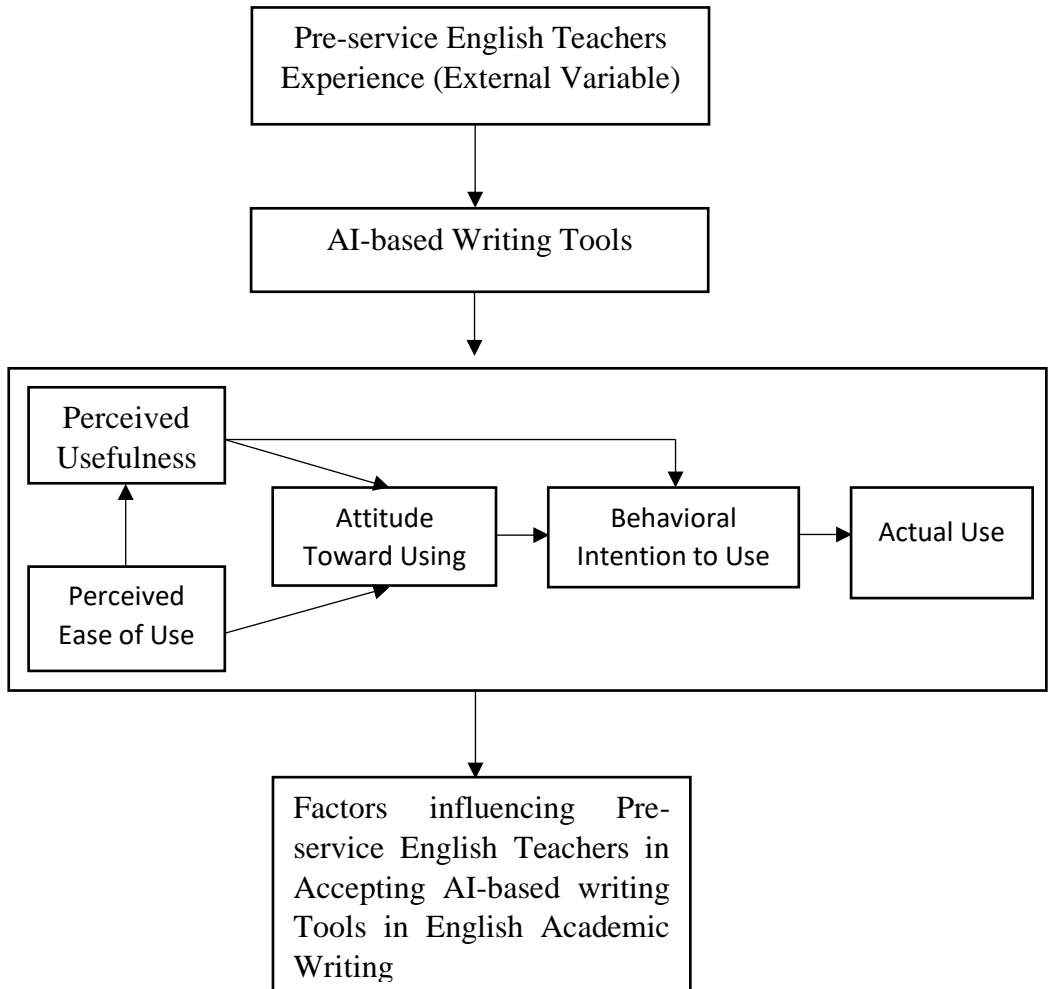


Figure 1.2 Conceptual Framework of The Study

This study explores pre-service English teachers who have experience using AI-based writing tools as academic writing aids. From their experiences, factors that may influence pre-service English teachers' acceptance of AI-based writing tools. The figure shows the conceptual framework of this study which the concept is based on the TAM theory proposed Davis (1989). The Technology Acceptance Model (TAM) offers a valuable lens through which to explore pre-service English teachers adopting AI-based writing tools.

This research involves 6 constructs. 5 main constructs are perceived ease of use, perceived usefulness, attitude towards use, behavioural intention to use, and actual usage. While, 1 other construct is an external variable, namely pre-service English teachers' experience. The influence of external constructs on the use of AI-based writing tools can be seen through the relationship between constructs formed based on the technology acceptance model (TAM) theory.

In this study, the outcome of the Technology Acceptance Model (TAM) is an exploration of the

acceptance factors of pre-service English teachers in using AI-based writing tools in English academic writing. This framework can be used to properly answer the research questions and objectives of this study.

## **CHAPTER III**

### **RESEARCH METHOD**

#### **A. Research Design**

In this study, I used qualitative exploratory research that focused on exploring and understanding how pre-service English teachers accept, understand and respond to the use of AI-based writing tools. Exploratory research is an attempt to research a topic to discover something new and interesting and is the soul of good research (Elman et al., 2020). Exploratory research is characterized by a high degree of flexibility, a lack of organization, and is qualitative (Swaraj, 2019). Therefore, I chose this research design because exploratory research allows me to research a new and interesting topic.

#### **B. Time and Setting of the Research**

I conducted my research at one of the Islamic Universities in Semarang. I chose October because I felt this time was the right time to conduct research. This research lasted for three weeks and two days or the equivalent of 23 days, I was starting on the 8<sup>th</sup> of

October 2024 and ending on the 30<sup>th</sup> of October 2024. The initial stage of this research involved designing Google Forms and distributing them online through private WhatsApp to participants.

### **C. Participants**

Qualitative research often uses deep understanding, making purposive sampling a suitable choice for this qualitative research. By using purposive sampling, this study aims to comprehensively gather accurate and actual data that reflects pre-service English teachers' experiences, understanding, and feelings regarding the use of AI-based writing tools in English academic writing.

The research involves pre-service English teachers for seven semesters to discover AI-based writing tools in English academic writing. Participants were selected based on the admission qualifications of pre-service English teachers studying AI technology in the context of academic writing to utilise AI-based writing tools in Higher education and had been using AI-based writing tools for more than one year.

In this study, the participants from a population of 159 pre-service English teachers in semester 7 at one of Islamic University in Semarang. The participants comprised 28 participants divided into 26 female and 2 male participants. All participants completed the questionnaire, and 28 of them expressed willingness to participate in the interview after the consent process. However, in reality, when I sent out the interview questionnaire in the WhatsApp application, only 15 participants were able to send back the answer to the researcher. The rationale for selecting participants to conduct interviews was based on who had the potential to help the researcher with a complete explanation of the use of AI-based writing tools.

**Table 3.1 Participants Demographics Information**

No.	Name	Gender	Experience using AI-based writing tools (such as Grammarly, ChatGPT, and Quillbot)			
			Duration of Use	Grammarly	ChatGPT	QuillBot
1.	Participant 1	Female	2 year	-	2 year	-
2.	Participant 2	Female	1 year	-	1 year	-
3.	Participant 3	Female	>2 year	-	>2 year	>2 year
4.	Participant 4	Female	>2 year	-	>2 year	>2 year
5.	Participant 5	Female	2 year	-	2 year	2 year
6.	Participant 6	Female	1 year	-	1 year	-
7.	Participant 7	Female	1 year	-	1 year	1 year
8.	Participant 8	Female	>2 year	>2 year	>2 year	>2 year
9.	Participant 9	Female	2 year	-	2 year	2 year
10.	Participant 10	Female	>2 year	>2 year	>2 year	>2 year
11.	Participant 11	Female	2 year	2 year	2 year	2 year
12.	Participant 12	Female	>2 year	>2 year	>2 year	>2 year
13.	Participant 13	Female	2 year	-	2 year	-
14.	Participant 14	Female	>2 year	-	>2 year	>2 year
15.	Participant 15	Female	>2 year	>2 year	>2 year	>2 year

#### **D. Research Focus**

This research focused on exploring AI-based writing tools used by pre-service English teachers in English academic writing and exploring the experiences and understanding of how pre-service English teachers accept, understand and respond to the use of AI-based writing tools. By analyzing the factors that may influence pre-service English teachers' acceptance of AI-based writing tools.

#### **E. The Techniques of Collecting Data**

The study employed two primary research research instruments to collect data:

##### **1. Questionnaire**

The data was collected by indirectly distributing a questionnaire. Questionnaires were distributed to pre-service English teachers to explore and investigate the level of acceptance of the use of AI-based writing tools and the factors that influenced the level of user acceptance. I developed a question referring to the Technology Acceptance Model (TAM) using a Likert scale for the rating scale modified from previous

studies to achieve the research objective (**Appendix 1.1**). The distribution of questionnaires was carried out indirectly by using the features of Google Forms as well as the personal distribution of questionnaire links from the WhatsApp application. The questionnaire was adapted from (Venkatesh et al 2003; Venkatesh & Davis 2000; Teo 2011) and linked with TAM Davis (1989).

## 2. Interview

Semi-structured interviews are a technique for collecting data. By using semi-structured interviews, I will find out more in-depth things about participants' experiences in interpreting situations and phenomena that occur. I used semi-structured because it suited my research question. Therefore, semi-structured interviews are suitable for exploring the factors that influence pre-service English teachers' acceptance of AI-based writing tools in their writing. The interview instrument was adapted from Alharbi & Drew (2014); Davis & Venkatesh (1996).

The use of interview questions is closely related to what has been asked in the questionnaire questions.

The researcher used eight items interview questions to support the answers to the questionnaires that were collected on Google Forms, each interview question is related to the questions asked in the closed questionnaire survey.

## **F. Instrument of Research**

Instrument of research the items measuring the six factors. All items were from previous studies, including three items each for perceived usefulness (adapted from (Davis, 1989)), and perceived ease of use (adapted from (Davis, 1989)). The questionnaire instrument was modified from (Venkatesh et al., 2003; Venkatesh & Davis, 2000; Teo, 2011) and linked with TAM from Davis (1989). They used a five-point rating scale including two negative choices and three positive choices. The interview instrument was adapted from Alharbi & Drew (2014) and Davis & Venkatesh (1996).

## G. Data Analysis Technique

This study employed a thematic analysis approach by Braun & Clarke (2006) to explore the factors influencing pre-service English teachers' acceptance of AI-based writing tools using the Technology Acceptance Model (TAM) theory. This analysis aimed to explain the five core themes of the Technology Acceptance Model (TAM) theory based on: perceived ease of use, perceived usefulness, attitude toward using, behavioral intention, and actual use. These five constructs significantly influenced the investigation of pre-service English teachers' acceptance of AI-based writing tools. The following steps can be used to conduct a thematic research analysis.

**Table 3.2 Steps of Thematic Analysis Braun & Clarke (2006)**

<b>Steps</b>	<b>Description of the process</b>
1. Familiarizing data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas

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2. Generating initial codes:	Codes interesting features of the data systematically across the data set, organising relevant data for each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes	Checking if the themes work concerning the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic ‘map’ of the analysis
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating of the analysis to the research question and

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literature, producing a  
scholarly report of the  
analysis.

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## **CHAPTER IV**

### **FINDING AND DISCUSSION**

In this chapter, I present the results of the study. This chapter consists of research findings and a discussion. The researcher presents the data description, followed by findings collected through a questionnaire and findings from the interview to answer research questions about pre-service English teachers' acceptance of AI-based writing tools in academic writing.

#### **A. Finding**

The purpose of this study is to determine the acceptance of AI-based writing tools from pre-service English teachers about English academic writing. Manual coding was used to organize the responses to the question. In this step, all the data acquired from questionnaires and interviews was systematically coded. Each code was given its table, allowing for the identification of different findings. The data with the same code was collected in one location once all of the

data had been coded. After that more comprehensive set of results was then discovered.

## **1. AI-based Writing Tools Used in English**

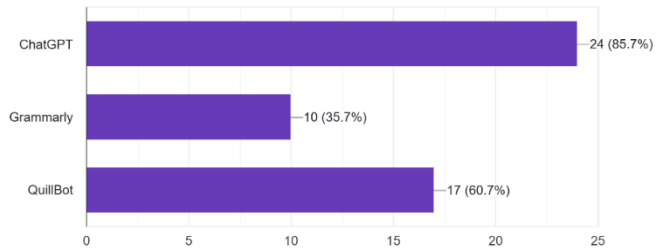
### **Academic Writing**

#### **1.1 AI-based Writing Tools**

The results of the technology tools studied show that they are frequently used by students in the English academic writing process. Participants chose the AI technology tools that they often use to support their writing process that has been provided in the research questionnaire. I prepared 3 technology tools that are familiar to use for writing, namely ChatGPT, Grammarly and QuillBot. The explanation was as follows:

What apps do you use frequently? (Aplikasi apa yang sering anda gunakan?)

28 responses



*Chart 4.1 The Result of frequent use of AI-based writing tools in academic writing*

Based on the chart, three technology tools are used by pre-service English teachers in English academic writing. Most pre-service English teachers often use ChatGPT, QuillBot and lastly Grammarly.

The following is the figure of each technology tool and how it processes English academic writing.

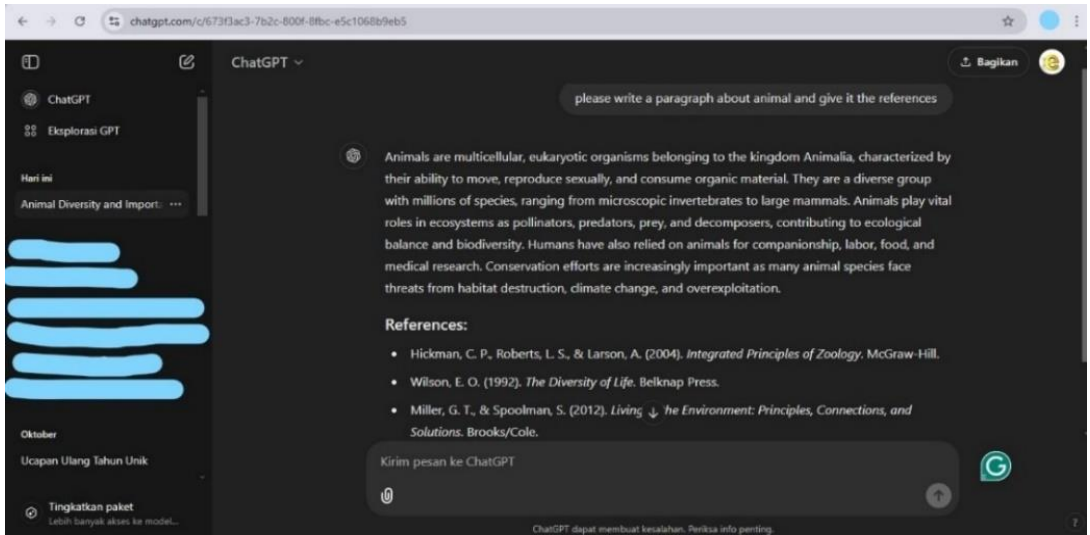


Figure 4.1 ChatGPT

There 85.7% or 24 pre-service English teachers used ChatGPT. This was the most popular choice among participants who used the technology tools to help organize academic work, provide new ideas, answer research questions and provide references.

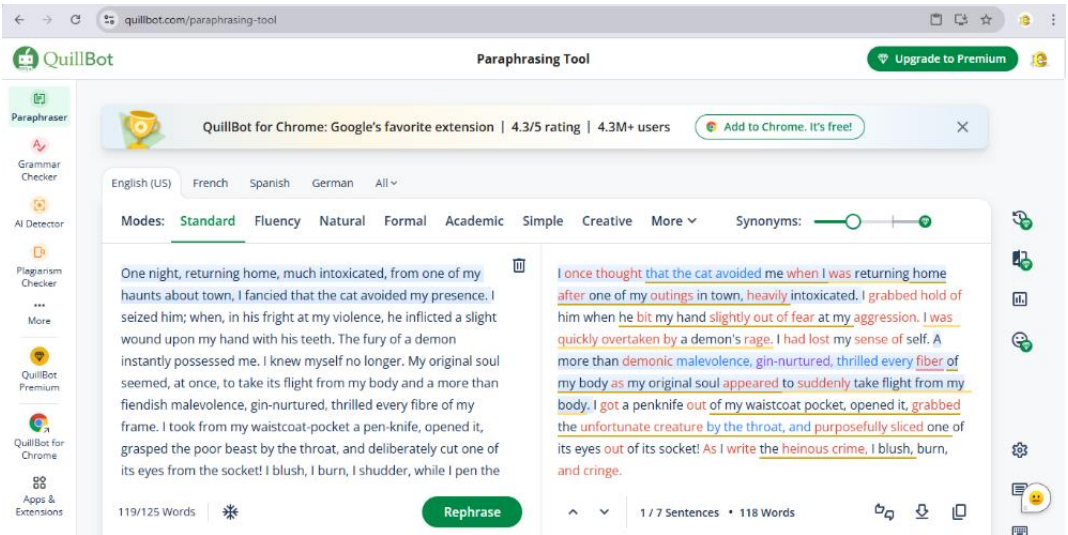


Figure 4.2 QuillBot

The second place most tools used was QuillBot, with 17 participants or 60.7%. QuillBot is used by participants to paraphrase their writing into a better format by providing word choices and grammatical corrections.

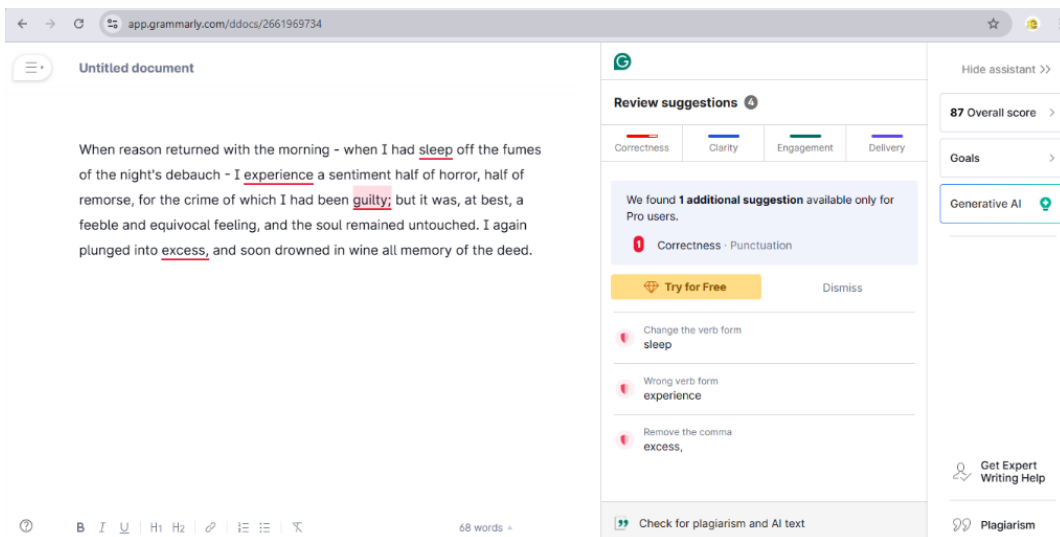


Figure 4.3 Grammarly

The last tool Grammarly was utilised by 10 students or 35.7%. These technology tools support pre-service English teachers in editing, correcting, and creating English academic writing.

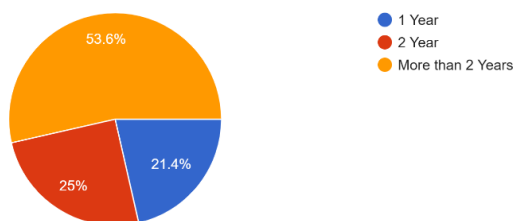
## 1.2 Length of Usage Experience

Pre-service English teachers' experience using AI-based writing tools in English academic writing has different durations. This shows that pre-service English teachers use AI-based writing tools for their English

academic writing during college activities. The following chart shows the duration of pre-service English teachers' use of AI-based writing tools for English academic writing.

Experience using AI technology (e.g., ChatGPT, Grammarly, QuillBot) (Pengalaman menggunakan teknologi AI seperti ChatGPT, Grammarly dan QuillBot)

28 responses



*Chart 4.2 The Duration of Using AI-based Writing Tools*

According to the data, the three parts of the duration of pre-service English teachers' experience in using AI-based writing tools for English academic writing are one year, two years, and more than two years. There 21.4% or 6 participants have used AI-based writing tools in English academic writing for one year. Besides, in two years there were 25% or 7 participants already utilized the AI-based writing tools

for English academic writing. Then, 53.6% or 15 participants have been using AI-based writing tools for more than two years to support their English academic writing.

### 1.3 Interaction Using AI-based Writing Tools

Pre-service English teachers' experiences using AI-based writing tools in English academic writing have different interactions within a month. This shows that pre-service English teachers use AI-based writing tools for their English academic writing. The following chart shows the results of the participants' interactions during one month of using AI-based writing tools.

How often do you interact with AI-based writing tools in a month? (Seberapa sering anda berinteraksi dengan alat bantu menulis berbasis AI dalam sebulan?)

28 responses

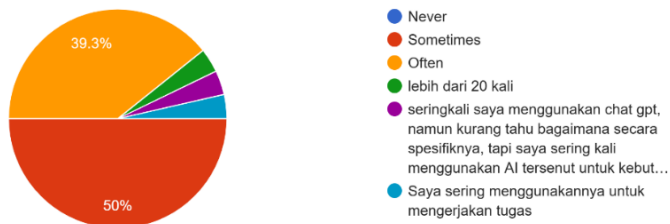


Chart 4.3 The Interaction Using AI-based Writing Tools

Based on the data, there are six interaction sections of pre-service English teachers' experiences using AI-based writing tools for English academic writing in one month. The questionnaire was previously open-ended, then I changed it into a close-ended questionnaire hence some of them answered never, sometimes, often, and three open-ended answers. There were 0% or 0 participants who stated that they had never interacted in one month using AI-based writing tools. In addition, in one month there were 39.9% or 11 participants who stated that they often used AI-based writing tools, there were two statements from participants who answered with the open-ended questionnaire. It mentioned that:

*“I often use it to do assignments” (Participant 7)*

*“I often use ChatGPT, but I don't know the specifics, but I often use the AI for learning and other needs”(Participant 8)*

Then, 50% or 14 participants stated that they sometimes interacted with using AI-based writing tools during one month. One open-ended answer stated that pre-service English teachers interact with AI-based

writing tools more than twenty times a month, as mentioned in the statement:

*“More than 20 times”.*

Interaction using AI-based writing tools has revolutionized the way communicate and convey ideas. With the ability to generate relevant, high-quality text, these tools allow pre-service English teachers to collaborate more efficiently, in both professional and personal contexts. The interactions generated by AI-based writing tools often create a more interactive and engaging experience, encouraging creativity and innovation in the writing process. Thus, these tools not only increase productivity but also enrich the quality of communication in various fields.

## **2. Factor Influencing the Acceptance of AI-based Writing Tools for Academic English Writing with the TAM Model**

TAM theory was used to analyse the data. The pre-service English teachers' experience can be explained by each of the TAM's components, including

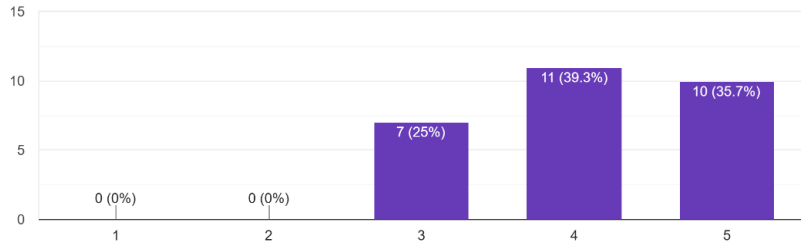
perceived ease of use, perceived usefulness, attitude toward use, behavioral intention to use and actual usage.

### **2.1. Perceived Ease of Use**

Based on the result from the questionnaire assessing the ease of use of AI-based writing tools in academic writing, the participants were asked to rate their experience on a linear scale from 1 (very difficult) to 5 (very easy). There were 25% or 7 participants answered neutral, 39.3% or 11 participants answered mostly easy, and 35.7% or 10 participants responded very easy. Therefore it was concluded that the average was 4, which indicates that most participants found it “Mostly Easy” to use AI-based writing tools for their academic writing.

How would you rate the ease of using AI-based writing tools? (Bagaimana anda menilai kemudahan dalam menggunakan alat bantu penulisan berbasis AI?)

28 responses

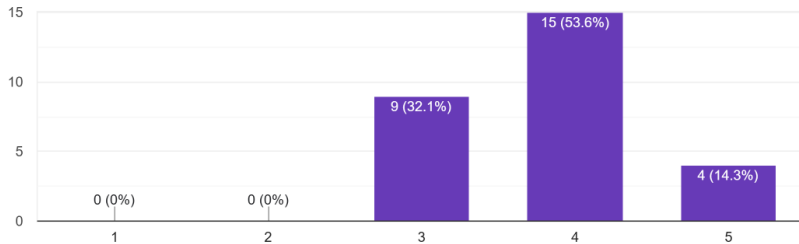


*Chart 4.4 Rate The Ease of Using AI-based Writing Tools*

As a result of the questionnaire assessing the comfort of using AI-based writing tools in various writing tasks, the participants were asked to rate their experience on a linear scale from 1 (uncomfortable) to 5 (very comfortable). There 32.2% or 9 participants answered neutral, 53.5% or 15 participants answered mostly comfortably, and 14.3% or 4 participants answered very comfortably. Therefore, it can be concluded that the average was 4, indicating that most participants found it “Mostly Comfortable” to use AI-based writing tools for various writing tasks.

How comfortable are you using AI-based writing tools for various writing tasks? (Seberapa nyaman anda menggunakan alat bantu penulisan berbasis AI untuk berbagai tugas penulisan?)

28 responses



*Chart 4.5 Rate The Comfortable Using AI-based Writing Tools*

Based on the result of the interview, participants shared their experiences when using AI-based writing tools to increase their productivity in their writing academic articles.

*“AI-based writing tools help increase productivity because they can provide more precise and faster language suggestions. In my experience, AI has made the writing revision process easier and improved the quality of grammar and sentence structure” (Participant 5)*

*“AI-based writing tools increase my productivity by automating repetitive tasks such as grammar checking, summarizing, and suggesting content improvements. For example, when I’m drafting an*

*article, AI-based writing tools help me quickly identify and correct grammatical errors, allowing me to focus more on developing my ideas”. (Participant 11)*

Some participants said that AI-based writing tools gave them new ideas and made their time more efficient.

*“When I write, AI gives me new ideas for topics I want to search for and helps me a lot in writing”. (Participant 15)*

*“AI tools make writing faster and more efficient. I can finish drafts (articles) faster”. (Participant 13)*

*“AI-based writing tools help me a lot because they can suggest more effective words and sentences, making the writing process faster. For example, when I'm stuck in choosing a word or want to improve a sentence, AI can give me ideas that improve my writing without having to think too long. This is helpful for time efficiency”. (Participant 14)*

In addition, by using AI-based writing tools, they feel more confident in writing academic articles. Some of them feel more confident when using AI to check the grammar of their academic writing.

*“I think AI applications can increase confidence in writing academic articles judging from the material presented, AI can sometimes provide material more in-depth than what is believed”.*  
(Participant 1)

*“I think the use of AI in writing can increase confidence, but when using it we should also be balanced by reading sources from other articles, so we will feel more confident in writing”.*  
(Participant 3)

Some of them feel more confident when using AI to check the grammar of their academic writing.

*“AI improves my confidence in writing because it provides support in grammar and usage, so I feel more confident in my academic writing”.*  
(Participant 5)

Several results from participants stated that AI-based writing tools is more accurate, can provide constructive feedback and suggestions, also ensure the writing is clear and precise

*“With AI, there is no need to have doubts about the writing that is produced, because some of the results of AI writing are more accurate”.*  
(Participant 8)

*“The AI app boosted my confidence by providing real-time feedback and constructive suggestions.*

*Knowing that I have a tool to spot mistakes and offer improvements makes me more confident in the quality of my writing, resulting in better and more coherent articles”. (Participant 11)*

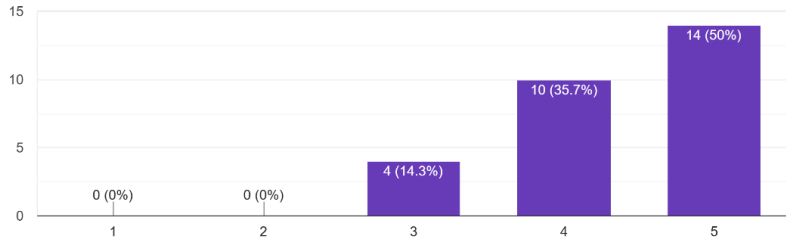
*“Using AI makes me more confident because it helps me ensure that my writing is clear and precise. AI can also detect errors or provide suggestions for improvement, so I am more confident that the articles I write can be more professional and up to standard”. (Participant 14)*

## **2.2. Perceived Usefulness**

Based on the response results from the questionnaire assessing whether the AI-based writing tools were helpful in writing, the participants were asked to rate their feelings on a linear scale from 1 (unhelpful) to 5 (very helpful). There were 14.3% or 4 participants answered neutral, 35.7% or 10 participants answered mostly helpful, and 50% or 14 participants answered very helpfully. Therefore, it can be concluded that the average was 5, indicating that most participants found it “Very Helpful” to use AI-based writing tools for their writing.

Do you find these AI-based writing tools helpful in your writing? (Apakah anda merasa alat bantu penulisan berbasis AI ini membantu dalam penulisan Anda?)

28 responses



*Chart 4.6 The Usefulness of AI-based Writing Tools in Writing*

In addition, based on the interview results, the participants said that they found it easy to access the AI-based writing tool application.

*“Yes, I find it easy to access AI apps, Apps like ChatGPT or Grammarly for example, are easily accessible through a browser without having to install additional apps”. (Participant 2)*

*“It's easy because there are now many types of AI, variations that can be used according to your needs and easy to learn how to use”. (Participant 4)*

One of the participants said that they found it quite easy to access the AI-based writing tools.

*“Access to AI applications is quite easy as many can be accessed online with an internet connection”. (Participant 5)*

As for understanding and proficiency in using the various features of AI applications for writing articles, many participants knew the features of AI applications for writing but only the basic features and some participants only understood the AI features they were used to.

*“I am familiar with the basic features, such as sentence construction, vocabulary suggestions, and grammar checks”. (Participant 2)*

*“I’m pretty familiar with the basic features, but still learning more advanced features especially if it’s updated to 5.0 like ChatGPT”. (Participant 13)*

*“The features of AI that I often use are very easy to understand because they are basic features that are easy to use”. (Participant 8)*

The results of the interviews stated that participants 6, 3, and 15 had a fairly good understanding and proficiency in using the various features of AI.

*“Good enough, because the basic features are easy to use and the guidance is clear”. (Participant 6)*

*“Quite good, by writing what we want to search correctly, it will be easy for me to understand what I read”.(Participant 3)*

*“Quite good, because the features are good so it is easier to use and access”. (Participant 15)*

The results of the interviews show that participants 7, 12, and 9 have little understanding and proficiency in the use of various features of AI.

*“Just a little understanding of AI that I have mastered”.(Participant 7)*

*“Not good because I don't understand all the features, I only master the features of several AIs”. (Participant 12 )*

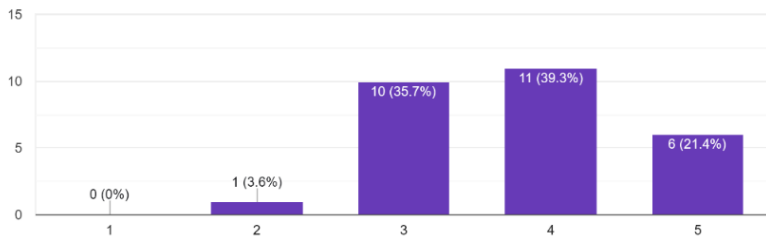
*“Not very good, because I don't understand these features”. (Participant 9)*

### **2.3. Attitude toward use**

Based on the response results of the questionnaire assessing how positively they felt about AI-based writing tools making a positive contribution to their writing, the participants were asked to rate their feelings on a scale from 1 (not positive at all) to 5 (very positive). There were 3.6% or 1 participant answered

mostly not positive, 35.7% or 10 participants answered neutral, 39.3% or 11 participants answered mostly positive, and 21.4% or 6 participants answered very positive. Therefore, it can be concluded that the average was 4, indicating that participants had relatively “Mostly Positive” feelings about the contribution of AI-based writing tools to their writing.

How tools make a positive contribution to your writing? (Apakah alat bantu menulis berbasis AI memberikan kontribusi positif pada tulisan Anda?)  
28 responses



*Chart 4.7 Attitude Towards Use of AI-based Writing Tools  
(Positiveness)*

Meanwhile, from the participants’ opinions, several things make them interested in using AI-based writing tools. The findings stated that AI-based writing tools are easy to use.

*“There are many features offered that can be used according to our needs. Besides that, it is easy to use and many are still free”. (Participant 4)*

*“With AI, writing academic assignments becomes easier and more time efficient because there are many features provided and they are easy to use”. (Participant 8)*

Participants 2 and 13 said that AI-based writing tools help them write more creatively.

*“In my opinion, since the AI can be customized to suit various writing styles, it makes the writing process a little easier and more creative”. (Participant 2)*

*“AI apps are interesting because they can help me write more creatively and make the writing process more efficient”. (Participant 13)*

Participants 3, 6, and 10 said that AI-based writing tools help them easy to find ideas

*“I can more easily find ideas or sources that are many and interesting”. (Participant 3)*

*“AI is interesting because it can provide inspiration, simplify ideas, and suggest better words or sentences”. (Participant 6)*

*“What makes it interesting is that AI can give ideas or suggestions beyond expectations, so writing can be fresher. AI is also good at helping with technical parts like grammar or style, so we don't*

*have to bother checking them one by one”.*  
(Participant 10)

Some participants asked whether they would use AI-based writing tools when writing academic articles they said yes.

*“Yes, I often use AI because it helps me finish my writing faster and ensures better language accuracy”.* (Participant 5)

*“Yes, because AI makes it easier to organize sentences and improves the quality of writing”.*  
(Participant 6)

*“Yes, because I am not very good at writing, I need AI to find ideas for the topics I want to search for”.*  
(Participant 7 )

Participant three’s results were doubtful of to use of AI-based writing tools in academic writing.

*“Maybe yes, but you shouldn't rely on it too much, it is quite helpful because when we run out of ideas then we can find new ideas with AI”.* (Participant 3)

Participants 9 and 11 said that they do not always use AI-based writing tools in writing academic articles.

*“Not always, because sometimes AI gives answers that are not quite right or answers that we don't like”. (Participant 9 )*

*“Not always, but often. I find AI apps very useful when I need to fine-tune a draft or make sure my writing is up to academic standards. However, I also appreciate the traditional writing process, especially during the brainstorming and drafting phase”. (Participant 11)*

Participants 1 and 12 said that they did not use AI-based writing tools when writing academic articles.

*No, I hope if I write later I will put more of my ideas into my writing than AI. Maybe use AI to increase inspiration and help us find writing sources quickly. (Participant 1)*

*No, because it creates dependency for the user, I want my writing to be able to combine AI and my ideas. (Participant 12)*

**Table 3.3 Participants Acceptance of Positive and Negative of AI-based Writing Tools**

<b>Positive Acceptance</b>	<b>Negative Acceptance</b>
Probably yes but try not to use it often, because sometimes the AI can provide additional ideas that you might not have	No, I hope if I write later I will put more of my ideas into my writing than AI. Maybe use AI to increase inspiration and help us find

thought of before. <b>(Participant 2)</b>	writing sources quickly. <b>(Participant 1)</b>
Maybe yes, but you shouldn't rely on it too much, it is quite helpful because when we run out of ideas then we can find new ideas with AI. <b>(Participant 3)</b>	Not always, because it can make us addicted to AI and the writing we make will be the result of AI not the result of our thoughts. <b>(Participant 4)</b>
Yes, I often use AI because it helps me finish my writing faster and ensures better language accuracy. <b>(Participant 5)</b>	Not always because sometimes AI gives answers that are not quite right or answers that we don't like. <b>(Participant 9)</b>
Yes, because AI makes it easier to organize sentences and improves the quality of writing. <b>(Participant 6)</b>	Not always, but often. I find AI apps very useful when I need to fine-tune a draft or make sure my writing is up to academic standards. However, I also appreciate the traditional writing process, especially during the brainstorming and drafting phase. <b>(Participant 11)</b>
Yes, because I am not very good at writing, I need AI to find ideas for the topics I want to search for. <b>(Participant 7)</b>	No, because it creates dependency for the user, I want my writing to be able to combine AI and my own ideas. <b>(Participant 12)</b>
Yes, because it really helps to make it easier to write	

academic assignments and articles and the accuracy of the paraphrasing is higher while the level of plagiarism is very low. **(Participant 8)**

Yes, sometimes, it's usually a solution when we're stuck when writing academic articles. Besides helping us make our writing more neat and formal, AI also saves us from wasting time checking grammar or word order. **(Participant 10)**

Yes, I prefer to use AI when writing. It's just easier. **(Participant 13)**

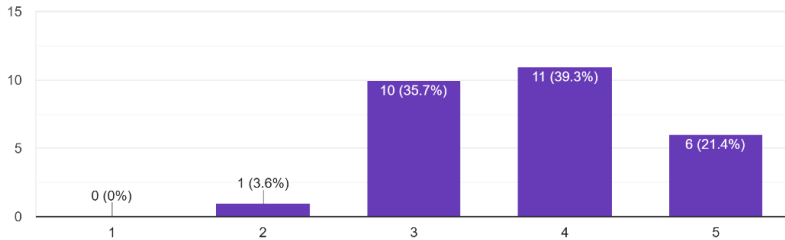
Yes, I usually always use AI apps because they can improve the quality of my writing faster. It makes the revision process easier and helps ensure my writing is more effective and structured. **(Participant 14)**

Yes, but I don't want to be too dependent on AI, just use it as needed. **(Participant 15)**

## **2.4. Behavioral intention**

To measure participants' behavioral intention to use AI-based writing tools in academics, this question asked about the likelihood of participants to continue using AI-based writing tools in writing tasks. Participants were asked to rate their intention on a linear scale of 1 (very unlikely) to 5 (very likely). There were 3.6% or 1 participant answered mostly unlikely, 35.7% or 10 participants answered neutral, 39.3% or 11 participants answered mostly likely, and 21.4% or 6 participants answered very likely. Therefore it can be concluded that On average, the participants answered 4, indicating that participants were "Mostly Likely" to continue using AI-based writing tools in their writing tasks.

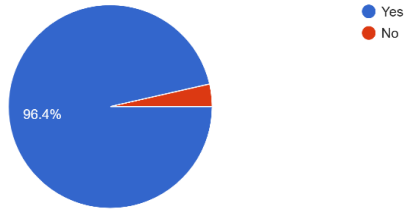
How likely are you to continue using AI-based writing tools in writing task? (Seberapa besar kemungkinan Anda akan terus menggunakan alat bantu menulis berbasis AI dalam tugas menulis?)  
28 responses



*Chart 4.8 Behavioral Intention in Continuing Using AI-based Writing Tools*

To measure participants' behavioral intentions by recommending AI-based writing tools to their friends as a writing tool, 96.4% or 27 participants answered that they would recommend AI-based writing tools to their friends and 3.6% or 1 participant answered “No”.

Would you recommend using AI-based writing tools to your friend as a writing aid? (Apakah Anda akan merekomendasikan penggunaan alat bantu me...epada teman Anda sebagai alat bantu menulis?)  
28 responses



*Chart 4.9 Behavioral Intention to Recommend AI-based Writing Tools to Friends for Writing Aids*

Meanwhile, the interview results show that many participants would suggest AI-based writing tools for academic writing because it can make writing easier and more time efficient.

*“Yes highly recommend, it because, in the era of technology, AI can be accessed easily by simply opening the AI website you want to use and writing down what is needed along with the references”. (Participant 7)*

*“Definitely! I think AI can help in improving the quality of writing”. (Participant 13)*

*“Yes, I would recommend but not for dependency. Maybe recommend giving additional ideas or just choosing the right words and grammar for the article”. (Participant 2)*

From the interview results, there was one undecided answer and an answer that would not recommend the use of AI-based writing tools for writing academic articles for their colleagues.

*“The answer can be yes or no even if I recommend AI, of course, I have to first know what AI is suitable to be recommended”. (Participant 9)*

*“Do not recommend for academic writing, because AI sometimes doesn’t use academic language. Then if in academic writing using AI, it is worried that the writer will depend on AI and not develop or voice his ideas”. (Participant 1)*

## **2.5. Actual use**

In assessing the use of AI-based writing tools in academic writing, participants were asked to rate the frequency of use of AI-based writing tools for essays or academic assignments on a linear scale of 1 (never) to 5 (very frequently). There were 28.6% or 8 participants answered neutral, 42.9% or 12 participants answered mostly frequently, and 28.6% or 8 participants answered very frequently. Therefore, it can be concluded that on average, most of the participants answered 4, indicating that most participants “Mostly

Frequently” use AI-based writing tools for writing essays or academic assignments.

How frequently do you use AI-based writing tools for essays or academic assignments? (Seberapa sering Anda menggunakan alat bantu penulisan berbasis AI untuk esai atau tugas akademis?)

28 responses

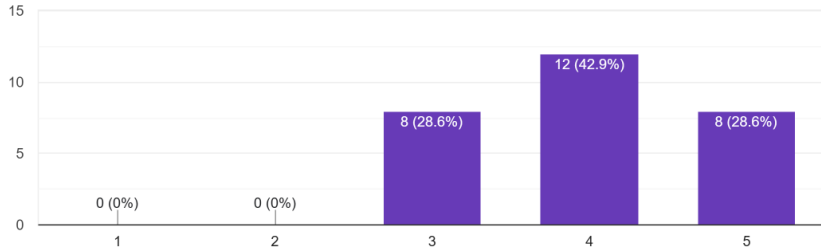


Chart 4.10 Actual Use of Frequently Rate Using AI-baed Writing Tools

In addition, some participants found challenges encountered when using AI-based writing tools. The results of the interview answers of several participants stated that their challenges when using AI-based writing tools were that AI did not provide accurate sources, suggestions that were not in context and recommendations that were not appropriate.

*“My challenge so far is that AI can only provide information but not sources”. (Participants 1)*

*“The challenge is that AI sometimes gives suggestions that are not appropriate to the academic context or specific topic”. (Participants 6)*

*“The challenge is that sometimes AI doesn't always understand the context we want to convey, especially if our ideas are complex. Then, sometimes AI also makes recommendations that don't match the style or purpose of our writing, so it still needs to be adjusted manually”. (Participants 10)*

Based on the results, other challenges faced by participants when using AI-based writing tools are context mismatch, irrelevant answers, inaccuracy of advice and context.

*“The challenge I face is that some AI correction results do not always match the context of the writing, so it sometimes requires manual revision”. (Participant 5)*

*“The answer does not match what is being searched for, some sentences lack variety and the grammar is different, even though it is on a different topic, so it has to be checked again manually”. (Participant 7)*

*“One challenge I have encountered is over-reliance on these tools, which can stifle creativity. Also, some AI suggestions can be too formal or not entirely context-appropriate, requiring manual review and customization”. (Participants 11)*

*“The challenge sometimes is the accuracy of the advice given. Sometimes it doesn't fit the context, so it needs to be edited”. (Participants 13)*

Other challenges stated by participants are premium AI features that are paid and when using AI, plagiarism can still be detected. Such as the following statements.

*How can we not depend on AI, because AI makes all our work easier Besides, some features of AI are paid. (Participants 4)*

*Sometimes, AI paraphrasing can still be detected by certain AI, so I have to paraphrase manually so that it is not detected as plagiarism. (Participants 8)*

## **B. Discussion**

The use of AI-based writing tools in academic writing is very popular among university students. This discussion explores pre-service English teachers' experience and understanding of how pre-service English teachers accept, understand and respond to the use of AI-based writing tools in academic writing. By analyzing the factors that may influence pre-service English teachers' acceptance of AI-based writing tools.

AI-based writing tools are widely adopted by pre-service English teachers to assist in academic writing due to their ease of use and various benefits. Data shows that the majority of AI-based writing tools are used as tools that can help them in the writing-learning process. The ease of use and usefulness determined their behavioral intentions, attitudes towards use and actual use.

Based on the findings of studies, I found the most frequent AI-based writing tools are ChatGPT and QuillBot. Many people use this media to get references, and new ideas to make efficient of their writing. ChatGPT is a useful tool with intelligence interaction that can give students new experiences when writing academically (Eke, 2023). Chen (2023) by adopting a natural and understandable linguistic structure, ChatGPT helps students investigate reliable sources for academic writing. Chat GPT has various features that allow users to construct writing based on topics, lengths, and tones, students could use it to better their academic writing in English (Zhao, 2022).

In this era, QuillBot were widely used to paraphrase writing. Students can speed up the writing process and replicate their English writing with QuillBot without losing the original meaning (Nurmayanti & Suryadi, 2023). Kurniati & Fithriani (2022) stated that Post-graduate students find that QuillBot makes it simple to improve the quality of their academic writing in English. According to Kurniati & Fithriani (2022), the study found that Quillbot fosters students' linguistic development, which impacts their academic writing abilities in English. In addition, pre-service English teachers used paraphrasing tools to generate new ideas in writing.

At the same time, the current popular tool used by pre-service English teachers in their English academic writing is Grammarly which is part of the language checking-based technology tool. Grammarly is a writing tool designed to improve writing skills. It is in line with Adams and Chuah's (2023) suggestion that language checkers facilitate writing. Grammarly could improve the English academic writing produced by construction students in Indonesia (Faisal & Carabella,

2023). According to the study Yousofi (2022) the majority of English students in Afghanistan utilized Grammarly for academic writing since it was practical.

Grammarly can have a positive impact on English academic writing. In line with Fitriana and Nurazni (2022), Grammarly has positively impacted their English academic writing performance by motivating them to understand grammar properly. Since an AI-based program might provide corrections directly, students who use Grammarly anticipate that it will have an impact on their language structure (Rahman et al., 2022). The AI-based technology helps students to improve their academic writing in English. Students could use technological resources to improve their abilities (Jia et al., 2022).

In addition, by generating many AI-based writing tools, pre-service English teachers can get many beneficial things such as elaborating their ideas using AI-based writing tools. Nurmayanti and Suryadi (2023) corroborate this by pointing out that students could use the tools to generate original ideas for their writing rather than copying existing English academic

writing. Generating ideas to write accurately becomes a challenge; thus, AI-based technology tools facilitate students to explore their writing skills (Cardon et al., 2023). In line, Alotaibi and Alzu'bi (2022) highlighted the possibility of producing quality academic writing in English for students who use accessible writing software. Furthermore, Technology could drive to creation of a masterpiece of English academic writing.

The other finding showed that the length of using AI-based writing tools could influence pre-service English teachers in English academic writing quality. Farrokhnia et al. (2023) long-term use of technological tools has changed writing habits and styles in observable ways. The various lengths of using AI-based writing tools direct pre-service English teachers to use technology more instead of writing in a manual. Aljafen (2018) discovered that English students have more access to writing by using technology tools since it provides many features for collaboration and feedback. Thus, this study suggests pre-service English teachers balance between the use of AI-based writing tools and their English academic writing performance.

Based on the findings to analyze the data I used the Technology Acceptance Model (TAM) by Davis (1989) to find the acceptance factors of AI-based writing tools that can influence pre-service English teachers. In line with Salam et al. (2024) examined the acceptance of artificial intelligence (AI) in written publications among senior high school teachers in Singkawang, using the Technology Acceptance Model (TAM) as a framework to understand teachers' attitudes toward artificial intelligence (AI) in their writing practices. Farooq et al. (2024) analyzed Asian students' acceptance of artificial intelligence (AI) tools to promote sustainable writing practices using the Technology Acceptance Model (TAM). The findings shed light on the importance of AI writing tools in sustainable writing.

Based on the overall results, the data shows that almost all participants stated that AI-based writing tools are easy to use, increase productivity and improve confidence in writing. This is in line with Zulfa (2023) stated that ease of use of technology-based learning media positively influences student acceptance of the

tool. Moreover, the integration of such tools not only facilitates the writing process but also enhances pre-service English teachers' understanding of grammatical rules and vocabulary acquisition, ultimately leading to more cohesive and coherent writing.

The findings of perceived usefulness show that pre-service English teachers are very helpful in their writing by using AI-based writing tools. These tools help pre-service English teachers generate ideas, organize content, and improve language, which not only increases writing productivity but also raises the standard of academic writing. In line, with a study by Utami et al. (2023) found that 86% of participants agreed that AI-based learning tools greatly improve their writing ability, emphasising their contribution to reaching learning goals and improving writing abilities.

The results of the attitude toward using in this study state that AI tools make a mostly positive contribution to their writing. In line with Ozfidan et al. (2024) explored Saudi Arabian undergraduate students' perceptions of Artificial Intelligence (AI)

tools in academic writing. This study found that the tools were generally well received and had a noticeable positive impact on the efficiency and quality of writing. Additionally, the findings indicate that AI-based writing tools enhance students' understanding of grammatical structures and improve their ability to organize ideas effectively, which ultimately leads to more coherent and polished academic papers.

In addition, the results of finding attitudes toward using revealed a negative acceptance of the use of AI in writing, with some participants expressing similar concerns. For example, one participant expressed her wish to express more of her personal ideas in writing, rather than relying on AI, and saw AI as a tool to increase inspiration and speed up sourcing. However, others were concerned about the potential for AI dependency, which may result in writing that is less reflective of the writer's original thoughts. Some other participants highlighted that while AI can provide quick answers and help improve drafts, it is often inaccurate or not what they expected. While AI can be useful in the writing process, many still value the

importance of the traditional process, especially during brainstorming and drafting, to ensure that their writing still reflects their creativity and personal views.

Based on the results of behavior intention, the pre-service English teachers stated that they are mostly likely to use AI-based writing tools to continue their writing tasks. This tendency shows that these pre-service English teachers are aware of how AI-based writing tools might help them write effectively and efficiently, which suggests that writing tools greatly increase student's engagement and sense of self-efficacy in academic writing. Marzuki et al.(2023) examine students are encouraged to use AI-powered writing helpers for a variety of academic assignments since it has been demonstrated that their incorporation creates a more productive writing environment.

The finding of behavioral intention recommending AI-based writing tools to their friends as writing tools most participants answered yes they will recommend AI-based writing tools to their friends as a writing aid. The favorable response highlights the increasing acknowledgement of AI technologies as useful tools

for improving writing abilities, as many users value their capacity to expedite the writing process and raise the overall quality.

Regarding the actual use of AI-based writing tools for academic writing, some participants stated that they mostly frequently use AI-based writing tools in essays or educational assignments. Reliance may become increasingly reliant on technology to improve the quality of writing, as many students find that these tools help generate ideas structure their work and provide valuable feedback. AI writing assistants greatly increase academic text coherence and clarity, making them essential research for students who wish to write at a higher level (Marzuki et al., 2023).

Based on the interview results, pre-service English teachers face several challenges when using AI-based writing tools for academic writing. While AI-based writing tools offer numerous benefits for English academic writing, pre-service English teachers encounter several challenges that can hinder their effectiveness. The inability of these technologies to occasionally supply reliable sources raises serious

concerns since it may result in academic work that contains inaccurate material. Additionally, suggestions generated by AI may not always be contextually relevant, resulting in recommendations that are inappropriate for the specific writing task at hand.

Pre-service English teachers frequently report experiencing context mismatches and receiving irrelevant answers, which can detract from the overall quality of their writing. Furthermore, the inaccuracy of advice and context provided by these tools can lead to confusion and frustration. Many AI writing tools also operate on a paid model, limiting access for some students and educators. Lastly, despite the assistance offered by AI, concerns about plagiarism remain prevalent, as the originality of content generated by these tools can still be questioned, highlighting the need for careful evaluation and revision by the user.

Moreover, the current study suggests the need to balance the utilization of AI-based writing tools to avoid a decline in creativity and critical thinking skills among students. Koltovskaia (2020) noted that over-reliance on technology can result in decreased ability

to construct well-organized writing. Therefore, it is crucial to strike a balance between leveraging technological advancements and maintaining traditional writing practices to ensure high-quality academic output.

In summary, while AI-based writing tools offer substantial benefits, their misuse can lead to significant drawbacks, underscoring the necessity for responsible and informed use of these technologies in academic contexts. Overall, these studies have a similar focus on using AI-based writing tools for academic writing but differ in terms of their target audience, specific research questions, and findings. The current research on pre-service English teachers' acceptance of AI-based writing tools for academic writing can provide valuable insight into personal experiences.

## **CHAPTER V**

### **CONCLUSION AND SUGGESTION**

This is the final chapter of this research. In this chapter, I present the conclusion of the study based on the data analysis discussed in the previous chapter and suggest that English teachers, college students, and future researchers follow AI-based writing tools in English writing academics.

#### **A. Conclusion**

The advancement of AI technology-assisted learning media offers pre-service English teachers the convenience to explore technology tools to support the English academic writing process and improve writing performance and skills. Based on the study results, there are more than 3 AI technology tools that pre-service English teachers can use to assist their English academic writing. There are different functions of each technology tool that can be used by students in creating English academic writing. The most popular AI tools are ChatGPT, Grammarly, and Quillbot, an AI-based

technology tool that provides automatic feedback, correction and suggestions.

Based on the findings and discussion of this study, the external variable construct (Pre-service English teachers' experience) influenced perceived usefulness and perceived ease of use constructs. Perceived ease of use affects the perceived usefulness construct. Both constructs (PEOU and PU) have the same effect on the attitude toward using construct. Perceived usefulness influenced behavioral intention to use. Then, behavioral intention to use is influenced by the construct of actual usage.

The factors that influence pre-service teachers' acceptance of AI-based writing tools are identified using the Technology Acceptance Model (TAM) theory. The factors influencing pre-service English teachers' acceptance of AI-based writing tools technology is the factor of external variable, namely pre-service English teachers' experience in using AI-based writing tools that can affect perceived usefulness and perceived ease of use, both constructs have the same influence on the use of AI-based writing tools.

These findings are in line with the TAM (Technology Acceptance Model) concept from Davis (1989) the level of acceptance of technology users is determined by the perceived ease of use construct will affect the perceived usefulness construct. Both constructs (PEOU and PU) have the same effect on the attitude toward using. Pre-service English teachers' attitudes regarding technology, such as AI-based writing tools can be influenced by their experience with them. Having more experience will help them feel more positively about the technology's usability and convenience of use, which will enhance their desire to use it and affect how they utilise it when academic writing.

## **B. Suggestions**

Based on the conclusion, the author would like to provide some suggestions related to this study that can be useful for college students, researchers and English teachers, as well as further researchers. The author hopes that the suggestions given can be useful.

### 1. For College Students

College students who still struggle with academic writing can try to learn by using AI-based writing tools to find ideas to make a topic more interesting and correct grammar in academic writing. This research proves the acceptance factor of AI-based writing tools in pre-service English teachers for successful academic writing in higher education.

### 2. For Researchers and English Teachers

The results of this study can be a source of information for researchers and English teachers on how pre-service English teachers experience the acceptance of AI-based writing tools for academic writing in higher education.

### 3. For Further Research

I as the author realize that this research is far from perfection. There are still many things that need to be known about the acceptance of AI-based writing tools in learning academic writing for pre-service English teachers. I hope that there will be further research that will

open up insight into the topic at hand and increase the objects of AI-based writing tools that will be interpreted in academic writing activities.

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## APPENDICES

### Appendix 1: Questionnaire

Email :

Name :

Sex : Male /Female

WhatsApp

Number :

Have you ever used AI-based writing tools (e.g., ChatGPT, Grammarly, QuillBot)?

- Yes

Are you willing to be a participant in my research?

- Yes

Experience using AI Technology (e.g., ChatGPT, Grammarly, QuillBot) :

- 1 year
- 2 year
- More than 2 year

How many times do you interact with AI-based writing tools in a month?

<b>Perceived Ease Of Use</b>					
<b>Question</b>	1	2	3	4	5
How would you rate the ease of using AI-based writing tools?					
How comfortable are you using AI-based writing tools for various writing tasks?					
<b>Perceived Usefulness</b>					
Do you find these AI-based writing tools helpful in your writing?					
<b>Attitude Towards Using</b>					
Do AI-based writing tools make a positive contribution to your writing?					
<b>Behavioral Intention to Use</b>					
How likely are you to continue using AI-based writing tools in writing tasks?					

Would you recommend using AI-based writing tools to your friends as a writing aid?					
<b>Actual Use</b>					
How often do you use AI-based writing tools for essays or academic assignments?					

Adapted from Venkatesh et al (2003); Venkatesh & Davis (2000); Teo (2011)

## Appendix 2: Interview

Variable	Question
Perceived Ease of Use	1. How can AI-based writing tools improve your productivity in writing? Please explain your experience. 2. How do you think using AI applications enhances confidence in writing academic articles?
Perceived Usefulness	3. Do you find it easy to access AI applications? Why? 4. How well do you understand and proficiently use the various features of AI applications for article writing?
Attitude Toward Usage	5. In your opinion, what makes AI applications interesting? 6. Do you always want to use AI applications when writing academic articles? Why?
Behavioral Intention	7. Will you recommend using the AI application for writing academic articles to

	your colleagues? Give your reasons.
Actual Usage	8. What challenges did you encounter when using AI-based writing tools?

Adapted from Alharbi & Drew (2014); Davis & Venkatesh (1996).

### Appendix 3: Transcript Interview

#### Participant 1 (FF)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	Based on my experience using AI, AI can increase my productivity in writing because with AI I get new ideas that were not previously thought of. You could say, AI helps me to open my mind wider. With that, my writing productivity can increase.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	I think AI applications can increase confidence in writing academic articles judging from the material presented, AI can sometimes provide material more in-depth than what is thought.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, accessing AI is very easy now, because many platforms provide AI not only applications but also AI that can be reached by the web.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	It's not very good, I usually use ChatGPT or Perplexity which only provides command features, a bit like Google.
Q:	In your opinion, what makes AI applications interesting?
A:	I think AI applications are interesting because they are multifunctional, they can give us what we want for example, AI can provide funny or aesthetic images with just one command.

Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	No, I hope if I write later I will put more of my ideas into my writing than AI. Maybe use AI to increase inspiration and help us find writing sources quickly.
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Do not recommend for academic writing, because AI sometimes doesn't use academic language. Then if in academic writing using AI, it is worried that the writer will depend on AI and not develop or voice his ideas.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	My challenge so far is that AI can only provide information but not sources.

### Participant 2 (FS)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	I think AI-based writing tools like ChatGPT help speed up the writing process by providing ideas, word suggestions, or even sample sentences.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	Because AI provides additional support in choosing appropriate words and grammar for articles.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, I find it easy to access AI apps, Apps like ChatGPT or Grammarly for example, are easily

	accessible through a browser without having to install additional apps.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	I am familiar with the basic features, such as sentence construction, vocabulary suggestions, and grammar checks.
Q:	In your opinion, what makes AI applications interesting?
A:	In my opinion, since the AI can be customized to suit various writing styles, it makes the writing process a little easier and more creative.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Probably yes but try not to use it often, because sometimes the AI can provide additional ideas that you might not have thought of before.
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, I would recommend but not for dependency. Maybe recommend giving additional ideas or just choosing the right words and grammar for the article.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	The main challenge I face is adjusting the AI's writing to my style so it doesn't look too "flat".

### Participant 3 (MM)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	I feel very helpful so I am more enthusiastic in doing academic writing.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	I think the use of AI in writing can increase confidence, but when using it we should also be balanced by reading sources from other articles, so we will feel more confident in writing.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, because just through the web we can already use it
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	Quite good, by writing what we want to search correctly, it will be easy for me to understand what I read.
Q:	In your opinion, what makes AI applications interesting?
A:	I can more easily find ideas or sources that are many and interesting.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Maybe yes, but you shouldn't rely on it too much, it is quite helpful because when we run out of ideas then we can find new ideas with AI.

Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, because it is quite helpful but of course it must be balanced with sources from credible articles or journals as well.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	When we type less clearly then AI will give answers that are not following what we want.

#### Participant 4 (MW)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	I think AI is quite helpful in increasing my writing productivity. My experience of using AI in my writing has helped me to find or give new ideas when I am at a loss for what to write or at a loss to express my writing. In addition, AI also helps me in translating text or files, summarizing files, and helps me to minimize plagiarism as well.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	Because some AI has features to check grammatical errors, plagiarism, and others can help me to make my writing better and I am more confident when the writing I make is interesting and good.
Q:	Do you find it easy to access AI applications? Why?

A:	It's easy because there are now many types of AI, variations that can be used according to your needs and easy to learn how to use.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	Good enough.
Q:	In your opinion, what makes AI applications interesting?
A:	There are many features offered that can be used according to our needs. Besides that, it is easy to use and many are still free.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Not always, because it can make us addicted to AI and the writing we make will be the result of AI not the result of our thoughts
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Would recommend AI to my friends if they need it because it will make their work easier. But I don't recommend it to be used continuously.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	How can we not depend on AI, because AI makes all our work easier Besides, some features of AI are paid.

Participant 5 (ZS)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	AI-based writing tools help increase productivity because they can provide more precise and faster language suggestions. In my experience, AI has made the writing revision process easier and improved the quality of grammar and sentence structure.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	AI improves my confidence in writing because it provides support in grammar and usage, so I feel more confident in my academic writing.
Q:	Do you find it easy to access AI applications? Why?
A:	Access to AI applications is quite easy as many can be accessed online with an internet connection.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	I understand and can use AI features such as grammar checking. These features are very helpful in composing academic writing.
Q:	In your opinion, what makes AI applications interesting?
A:	AI is interesting because of its intelligent ability to correct writing quickly and accurately. This is very helpful, especially in foreign language writing.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Yes, I often use AI because it helps me finish my writing faster and ensures better language accuracy.

Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, I would recommend AI to my friends because it can improve the quality of academic writing.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	The challenge I face is that some AI correction results do not always match the context of the writing, so it sometimes requires manual revision.

#### Participant 6 (SZ)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	AI helps speed up the writing process by providing word or sentence suggestions, making work more efficient.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	AI helps reduce grammatical errors and provides a better writing structure, so I am more confident in my writing.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, because many AI applications can be accessed through a cell phone or laptop with an internet connection.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	Good enough, because the basic features are easy to use and the guidance is clear.

Q:	In your opinion, what makes AI applications interesting?
A:	AI is interesting because it can provide inspiration, simplify ideas, and suggest better words or sentences.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Yes, because AI makes it easier to organize sentences and improves the quality of writing.
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, because AI can speed up the writing process and help reduce errors in writing.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	The challenge is that AI sometimes gives suggestions that are not appropriate to the academic context or specific topic.

#### Participant 7 (TT)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	When I am stuck in academic writing I can ask AI to find new ideas from the topic I want to search for, which makes me excited about writing academic assignments.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	Because AI has provided accurate answers, I can easily find out the incorrect grammar of my writing

	and make it easier for me to find the correct answer to the question.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, because to access AI I don't need to install an application, just open Google then log in and I can enjoy the convenience just by using the website.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	Just a little understanding of AI that I have mastered
Q:	In your opinion, what makes AI applications interesting?
A:	AI is more interesting because the answers AI gives are more specific, the results are more appropriate and its features are better than Google's.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Yes, because I am not very good at writing, so I need AI to find ideas for the topics I want to search for.
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes highly recommend, it because in the era of technology, AI can be accessed easily by simply opening the AI website you want to use and writing down what is needed along with the references.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	The answer does not match what is being searched for, some sentences lack variety and the grammar is different, even though it is on a different topic, so it has to be checked again manually

Participant 8 (NZ)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	When doing academic assignments becomes easier, more helpful and more time efficient
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	With AI, there is no need to have doubts about the writing that is produced, because some of the results of AI writing are more accurate.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, because ai can be used using the free version
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	The features of AI that I often use are very easy to understand because they are basic features that are easy to use.
Q:	In your opinion, what makes AI applications interesting?
A:	With AI, writing academic assignments becomes easier and more time efficient because there are many features provided and they are easy to use.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Yes, because it really helps to make it easier to write academic assignments and articles and the accuracy of the paraphrasing is higher while the level of plagiarism is very low.

Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, I will recommend it to my colleagues who require writing tools because it is very helpful.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	Sometimes, AI paraphrasing can still be detected by certain AI, so I have to paraphrase manually so that it is not detected as plagiarism.

#### Participant 9 (IS)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	I had a moment when I was stuck in writing and was confused about how to make this sentence not a blunder, so I used AI to correct the sentences that were not right into the right sentences.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	I have a reference picture of how to write an article starting from the steps we need to follow the content of each of them and so on.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, it's easy because there are already many types of AI that we can download.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	Not very good, because I don't really understand these features

Q:	In your opinion, what makes AI applications interesting?
A:	You don't have to have an application, you can just use it from the web, it's easy to use, and of course, there are many AI features that we rarely know about but it turns out that they exist.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Not always because sometimes AI gives answers that are not quite right or answers that we don't like
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	The answer can be yes or no even if I recommend AI, of course, I have to first know what AI is suitable to be recommended.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	Sometimes what we are looking for in AI and the answers we want do not match the answers given by AI so sometimes we need to give instructions to the AI it must be more detailed detail.

#### Participant 10 (MN)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	When using AI, it really helps to write faster because there are features like auto-complete or word recommendations that make sentences more effective and clearer in meaning. So writing time is faster,

	especially if you're stuck looking for words or sentence structures. For example, if you're writing a long article, AI can give you ideas so that your writing isn't wordy.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	By using AI, I feel more confident because it can help check grammar, structure, and appropriateness of academic language. So, the writing is neater and easier to read. Sometimes, AI can also give suggestions to improve the writing that we are not sure about, so we can be more confident that the final result will be okay.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, it's really easy! Most AI applications are now web-based or mobile, just open a browser and you can use AI. As long as there is internet, it's easy to access.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	Understand the features” of AI, although not all of them are often used. Basic features like checking grammar or finding synonyms, I use them often. But for more advanced features, you still need to explore more so that you can maximize all existing functions.
Q:	In your opinion, what makes AI applications interesting?
A:	What makes it interesting is that AI can give ideas or suggestions beyond expectations, so writing can be fresher. AI is also good at helping with technical parts like grammar or style, so we don't have to bother checking them one by one.

Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Yes, sometimes, it's usually a solution when we're stuck when writing academic articles. Besides helping us make our writing more neat and formal, AI also saves us from wasting time checking grammar or word order.
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, I recommend using AI because it helps you organize your writing more efficiently and fix small mistakes that you may have missed. However, we must still read again what AI has written and whether it is following the writing we expect yet.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	The challenge is that sometimes AI doesn't always understand the context we want to convey, especially if our ideas are complex. Then, sometimes AI also makes recommendations that don't match the style or purpose of our writing, so it still needs to be adjusted manually.

Participant 11 (ED)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	AI-based writing tools increase my productivity by automating repetitive tasks such as grammar checking, summarizing, and suggesting content

	improvements. For example, when I'm drafting an article, AI-based writing tools help me quickly identify and correct grammatical errors, allowing me to focus more on developing my ideas.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	The AI app boosted my confidence by providing real-time feedback and constructive suggestions. Knowing that I have a tool to spot mistakes and offer improvements makes me more confident in the quality of my writing, resulting in better and coherent articles.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, accessing AI applications is quite easy. Most of these tools are available online, and many offer an easy-to-use interface. These apps often integrate with word processors such as Microsoft Word or Google Docs, making them easy to use.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	I understand and use the basic features proficiently, such as grammar and style checking, synonym suggestions, and content structure recommendations. However, there are some advanced features such as citation generation and plagiarism checking that I am still learning to use effectively.
Q:	In your opinion, what makes AI applications interesting?
A:	What makes the AI app interesting is its ability to learn and adapt to my writing style. These apps not only help improve my current work, but also help improve my overall writing skills over time. The

	personalized feedback and efficiency they offer is truly remarkable.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Not always, but often. I find AI apps very useful when I need to fine-tune a draft or make sure my writing is up to academic standards. However, I also appreciate the traditional writing process, especially during the brainstorming and drafting phase.
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, because it saves time and reduces the chances of mistakes. The app is like having a personal editor who gives instant feedback, which is invaluable for improving the quality of writing.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	One challenge I have encountered is over-reliance on these tools, which can stifle creativity. Also, some of the AI suggestions can be too formal or not entirely context-appropriate, requiring manual review and customization.

Participant 12 (KL)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	When I'm stuck in academic writing AI can help me find ideas for the topic I need.

Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	If I write using AI, my writing will be neater and my grammar will be better.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, because it is easy to access using the website so there is no need to install applications that take up memory.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	Not good because I don't understand all the features, I only master the features of several AIs
Q:	In your opinion, what makes AI applications interesting?
A:	There is a feature that can find instant answers and correct grammatical errors.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	No, because it creates dependency for the user, I want my writing to be able to combine AI and my own ideas
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, because it can make it easier for my friends to write too
Q:	What challenges did you encounter when using AI-based writing tools?
A:	AI is a robot, so sometimes it gives answers that are not as precise and perfect as I want.

Participant 13 (SR)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	AI tools make writing faster and more efficient. I can finish drafts (articles) faster.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	Using AI makes me more confident because I can check grammar and writing style. The structure too.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, access to the AI app is easy. Just download it and you can use it right away.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	I'm pretty familiar with the basic features, but still learning more advanced features especially if it's updated to 5.0 like ChatGPT.
Q:	In your opinion, what makes AI applications interesting?
A:	AI apps are interesting because they can help me write more creatively and make the writing process more efficient.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Yes, I prefer to use AI when writing. It's just easier.
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Definitely! I think AI can help in improving the quality of writing.

Q:	What challenges did you encounter when using AI-based writing tools?
A:	The challenge sometimes is the accuracy of the advice given. Sometimes it doesn't fit the context, so it needs to be edited.

#### Participant 14 (AF)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	AI-based writing tools help me a lot because they can suggest more effective words and sentences, making the writing process faster. For example, when I'm stuck in choosing a word or want to improve a sentence, AI can give me ideas that improve my writing without having to think too long. This is helpful for time efficiency.
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	Using AI makes me more confident because it helps me ensure that my writing is clear and precise. AI can also detect errors or provide suggestions for improvement, so I am more confident that the articles I write can be more professional and up to standard.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, I find it easy to access AI applications because many platforms can be used online without having to install a special application. Usually, I just open it in my browser, and some even have free versions that are quite helpful.

Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	I can understand the basic features, such as word suggestions, grammar correction, and spell-checking. But for more specific features, such as setting a certain tone or language style, sometimes I still struggle.
Q:	In your opinion, what makes AI applications interesting?
A:	What I find interesting about AI apps is their ability to instantly give suggestions in real-time. AI can help me improve my writing without having to look for additional references or spend time editing manually.
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Yes, I usually always use AI apps because they can improve the quality of my writing faster. It makes the revision process easier and helps ensure my writing is more effective and structured.
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.
A:	Yes, I recommend it because it increases productivity and reduces errors. In addition, AI simplifies the writing process and makes writing more professional.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	The challenge I often face is when AI gives suggestions that don't fit the context or language I need. Sometimes the AI still doesn't understand academic writing, so I still have to edit manually to match the writing style I want.

Participant 15 (AM)

Q:	How can AI-based writing tools improve your productivity in writing? Please explain your experience.
A:	When I write, AI gives me new ideas for topics I want to search for and helps me a lot in writing
Q:	How do you think using AI applications enhances confidence in writing academic articles?
A:	With the feature to show errors in writing and can help find ideas from a given topic, it can help increase my confidence in writing.
Q:	Do you find it easy to access AI applications? Why?
A:	Yes, it's very easy because I found lots of AI websites that can be used for free.
Q:	How well do you understand and proficiently use the various features of AI applications for article writing?
A:	Quite good, because the features are good so it is easier to use and access
Q:	In your opinion, what makes AI applications interesting?
A:	Its benefits can be used to help technological development in the era of new technology that makes time easier and faster
Q:	Do you always want to use AI applications when writing academic articles? Why?
A:	Yes, but I don't want to be too dependent on AI, just use it as needed
Q:	Will you recommend using the AI application for writing academic articles to your colleagues? Give your reasons.

A:	Yes, because AI makes work easier, speeds up time and increases self-confidence.
Q:	What challenges did you encounter when using AI-based writing tools?
A:	Sometimes the answer from AI is less relevant to the question asked

## Appendix 4: Documentation

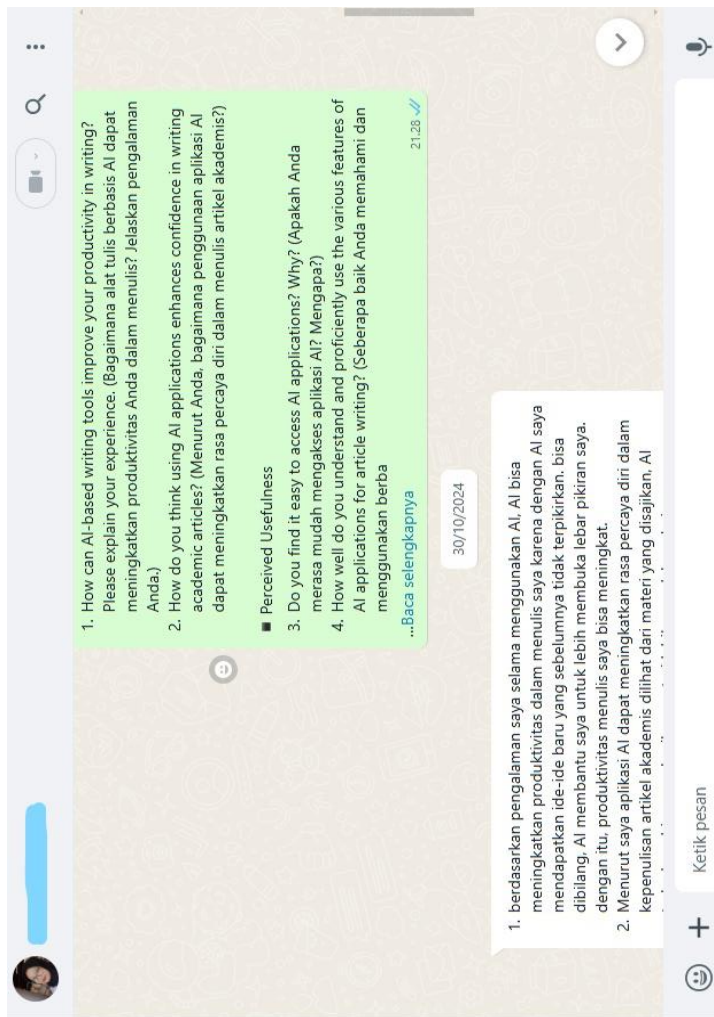


Figure 1. Interview with Participant 1

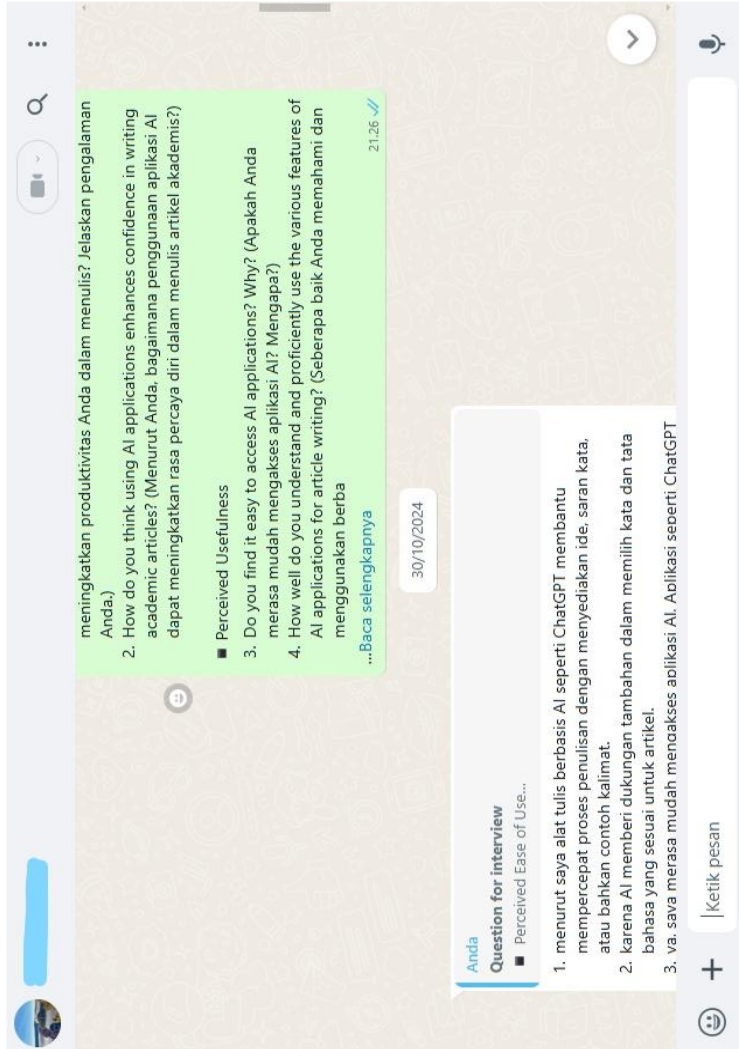


Figure 2. Interview with Participant 2

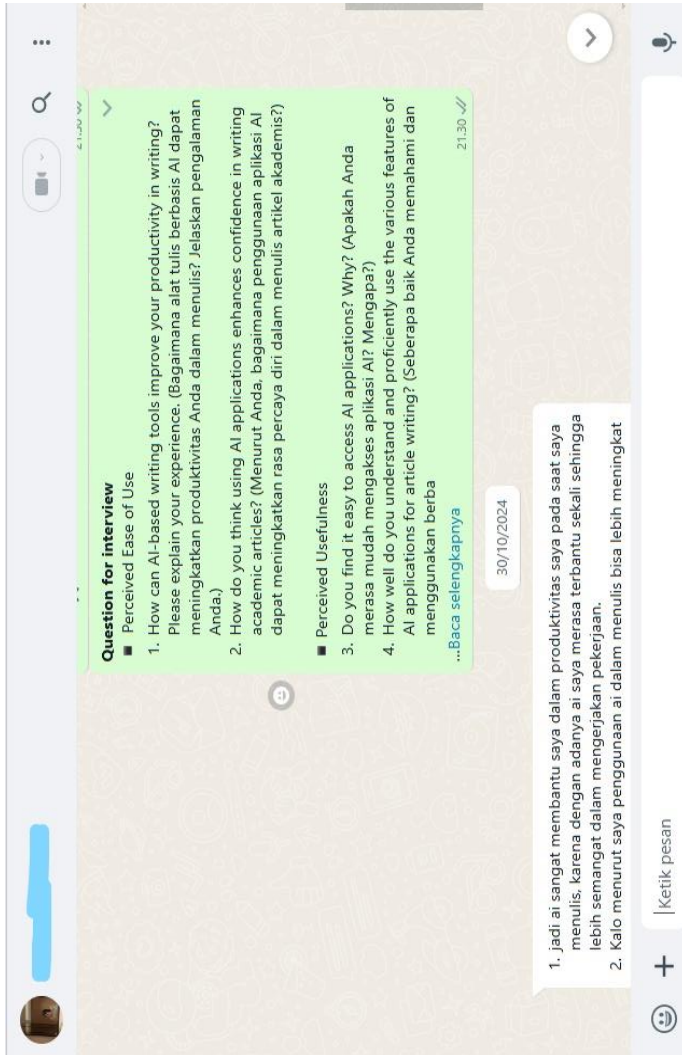


Figure 3. Interview with Participant 3

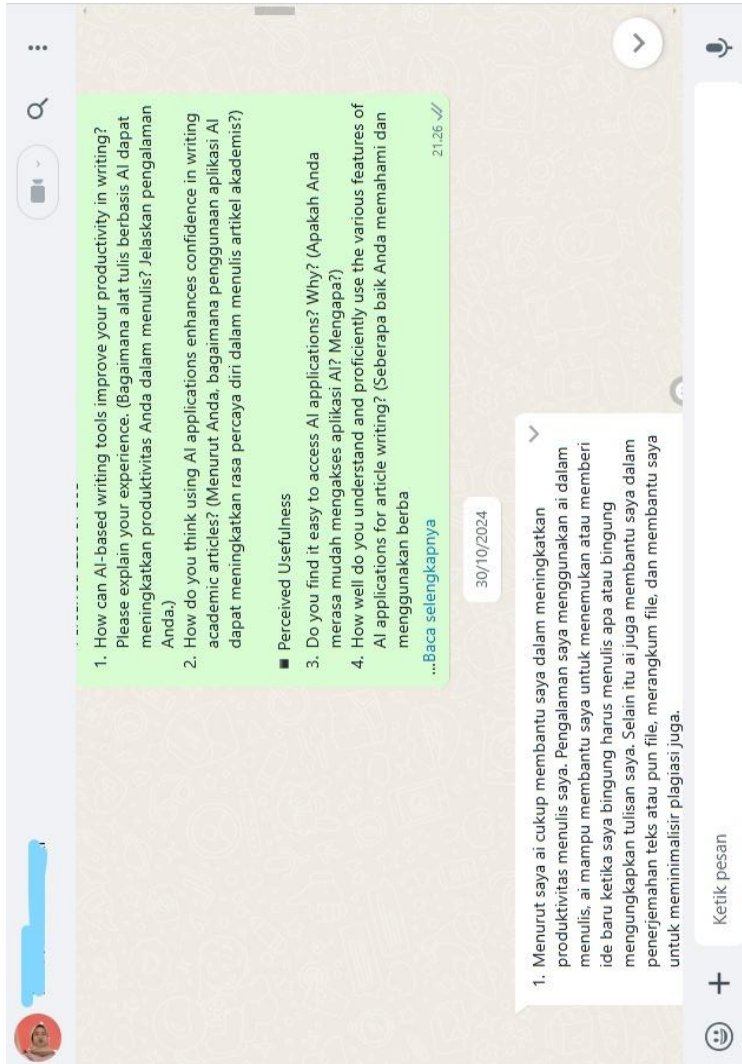


Figure 4. Interview with Participant 4

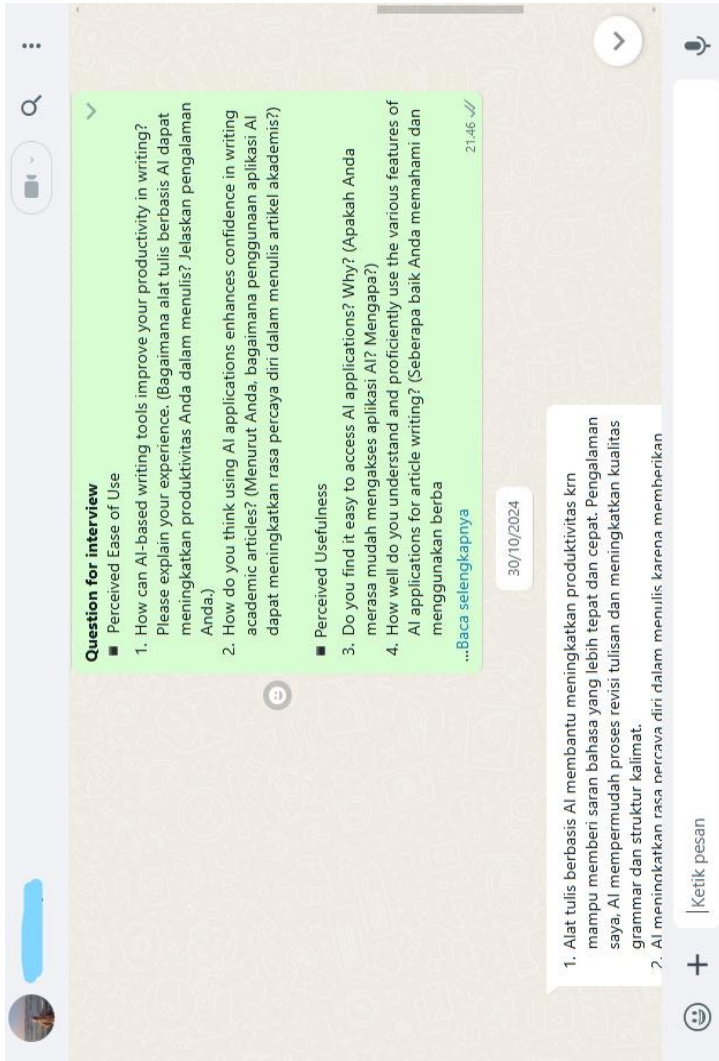


Figure 5. Interview with Participant 5

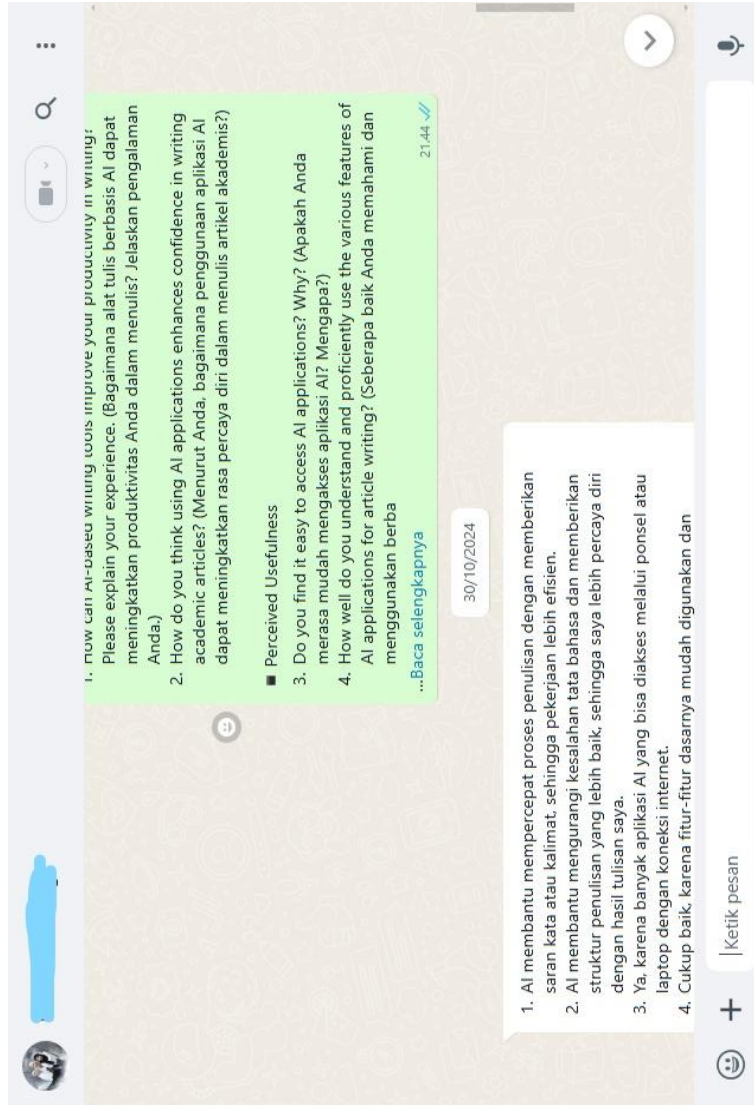


Figure 6. Interview with Participant 6

## Appendix 5: Curriculum Vitae

### 1. Personal Details

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### 2. Education Details

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- b. Pondok Modern Darussalam Gontor Putri 3
- c. Pondok Modern Darussalam Gontor Putri 3
- d. English Education Department of Walisongo State Islamic University Semarang