

CHAPTER I INTRODUCTION

1.1. Background of Research

The rapid development of Artificial Intelligence (AI) has made many students lazy to think creatively and critically. This is because of the convenience provided by Artificial Intelligence (AI). This is also supported by research findings from the scientific publication titled "Impact of Artificial Intelligence on Human Loss in Decision-making, laziness, and Safety in Education" The results indicate that artificial intelligence has a significant impact on human laziness (68.9%), personal privacy and security difficulties (68.6%), and decision-making deficits (27.7%) (Ahmad et al., 2023).

Morandín-Ahuerma (2022), argued that “Artificial intelligence is the ability of a machine or computer system to simulate and perform tasks that require human intelligence, such as logical reasoning, learning, and problem-solving”. Even in academic writing, retrieved from Golan et al. (2023), One notable benefit of utilizing AI-based tools in academic writing is their ability. In addition, artificial intelligence makes the quality of academic writing very concerning. AI tools are already impacting the writing process of dissertations, theses, and other academic writing. However, how AI will affect the format of dissertations and the development of doctoral students' critical skills is currently unknown (Storey, 2023).

In this instance, the advancement of artificial intelligence (AI) has been very beneficial for writing assignments. Writing, editing, and translation tools and apps have advanced significantly. This is characterized by the widespread use of chatbots by students, lecturers, and researchers as aids in the academic writing process. In November 2022, an artificial intelligence research laboratory known as OpenAI in the United States introduced a chatbot application known as the Generative Pre-Training Transformer, commonly called ChatGPT (OpenAI, 2022). This application uses natural language processing (NLP) technology to provide text responses to user-entered

questions. This natural language processing makes academic writing easier for students, lecturers, and even researchers.

NLP allows computers to interact with human language and allows computers to analyze, understand, and derive meaning from human language in a smart and useful way (Agarwal, 2019). In this case, the role of NLP will not be separated from that of ChatGPT because it is part of NLP. ChatGPT as a tool is particularly useful for English Pre-Service teachers'. AI has the ability to provide guidance and assistance in the academic writing process, ChatGPT is an effective resource for improving writing skills and facilitating academic achievement. With easy and quick access to relevant information, students can utilize ChatGPT as an efficient tool for improving their academic writing skills.

This study is important because the ChatGPT phenomenon has entered the realm of academic writing. Academic writing is very important for students, especially prospective teacher students. Writing academic texts is an activity carried out by an academic to produce academic writing. Yunus et al. (2017), argue that academic writing is one of the steps towards teacher professionalism. The use of AI in academic writing is a growing area of interest, with potential benefits and drawbacks. AI's potential to improve the caliber and effectiveness of academic writing is highlighted by Storey (2023) and Lin (2023), especially when it comes to PhD programs. They do warn against relying too much on AI, though, as this could impede critical thinking and innovation. Using chatbots and AI-based writing tools as their main focus, Donlon and Tiernan (2023) and Rahayu et al. (2024), go deeper into the real-world uses of AI in academic writing. They highlight the potential of AI to improve writing proficiency and meet psychological demands, but they also emphasize the significance of striking a balance between personalized writing techniques and AI support.

Several research clusters exist in the area of ChatGPT use in academic processes. Among them are Research on the ethics of using ChatGPT (Iqbal et al., 2022; Maad et al., 2023), the impact of using ChatGPT (AlZaabi et al., 2023; Dergaa et al., 2023; Wei, 2023), Analysis of the use of ChatGPT for

students (Imran & Lashari, 2023), Use of ChatGPT for Proficiency in English Language Testing (Dao et al., 2023), Use of ChatGPT for academic writing process (Abdullayeva, 2023; Doskaliuk & Zimba, 2023; Setiawan & Luthfiyani, 2023; Tashi et al., 2023; Wahid et al., 2023), Use of ChatGPT for English Foreign Language (EFL) Writing (Fitria, 2023; Han et al., 2023; Nguyen, 2023).

There are some shortcomings in previous research in similar areas of study. Previous research has conducted general research. Previous research has not examined the use of ChatGPT in a more specific English Writing context, such as the academic writing process. In this study, which focuses on the use of ChatGPT in experiences of English Pre-Service Teachers' behavior in the academic writing process, the researcher believes that the use of this technology can provide significant convenience to the quality of students' writing, especially English Pre-Service Teachers.

In reviewing previous research on using ChatGPT in academic writing, several gaps need to be considered. Nguyen (2023), researched to explore the perspectives of EFL teachers at Van Lang University using ChatGPT in writing classes. This study found that EFL teachers at the university were enthusiastic about using ChatGPT in writing lessons. However, this study has a shortcoming regarding the kind of writing class, creating narrative texts, procedures, or academic writing. Criticisms of the study include the view that the research should have focused more on exploring the concrete impact of the interaction between ChatGPT and students in improving EFL students' writing skills. In addition, it is necessary to investigate in depth the barriers and constraints that students face while interacting with ChatGPT, along with the strategies that can be used to overcome these problems. While the use of media in online learning can enrich the experience, research should also recognize the challenges such as speed, clarity, and quality that may arise in this context (Lange, 2020).

Meanwhile, Fitria (2023), this study discusses the use of ChatGPT as a chatbot service to assist in writing English essays. As a criticism, this study can

be criticized for the lack of discussion regarding the ethical aspects of applying AI chatbots in an educational context. In addition, this research does not touch on the important aspect of students' perspectives on the use of this technology, even though students' views will help lecturers and researchers understand how AI technology can be better adapted to their needs. In line with Mokodompit (2021), explains that understanding students' perspectives not only affects the quality of learning but can also help lecturers and students achieve optimal results in the teaching and learning process. Therefore, exploring students' views on learning strategies, especially those involving AI technology, can be an important element for future research in developing a more holistic and responsive approach to learning.

Then the research conducted by Han et al. (2023), discusses the integration of ChatGPT in writing English as a foreign language (EFL). The shortcoming of this research is that it only focuses on the use of ChatGPT in English as a foreign language (EFL) writing education. Students' opinions about using ChatGPT for language learning should be further explored in this study. This study only considers the viewpoints of the teachers; however, including the opinions of the students will also yield a more comprehensive picture of how ChatGPT affects language learning. Furthermore, this study may be critiqued for not going into enough detail on the potential effects of using ChatGPT in language learning on students' capacity for autonomous language understanding and usage. This is important to consider as the use of technology such as ChatGPT can affect the development of students' natural language skills and this study did not discuss the learning experiences of students using ChatGPT in the writing process.

This research aims to fill the gaps identified in previous studies, particularly concerning the lack of exploration of the barriers and constraints in the use of ChatGPT, as well as the impact that writers experience when using the technology. In addition, this study will highlight the experiences and impacts experienced by the authors in using ChatGPT, which have not previously been adequately documented. There are also innovations in this

research, especially in exploring the behavior when identifying plagiarism issues using ChatGPT. The target audience of this research is English pre-service teachers, with the hope that the results can provide valuable insights into the use of ChatGPT in the context of English language learning for prospective teachers.

1.2. Identification of Phenomena

The phenomenon observed was the use of ChatGPT by several English Pre-service Teachers as an aid in the academic writing process. This signifies a shift in the approach to learning and research, where AI technologies are increasingly being integrated with the educational process. By using ChatGPT, students can quickly produce texts that meet academic standards, improve their time efficiency, and access extensive and diverse language resources. However, it is also important to consider the impact of using this technology on creativity, originality, and understanding of the concepts underlying the academic writing process.

There are several issues related to the impact of the ChatGPT on English language education, especially in the academic writing process, from the perspective of students and teachers in universities. The issues raised include:

1. Does the ChatGPT make it easier for English Pre-service teachers in the academic writing process?
2. What are the experiences of English Pre-service Teachers when using ChatGPT in the academic writing process?
3. How do English Pre-service Teachers behave towards the issue of plagiarism when using ChatGPT in the academic writing process?

Departing from the current phenomenon of ChatGPT, which has been widespread in the world of education, this research focuses on exploring the behavior of English Pre-service Teachers using ChatGPT as a tool for the academic writing process. In this era of globalization and technological advancement, students' writing ability is an important skill. Juniarti (2019, p.

187), Argues that “Academic Writing is a study of a particular problem whose purpose of discussion must be able to provide an alternative .” one to the problem”. However, Academic writing is changing in contemporary universities (Tusting et al., 2019). Setiawan and Luthfiyani (2023), provide concrete evidence that ChatGPT with effective prompt writing can help produce better writing.

1.3.Delimitation of Research

This research focuses on what is in the title, namely the behavior of English Pre-service Teachers when using ChatGPT for the academic writing process. The reason for limiting this research is because the use of ChatGPT has a wide research domain in the writing process. Therefore, I did not touch on some aspects of this research. This research does not touch on parts such as the Effect or effectiveness of using ChatGPT or the Accuracy of the quality of writing produced by ChatGPT and This study using ChatGPT 3.5 version, does not lead to ChatGPT version 4 due to user limitations and paid. However, this research is limited to the issues of the experiences and views of the English Pre-service Teachers when using the ChatGPT 3.5 version in the academic writing process.

1.4.Research Questions

Based on the context and delimitation of the above issue, this study attempts to answer the following questions:

1. How does ChatGPT facilitate the academic writing process for English pre-service teachers?
2. What are the experiences of English pre-service teachers regarding the use of ChatGPT in the academic writing process?
3. How do English pre-service teachers respond to plagiarism concerns when utilizing ChatGPT in the academic writing process?

1.5.Aims of the Research

Based on this background, the aims of this research can be formulated as follows:

1. To explain how ChatGPT can facilitate English pre-service teachers in the academic writing process.
2. To explain the experiences that English Pre-services Teachers have when using ChatGPT.
3. To explain the behavior of English Pre-Service Teachers when using ChatGPT in the academic writing process to cases of plagiarism.

1.6. Significances of the Research

This research has the potential to offer benefits to a wide range of people and can be valuable for anyone seeking to gain knowledge from it. The contributions of researchers encompass two primary aspects:

1.6.1. Theoretical Significance

The significance of aspects as observed from the theoretical standpoint in English academic writing:

- 1) This research will provide theoretical insights into a deeper understanding of the role of ChatGPT in academic writing.
- 2) This research will add information about the factors that influence English teacher candidates' decision to use ChatGPT in academic writing
- 3) This research will provide an in-depth understanding of English teacher candidates' experiences and perceptions towards the use of ChatGPT in the academic writing process.

1.6.2. Practical significance

In practical terms, the importance of this study will prove beneficial for:

- 1) For students: this research contributes to students' understanding of ICT literacy using ChatGPT.
- 2) For lecturers: This research can help teachers know the extent to which students often use ChatGPT, how they behave, and how they identify plagiarism issues.
- 3) For Institution: The results of this study can serve as a basis for policy development in educational institutions or related institutions to

strengthen understanding, supervision, and handling of plagiarism in the context of using language technology.

- 4) For Researcher: This research can add new knowledge about the use of ChatGPT in English academic writing.

1.7.Literature Review

The literature review serves as the cornerstone upon which all knowledge is built for a research endeavor. This foundation is constructed by the researcher through the following means:

1.7.1. Teaching English

Teaching is not just about the process of imparting new knowledge to students. Larsen-Freeman and Anderson (2011), argue that teaching involves a blend of mental and social elements. It also includes emotional, practical, cultural, political, experiential, behavioral, historical, spiritual, physical, and personal aspects. In the context of Teaching English, this understanding is crucial because language learning involves these aspects simultaneously.

Teaching English is an educational process that involves delivering English language skills to learners. The approach to teaching English includes a holistic approach to developing the four main English skills: listening, speaking, reading, and writing. According to Delfita and Sasongko (2017), English as a foreign language requires careful consideration of various aspects due to the diversity of first languages in different countries. The presence of distinct native languages in each country contributes to the challenging nature of English instruction in those regions where it is taught as a foreign language (Rahmanita & Mukminatien, 2019).

In English language teaching, it can identify different types of approaches such as the student-centered approach. Tang (2023), argues that the student-centered approach recognizes that learning occurs more effectively when students are actively involved in the construction of their understanding. communicative approach, according to Shah Jabeen (2014), Since the 1970s, the theoretical model considered most effective in English

language teaching is the communicative approach. The conceptual foundation of this approach is the belief that language not only has functional meaning but also has social meaning.

Therefore, not only mastering the linguistic forms is necessary, but also understanding the potential communicative function and social meaning of language becomes very important. and utilization of technology in language learning. In language learning, the utilization of technology involves offering genuine and interactive resources (Zilola, 2023). Essentially, teaching is not just about teaching new knowledge, but also involves the integration of mental and social elements. The approach to teaching English is also holistic, covering the development of four main skills: listening, speaking, reading, and writing. Particularly in teaching English as a foreign language, careful consideration of various aspects is needed due to the different mother tongues in each country. This reality makes teaching English more challenging in countries where it is taught as a foreign language.

1.7.2. English Pre-service Teachers

Equipping individuals to become professional educators is a challenging task, involving an extensive process to attain that level. Aspiring teachers must undergo a phase known as teaching practice, where they engage in instructing a group of students under supervision. This stage represents a crucial situation wherein a teacher in training gains practical experience and guidance while teaching (Gower et al., 2004).

Preparing professional teachers involves academic, pedagogical, and practical aspects that are essential to providing prospective teachers with the necessary skills and knowledge. Febriana (2016), argues that to ensure the effectiveness of the presence of educators and education personnel, the efforts to develop teacher professionalism need to be continuously pursued, one of which is through pedagogy training. Pre-service teachers referred to prospective English teachers. "Pre-service" in this context indicates that they are in the preparation or training stage before actually becoming professional teachers. Pre-service teacher education programs aim to prepare

undergraduate students to become qualified teachers with effective pedagogical skills to meet the increasing demands of the teaching profession (Darling-Hammond et al., 2005).

The understanding of the above theory is that English language pre-service teachers' undergo a specialized education or training program that prepares them to teach English to students in schools or other educational institutions. This process involves mastering teaching skills, understanding the subject matter, and the practical learning required to become a competent educator in the context of English language teaching.

1.7.3. Behavior

Humans are dynamic creatures with their own will and different experiences and behaviors. Human behavior is a complex phenomenon and is influenced by various factors, both innate and learned (Molteni, 2010). Behavior refers to any form of action, reaction, or response exhibited by individuals, organizations, or systems in various contexts or environments (Hogan, 2015). It includes the expression of nervous system activity, involving perceptual, central, and motor mechanisms, and can be analyzed at multiple levels. In the context of this research, the behaviors exhibited by English pre-service teachers in utilizing Technology-Enhanced Language Learning (TELL) in the form of AI.

1.7.4. Technology-Enhanced Language Learning (TELL)

The importance of incorporating technology into the educational process has become more significant, both within and beyond the traditional classroom setting. In the 21st century, technology has been widely used as a teaching and learning tool. This condition requires teachers and students to be comfortable with technology and internet searches. Teachers and students who do not adapt to technological advancements risk falling behind or failing to improve their competencies (Waloyo et al., 2022b). Nashruddin and Mustaqimah (2020), argue that the development of technology possibly influences the way we look at English language teaching and learning. Perspective is referred to as technology-enhanced language learning (TELL),

a concept that originated in the early 1990s at the University of Hull and similar endeavors. The term 'technology-enhanced language learning and teaching' as introduced in this volume encompasses the utilization of various digital technologies, beyond computers, for language education (Sadeghi, 2023). According to Ibrahimi et al. (2023), citing the definition of TELL is the technological innovation of using computers to illustrate multimedia as an additional teaching and learning tool.

TELL according to the above description refers to the use of technology in language learning contexts to enhance students' learning experience. It involves the integration of various technology tools and platforms to effectively support language teaching and learning. TELL has several key characteristics that distinguish it from traditional approaches to language teaching. TELL encourages the use of various technological tools, such as mobile applications, online platforms, and language learning software Warschauer and Healey (1998). Several types of TELL usage need to be discussed namely: Computer-Assisted Language Learning (CALL), Mobile-Assisted Language Learning (MALL), Web-Based Language Learning (WBL):

1) Computer-Assisted Language Learning (CALL)

highlights the role that computers play in language learning. To help pupils become more proficient in language, software, programs, and internet resources are used. CALL can involve a variety of activities, including grammatical exercises, speaking simulations, and online interactions and teaching English language teaching and learning by using the help of computer programs/devices commonly referred to as (Nurwahidah et al., 2014).

2) Mobile-Assisted Language Learning (MALL)

focuses on the use of mobile devices, such as smartphones and tablets, to support language learning. This approach leverages the diversity of mobile applications, portable online learning platforms, and

interactivity of mobile devices to create a flexible language learning experience that fits the connected lifestyle of students.

3) Web-Based Language Learning (WBL)

Focuses on utilizing online resources and web-based applications to support language learning. This includes online language learning platforms and interactive resources accessible through a web browser.

The English language learning process is significantly enhanced through the integration of CALL, MALL, and WBL within the TELL framework, and now the emergence of Artificial Intelligence (AI) is also having an impact on language learning.

1.7.5. Artificial Intelligence (AI)

Nowadays, not only humans are intelligent but machines can also perform human-like tasks. This is commonly called Artificial Intelligence (AI). According to McCarthy (2004), AI involves the study and development of intelligent machines, specifically sophisticated computer programs. At the same time, it shares similarities with attempts to use computers to understand human intelligence. MahaLakshmi (2022), claims that the study of artificial intelligence (AI) is a branch of science and technology that creates intelligent computers and machines that can do a variety of jobs that would normally require human intelligence.

Artificial Intelligence (AI) has characteristics of Thinking Humanity, Thinking Rationally, Action Humanity, and Acting rationality (Russell et al., 2010). From the definition above, it is clear that AI can perform tasks like humans, as for the process of how AI can perform tasks like humans, including Machine Learning and Deep learning.

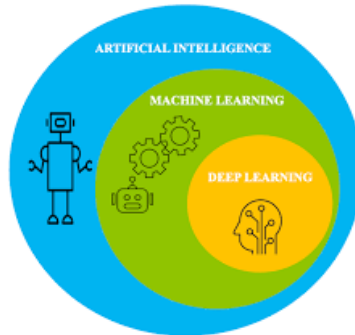


Figure 1.1 Part of AI

1.7.5.1. Machine Learning

It is undeniable that machines are also capable of learning like humans. Machine learning, according to Samuel (1959), is the branch of research that gives computers the ability to learn without explicit programming. Mahesh (2018, p. 1) argues that “Machine learning (ML) is used to teach machines how to handle the data more efficiently”.

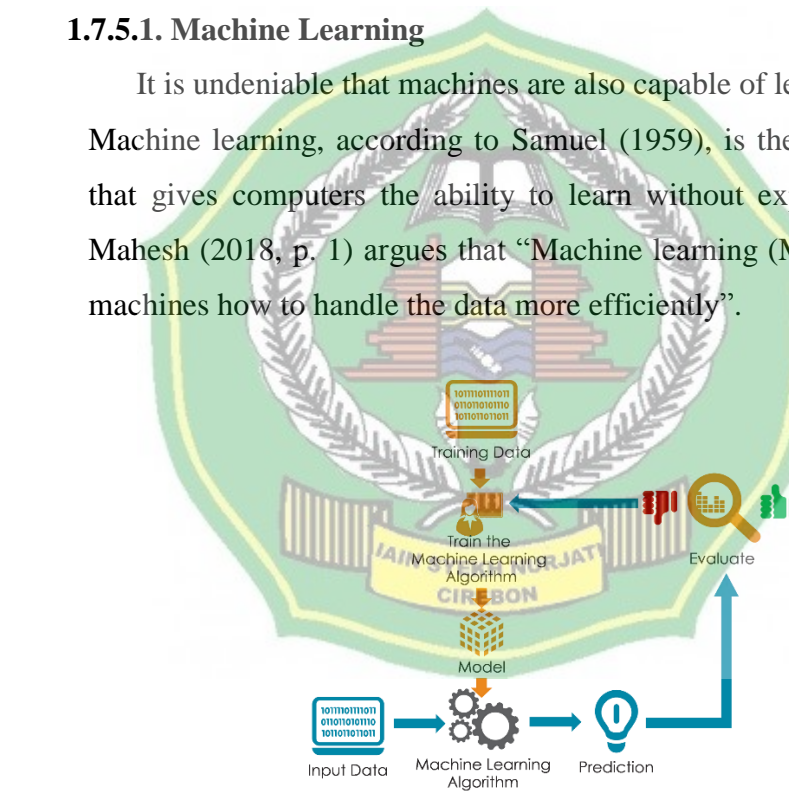


Figure 1.2 How Machine Learning does work

Machine learning operates by leveraging algorithms to analyze and learn patterns from data, eliminating the need for explicit programming. The process involves collecting and preprocessing relevant data, selecting suitable features, choosing an appropriate machine learning model, training the model on the data, evaluating its performance, and fine-tuning as necessary. Once trained, the model can make predictions or decisions

on new data, and the iterative nature of the process allows continuous refinement for improved accuracy and generalization.

1.7.5.2. Deep Learning

Deep learning is a branch of machine learning that models and resolves complicated issues using artificial neural networks. Deep learning, a branch of machine learning, gives computers the ability to understand the world through a conceptual hierarchy and learn from experience. (Kim, 2016).

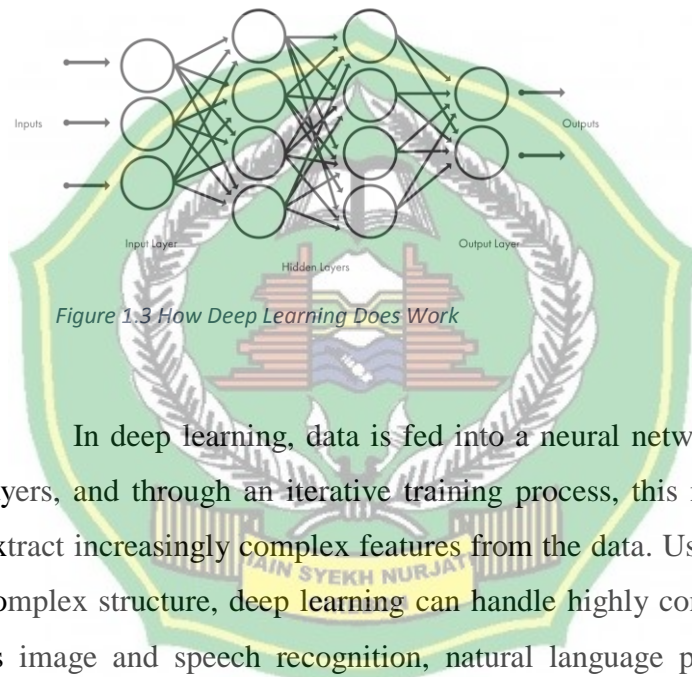


Figure 1.3 How Deep Learning Does Work

In deep learning, data is fed into a neural network with multiple layers, and through an iterative training process, this network learns to extract increasingly complex features from the data. Using this deep and complex structure, deep learning can handle highly complex tasks, such as image and speech recognition, natural language processing (NLP), pattern recognition, and more, without the need for manually engineered features.

1.7.5.3. Fundamentals that spearheaded the creation of AI

From the theories above there are things that are the basis for the creation of artificial intelligence (AI). Russell et al. (2010), in their book entitled *Artificial Intelligence: A Modern Approach*, namely:

a) Philosophy

Since philosophy seeks to address fundamental issues like existence, knowledge, and value, it plays a significant role in the development of artificial intelligence (AI). Gaining insight into these

ideas is essential for developing AI systems that can think, learn, and behave like people. Deeper foundations for the creation of advanced AI technologies can be formed by AI professionals designing algorithms and models that represent their understanding of human ideas, knowledge, and actions by considering these philosophical problems.

b) Mathematics

From this angle, mathematics is essential to the development of artificial intelligence (AI). Philosophers first studied some of the fundamental ideas in artificial intelligence (AI), but to move more quickly toward becoming a more rigorous scientific field, there needed to be some formalization of mathematics in three major areas: probability, computing, and logic. Thus, mathematics plays a crucial role in the development of artificial intelligence (AI), offering a formal framework for the conception, evaluation, and application of AI technologies.

c) Economic

Artificial intelligence (AI) can make decisions in the economic realm. AI can assist humans in the decision-making process by analyzing massive data, identifying patterns, and predicting potential outcomes based on different scenarios.

d) Neuroscience

The foundation of artificial intelligence (AI) is built upon the study of neuroscience, especially the brain. The goal of artificial intelligence has always been to mimic human thought processes. Artificial intelligence (AI) has its roots in the fundamental question of how the brain processes information. AI experts can develop algorithms and models that mimic human cognitive abilities by understanding the principles of neural interaction and information processing. Researchers' capacity to build ever more complex systems that mimic and explain human cognitive processes via a grasp of neuroscience provides a solid foundation for advancements in artificial intelligence in the future.

e) Psychology

The development of artificial intelligence (AI) heavily relies on psychology, the study of human behavior and mental processes. Understanding human ideas, feelings, and behaviors as well as the variables affecting mental and emotional states is its primary goal. A basic question in the development of AI is how animals and humans think and behave. To develop models and algorithms that effectively represent human brain processes, artificial intelligence (AI) researchers need to have a firm grasp of the psychological foundations of human emotion, behavior, and cognition.

f) Computer Engineering

Intelligence and tangible things are two essential elements needed to build artificial intelligence (AI). The computer has been selected as the artifact for this purpose. Artificial intelligence has benefited greatly from computer engineering, which has made it possible to create systems that can interpret data and act in an autonomous manner that is comparable to that of humans.

g) Control Theory and Cybernetics

The domains of control theory and cybernetics explore systems that can be configured or operated to achieve certain goals. □ □ The theoretical and methodological foundations of control theory and cybernetics, which enable the creation of autonomous, adaptive, and learning systems, aid in the development of artificial intelligence technologies.

h) Linguistics

Particularly in the advancement of computational linguistics and natural language processing (NLP), linguistics plays a crucial role in the development of artificial intelligence (AI). Scientists can create models and algorithms that enable artificial intelligence to communicate with human language in ever more complex and organic ways by merging computational methods with linguistic principles. Since it makes it

possible to create systems that can successfully communicate and interact with humans, linguistics is thus emerging as a key component of artificial intelligence.

1.7.6. Natural Language Processing (NLP)

Not only humans, but machines can also produce language just like humans. The field of computer science, artificial intelligence, and linguistics known as "natural language processing" (NLP) is concerned with the points where computers and human (natural) language converge and interact. (Reshamwala et al., 2013). According to Chowdhury (2003), The study of language processing, or NLP, looks at how computers may be used to understand and manipulate natural language speech or text for practical reasons.

Therefore, we conclude that NLP is a process of how machines can speak like humans. To compile a language like humans there are several stages of analysis carried out by the machine to get maximum results. The following are the stages of analysis in NLP according to Dale and Robert (2010) :

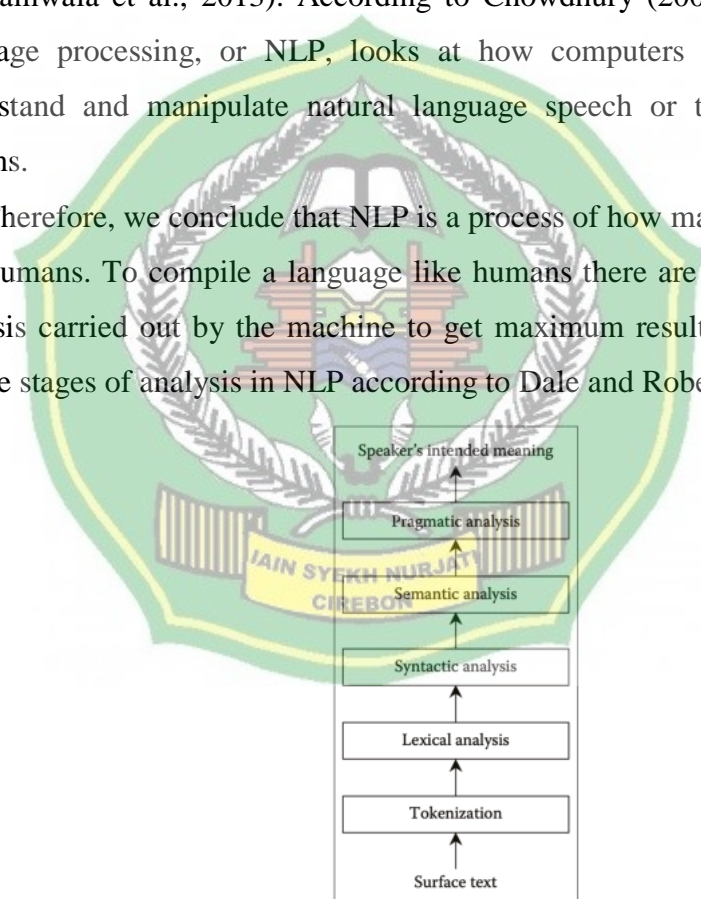


Figure 1.4 The stage Analysis linguistics in NLP

A methodical way to comprehend how linguistic concepts are used in NLP tasks is offered by Dale's framework. Researchers and NLP practitioners can better understand the unique language obstacles and strategies associated with each stage of the analytic process by using this stage-based perspective.

- 1) **Tokenization:** The first step in the process is called tokenization, which is the division of text into tiny pieces known as tokens. Tokens can be other symbols, words, or punctuation.
- 2) **Lexical Analysis:** An early step in text processing in natural language processing (NLP) is lexical analysis, which identifies and classifies the basic linguistic units—words, numbers, punctuation, and others—in text. Converting complicated text into a series of computer-interpretable tokens is the primary objective of lexical analysis.
- 3) **Syntactic Analysis:** It focuses on how the words in a sentence come together to form a coherent grammatical structure. It involves determining the syntactic relationships between words in a sentence, including the subject, predicate, object, and phrase.
- 4) **Semantic analysis:** often referred to as "meaning understanding", is a stage in natural language processing (NLP) that focuses on the meaning contained in text. This stage goes beyond the grammatical structures analyzed in syntax and aims to understand the true meaning of words and sentences in a given context.
- 5) **Pragmatic analysis** is the final stage in natural language processing (NLP) that focuses on the meaning communicated in a particular context. It goes beyond the literal understanding of language and considers various non-linguistic factors to understand the intent of the speaker or writer.

1.7.6.1. Type of NLP

There are several types of NLP that we currently often use including Question Answering, Machine Translation, and Large Language Models (LLMs) :

a) Question Answering

Ojokoh and Adebisi (2019), argue Question Answering (QA) Technology is a specialized domain within the realm of information retrieval. Question answering offers Natural Language Processing (NLP) in a cloud-based format, enabling the establishment of a

natural conversational interface for your data. This technology is employed to discover relevant responses either from customer inquiries or project-related input (Microsoft, 2023).

b) Machine Translation

Machine Translation is a subset of computational linguistics that seeks to automatically render text from one language to another through the use of a computing device (Mahesh, 2018). Machine translation is a system wherein a computer converts a source sentence into a target sentence (Park et al., 2020).

c) Large Language Models (LLMs)

ChatGPT became a controversy in the academic world, due to its ability to process good language. In ChatGPT, it turns out that there is a technology called Large Language Model (LLM). A large language model (LM) is a model designed to predict the likelihood distribution across a given set of text. Serapio-García et al. (2023), argue the advent of large language models (LLMs) has transformed natural language processing by enabling the creation of text that closely resembles human language. Large language models such as ChatGPT can perform various language-related tasks, such as text completion, language translation, summarization, question answering, and even creative writing.

1.7.7. ChatGPT

The current development of NLP may have reached a limit that can make the academic world more vigilant due to the emergence of the Generative Pre-training Transformer or what we often call ChatGPT. ChatGPT is an NLP model created by OpenAI, employing a vast dataset to produce textual responses to inquiries, feedback, and cues from users. (Gilson et al). it can simulate a conversation with students to provide feedback, answer questions, and provide support. conversation with students to provide feedback, answer questions, and provide support (OpenAI, 2022).

A fundamental aspect of ChatGPT lies in its proficiency to generate responses that flow logically and align with the context, contributing to a more authentic conversational ambiance. Imran and Lashari (2023), argue that The application of ChatGPT not only enhances comprehension of grammar and syntax but also tailors writing styles, ultimately expediting the writing process through automation and saving valuable time. The fact that ChatGPT can autonomously produce content that closely resembles text crafted by humans is noteworthy and surprising (Wolfram, 2023). ChatGPT works using a Transformer-based approach, which is also used in large language models (LLMs) such as GPT-3.

1.7.7.1. How to use ChatGPT

In introducing the use of ChatGPT, for individuals who are interested in exploring, but feel confused about where to start, the following guidelines are presented. The following steps are taken from zapier.com written by (Jessica, 2023).

1) Create OpenAI Account

To initiate the utilization of ChatGPT, the initial procedure involves registering for a complimentary OpenAI account. This process entails navigating to the chat.openai.com site and selecting the SignUp option. The user can opt for either their email address or, as an alternative, to log in utilizing their Google or Microsoft account. Opting for the email address alternative prompts the user to undergo phone verification, ensuring confirmation of their human identity and mitigating the potential presence of automated bots. If you already possess an OpenAI account, simply click on the "Log In" option to commence the chatting process.

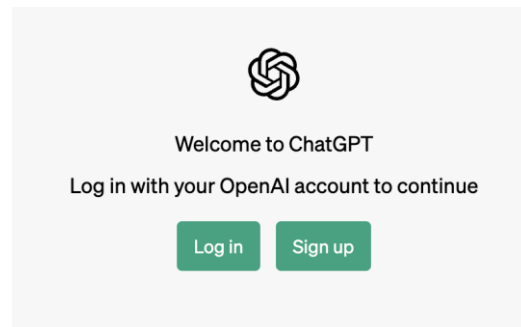


Figure 1.5 ChatGPT log-in interface

2) Ask ChatGPT Questions

Input your ChatGPT prompt, which is the text query, into the message bar located on the homepage. Subsequently, press Enter or click the send icon, represented by an image resembling a paper plane, to submit your query and receive a response from ChatGPT.



Figure 1.6 ChatGPT Interface

3) Interacting with ChatGPT responses

Please provide the text generated by ChatGPT in response to the question about creating a good paragraph in academic writing, and I will assist you in refining it into a more scholarly format or offer insights on academic writing techniques.

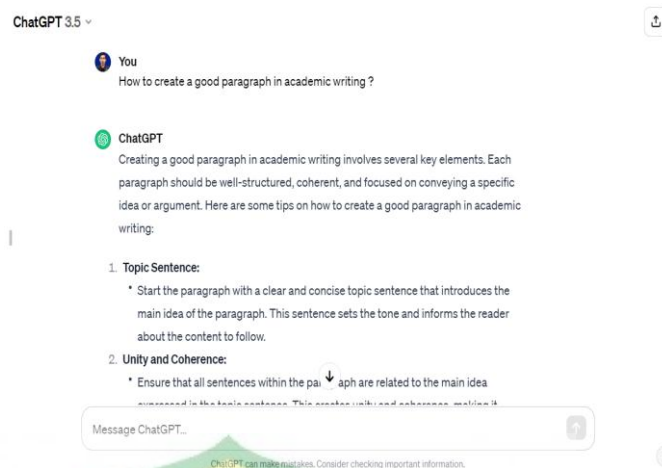


Figure 1.7 ChatGPT Result Interface

4) Result and copy

Please read the output again, and then you can copy the text.

1.7.7.2. ChatGPT in English Language Teaching and Learning

There are several things that chatGPT can do in the process of learning and teaching English including:

1) Assignment and Writing Correction

ChatGPT can assist in the correction of student assignments and writing. Students can use the model to get immediate feedback on grammar, spelling, and sentence structure. Fang et al. (2023), argue ChatGPT has an uncanny ability to recognize errors in writing and seamlessly correct them to make sentences smoother. With ChatGPT, students can complete assignments more efficiently by searching for references and generating ideas. Dergaa et al. (2023, p. 615) "ChatGPT and other NLP technologies can potentially enhance academic writing and research efficiency". This reduces the time required to read academic materials such as journals and books.

Nonetheless, it is important that students still understand the material and appreciate the originality of their work (Susilawati et al., 2024). With LLMs' excellent language skills, the ChatGPT can also be used as a tool to assist in correcting student writing. As per Geher (2023), it is mentioned that ChatGPT can review and enhance student writing by proposing corrections in terms of grammar, syntax, and spelling errors. This functionality serves to enhance the overall quality of students' writing while minimizing errors.

2) Sentence and Paragraph Formation

Students can use ChatGPT to get examples of good sentences or paragraphs, helping them understand grammatical structures and idea development. Research conducted by Prasetya and Syarif (2023), demonstrated that students' proficiency with grammar and sentence structure improved as a result of receiving tailored feedback, leading to more organized and sophisticated language production all around. In a study by W. Dai (2023), ChatGPT was discovered to produce comprehensive and logical feedback for students, exhibiting a strong alignment with assessments provided by human instructors.

3) Vocabulary and Speaking Skills

ChatGPT can assist in expanding students' vocabulary and provide examples of using words in sentences. Students can also practice speaking skills with this model. The ChatGPT allows for the provision of feedback that can improve students' abilities, as Dai et al. (2023), emphasize the importance of feedback that covers specific language needs, especially in terms of grammar, vocabulary, fluency, and overall language proficiency. ChatGPT can assist students in translating text from or into English. It can support comprehension of foreign texts or help students practice constructing sentences in English.

4) Translating

ChatGPT is a very useful tool for translating text between different languages, including English Language. Using advanced machine

learning technology, ChatGPT can provide accurate and contextualized translations. In the study carried out by Martiana et al. (2023), From the results and discussion, it can be concluded that out of a total of 25 data, 20 data, or 80% are considered accurate translations, while the remaining 6 data or 20% are categorized as inaccurate translations. Therefore, it can be concluded that the level of translation accuracy using ChatGPT can be considered adequate, reaching a level of 80%.

5) Writing Process

English writing is a hard talent that requires extensive information and time to master. Teachers need tools to stimulate pupils to write and help them organize ideas into sentences (Waloyo et al., 2022a). ChatGPT can be a tool in the writing process both academic and non-academic. ChatGPT is a useful tool to have around when writing. The development of English language proficiency can be greatly aided by the use of ChatGPT in self-paced learning. that receiving personalized feedback aids students in developing their vocabulary and sentence structure, as well as their comprehension of grammar rules and linguistic accuracy. Furthermore, ChatGPT's tailored instruction can help students become more self-aware so they can assess their language usage and make reasonable progress targets (Prasetya & Syarif, 2023).

1.7.7.3. ChatGPT for Academic Writing Process

The use of ChatGPT in academic writing can provide additional help and support for various stages in the writing process. Here are some ways to utilize ChatGPT in academic writing:

1) Idea and Outline Development

As we know when looking for ideas in the writing process it is very difficult and requires hard and creative thinking, with the GPT English chat pre-service teachers easily find new ideas for their research. According to Zen et al. (2023), When writing a first draft of a scientific article, ChatGPT is a highly helpful tool that can even

propose possible titles. By providing raw information, ChatGPT can assist in drafting sections on the methods used in the study, validating sample sizes, and describing data analysis techniques in detail. Its ability to process information and understand context makes it a valuable assistant for academic researchers and writers in developing better-quality scientific papers. The main utilization of ChatGPT by students revolved around brainstorming ideas and exploring information (Ngo, 2023).

2) Sentence and Paragraph Compilation

ChatGPT proves to be very effective in the process of editing, formatting, and language editing. Some researchers have recognized ChatGPT's ability to understand patterns and structures common in scientific writing (Crokidakis et al., 2023; Lal, 2023; Shafiee, 2023). It is capable of turning very complicated sentences into clearer ones in a fast and efficient manner.

In addition, ChatGPT is also able to summarize the entire text, speeding up the overall editing process. With its advanced ability to understand and process language, ChatGPT becomes a valuable tool for writers and editors to improve the quality of their writing (Zen et al., 2023). demonstrates ChatGPT's ability to perform cross-language summarization, where the model tends to prioritize detailed information, while still being able to balance informativeness and compactness with the help of interactive prompts (Wang et al., 2023). The conclusion that can be drawn from this is that ChatGPT has great potential in text summarization, but still requires further exploration and refinement.

3) Literature Analysis and Understanding

ChatGPT can assist in analyzing literature and understanding its context by providing story summaries, character and theme analysis, and explaining difficult-to-understand terms or concepts. According to Prasetya and Syarif (2023), Agues about ChatGPT By concluding the

text, I can fill in the blanks and deduce information that is implied, which helps me to comprehend the author's intended meaning.

By reading between the lines, one can conclude and gain deeper insights into the text's meaning. Understanding text structures like cause-and-effect or problem-solution has improved my ability to absorb written content quickly. This skill aids me in pinpointing the central concepts and discerning the interconnections among them, facilitating a more efficient understanding of the content (Prasetya & Syarif, 2023).

4) Argument Development

ChatGPT can assist with vocabulary acquisition by providing specialized terminology tailored to various contexts, including academic, professional, and social environments. It can also examine the understanding and utilization of prefixes, suffixes, and root words to broaden vocabulary. Karakose (2023), states that in the context of educational research, ChatGPT can play a role in generating ideas and formulating hypotheses. However, it is important to be mindful of the limitations of this technology, including the reliability of the content it generates as well as the ethical considerations associated with its use. Through interactive conversations and explanations, ChatGPT can facilitate a deeper understanding of how words are formed and used, aiding in the expansion and refinement of vocabulary skills in diverse settings. (Prasetya & Syarif, 2023)

5) Editing and Refinement

As we know ChatGPT can produce high-quality language and it is not uncommon for ChatGPT to be used as a tool for editing and improving academic writing. Large Language Models (LLMs) are beneficial to researchers from a variety of backgrounds, although non-native English speakers particularly benefit from using LLMs. They are an invaluable tool for writing and revising, raising the standard of academic writing. (Meyer et al., 2023). In addition, Meyer et al. (2023), explain how LLMs use particular prompts to give evaluations a higher

degree of flexibility. The LMM can be questioned to explain the grammatical faults found by asking questions like "Can you explain the type of grammatical errors that have been detected?"

1.7.7.4. The Impact of ChatGPT on the academic writing process

The effects that can be expected when using chatGPT for academic writing. Several important ethical concerns, such as the possibility of prejudice, plagiarism, and false information, are brought up when using ChatGPT in scientific and academic writing. (Guleria et al., 2023; Ocampo et al., 2023). A literature study regarding the use of ChatGPT in academic writing by Jarrah et al. (2023), emphasized the significance of using technology responsibly. To avoid plagiarism, this also entails the requirement for accurate reference and attribution. When utilizing ChatGPT, this research collectively highlights how crucial it is to correctly utilize citation procedures and reference standards to effectively attribute sources. (Suppadungsuk et al., 2023).

1.7.8. Academic Writing

In the academic world, writing is a mandatory requirement that must be fulfilled by students. Engaging in academic writing represents one of the more intricate challenges that university students task (Vancouver Island & Campbell, 2019). Roen (2008), defines academic writing as writing that fulfills an educational purpose either at school or at university. Prihatmi (2017), argues that academic writing is done for the improvement of skills in learning, or the evaluation of learning, as well as for the publication of scientific articles. Academic writing is the form of writing commonly utilized in high school and college courses. It diverges from creative writing in that narrative essay writing follows a more structured and systematic pattern (Hogue & Oshima, 2008).

According to Hogue & Oshima (2008), in his book entitled Introduction to academic writing. Level 3. states that there are stages

when doing academic writing, Prewriting, Organizing, Writing, polishing, revising, and editing.

a) Pre-writing

Prewriting is an efficient way to generate ideas, and one useful strategy is to list. This entails starting a piece of paper with the topic at the top and quickly listing any words or phrases that immediately spring to mind.

b) Organizing

Writing the ideas down into a simple outline is the next step in the writing process. To provide a clear roadmap for the ongoing development of the written work, this step entails constructing an organized framework that describes the essential themes and their logical sequence.

c) Writing Process

Once your thoughts are organized in your outline, the following step is to use the outline as a guide to create a rough draft. Write this first draft quickly, without stopping to think about syntax, spelling, or punctuation. The main goal is to get your thoughts down on paper as quickly as possible. It is usual to find many flaws in your rough draft but keep in mind that this is just a draft and nothing more. This is something you can fix as you go through the next round of editing.

d) Polishing: Revising and Editing

This stage, also known as editing and revising, involves polishing your written work. Two separate steps are the most efficient way to polish a surface. First, take care of serious issues with structure and content (editing). Then concentrate on the finer points, such as punctuation, grammar, and mechanics (editing). This methodical approach guarantees a thorough enhancement of your work by addressing tiny technical problems as well as important structural aspects.

1.7.8.1. Types of Academic Writing

The Following are some types of academic writing :

1) Journal Article

An article is a piece of writing that presents the results of a study or research systematically, addressed to a specific audience in society. The aim is to convey the results of the study and the author's contribution to the reader for consideration, review, and discussion, both orally and in writing (Suryoputro et al., 2012). Journal articles can be research reports, literature reviews, methodological analyses, or theoretical discussions on a topic. journal articles are not the only academic output that is accepted or encouraged, they have a prominent position.

2) Thesis and Dissertation

Theses and dissertations are two types of scholarly works used in academic settings to obtain a bachelor's, master's, or doctoral degree. Thesis are usually shorter and more focused, often original research under the guidance of a supervisor. According to Setiyani et al. (2020), a Thesis is a scientific paper that must be completed by students to obtain a bachelor's degree. A dissertation, on the other hand, is a larger and more in-depth work, often includes original contributions to knowledge within a specific field of study, and requires broader analysis and expansion than a thesis.

A dissertation is the final project of every doctoral student as one of the requirements to complete the Doctoral degree. requirement to complete the Doctoral degree. In the process of completing the study, doctoral students must go through a comprehensive examination, a dissertation proposal examination, three stages of the dissertation, and three stages of dissertation examinations, namely the Eligibility Examination, Closed Examination, and Open/Promotional Examination. Closed Examination and Open Examination/Promotion, all of which are attended by the promovendus (Hasanuddin, 2022). Both theses and dissertations require a deep understanding of the chosen subject, as well

as the ability to organize and present information clearly and systematically.

3) Academic Essay

An essay is a short piece of writing that expresses the writer's views, thoughts, or arguments on a particular topic. As a response to a topic, called a prompt, an essay is a piece of text written to convey ideas in a detailed and organized manner (Mathias & Bhattacharyya, 2020). Writing a good essay is a very valuable skill. According to Oshima and Hogue (2006, cited in Nofriati (2017)), Essays typically include three basic sections: an introduction (one or more paragraphs), a body (usually two or more paragraphs), and a conclusion (concluding paragraph).

4) Lab Report

A lab report is a type of writing that describes how an experiment is carried out in a controlled setting. An unambiguous title, abstract, goals, techniques, results and discussion, references, appendices, and proper formatting are essential components of a lab report. Lab reports present the results and analysis of an experiment or research conducted in a laboratory systematically and scientifically (R. Bullock et al., 2021).

5) Research Proposal

proposals are ideas that offer a solution to some problem. Every proposal is an argument; you propose a solution to persuade others to consider, and hopefully accept, your solution to the problem. This section explains the key elements of a proposal and provides tips for writing a proposal (R. H. Bullock et al., 2021). In the context of research, a research proposal details information about the background of the study, the objectives of the research, the methods to be used, the targets to be achieved, and the potential impact of the research on the development of knowledge in the field. According to Vasanthakumari (2021), argues to a research proposal is a written document that outlines a research problem, explains its significance, presents proposed methodologies for addressing

the problem, and, if seeking funding, details the estimated cost of conducting the study.

1.7.9. Previous Studies

There is some study related to English Pre-Service Teachers' Behavior using ChatGPT for Academic Writing Process (Fitria, 2023a), "Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay". (Han et al., 2023), "RECIPE: How to Integrate ChatGPT into EFL Writing Education". (Nguyen, 2023), "EFL Teachers' Perspectives toward the Use of ChatGPT in Writing Classes: A Case Study at Van Lang University".

The use of artificial intelligence makes the English writing process more efficient. (Fitria, 2023), This research discusses the ability of ChatGPT to produce English essays, including the types of essays that can be produced such as descriptive, recount, and resolution. ChatGPT can be used to produce good English essays, especially for certain types of essays such as descriptive, recount, and resolution. However, this study did not discuss the experience of students in the process of academic writing such as scientific papers and research proposals, in the current study will explore, the experience of English pre-service Teachers in using ChatGPT in the process of Academic Writing.

How to integrate ChatGPT in an English writing class. (Han et al., 2023). In this study, The majority of students expressed satisfaction with using ChatGPT for general, academic, and essay-writing needs. However, it was difficult for students who didn't know anything about LLM to expect ChatGPT to locate foundational texts for their essays. This research does not address potential ethical or privacy issues that may arise from the use of AI models in education, in the current study will explore the behavior of English pre-service Teachers related to ethical issues and plagiarism.

Teacher Perspective on the use of ChatGPT for the English writing process. (Nguyen, 2023), this study stated that ChatGPT is a useful tool in

creating learning resources and planning writing lessons, as well as reducing teachers' workload and increasing students' learning motivation. However, they also expressed some concerns regarding the use of ChatGPT in language learning, such as ethical issues and technological limitations. This study focused on teachers while the current study focuses on English Pre-Service Teachers' behaviors and views when using ChatGPT in the academic writing process.

This study intends to cover gaps mentioned in earlier studies, specifically the absence of investigation into the barriers and limits in the usage of ChatGPT, as well as the impact that writers have while utilizing the technology. Furthermore, this study will highlight the authors' hitherto undocumented experiences and impacts using ChatGPT. This study also includes novel innovations, particularly in evaluating behavior while recognizing plagiarism issues with ChatGPT. This study's target audience is English pre-service teachers, with the intention that the findings will provide significant insights into the usage of ChatGPT in the context of English language acquisition for future teachers.

1.7.10. Frame of thought

In this study, the researcher found from phenomenon using ChatGPT for academic purposes. From this phenomenon, this study examines the behavior of English pre-service teachers in using ChatGPT for the Academic Writing Process. This figure illustrates the behavior of English Pre-Services Teachers in using ChatGPT for the Academic Writing Process.

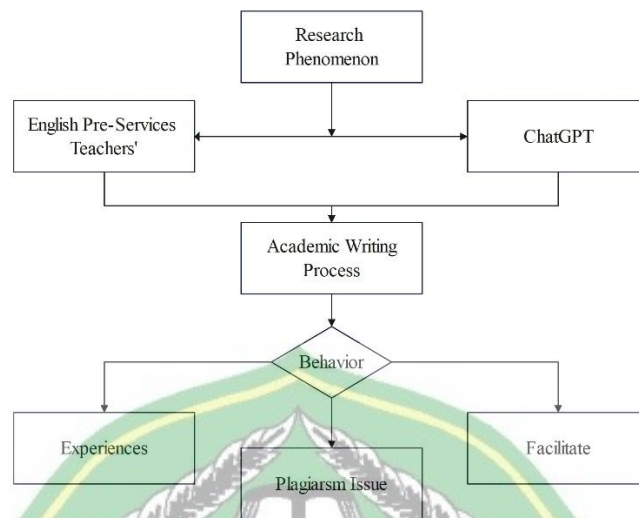


Figure 1.8 Frame of thought

1.8. Research Method

This research uses a phenomenological qualitative method, Phenomenological research is a frequent qualitative methodology. Phenomenological scholars seek to describe living experiences. The study aims to capture the core of the human experience through detailed descriptions of participants' own experiences. Phenomenologists, like other qualitative researchers, are concerned with understanding and recording the study participants' social and psychological viewpoints (Lodico et al., 2010). Phenomenological researchers aim to capture the ordinary experiences of the people under study. Research techniques that focus on written explanations or closed questionnaires as surveys as pre-observation to identify phenomena that occur then observation and in-depth interviews. The participants of this study were prospective English teacher students who had entered the final semester of the 2020 batch of 45 respondents and were doing the academic

writing process. then, 9 respondents were selected for in-depth interviews. Data were analyzed using recapitulation: questionnaire and interview data.

This study explores the use of ChatGPT in the academic writing process. The purpose of this study is to identify English pre-service teachers' experiences through data collection of questionnaires, observations, and in-depth interviews supported by document analysis. Once the objectives of the research are explained, they should be understood as an outline or concept to understand the entire procedure involved in conducting the research. The procedures used in this study were modified from Lodico et al. (2010) :

- 1) Identifying a research topics or research focus
- 2) Conducting Literature Review
- 3) Data Collection
- 4) Data Analysis
- 5) Interpreting and disseminating results

1.8.1. Sources and type data

The data source for this study was English pre-service teachers. Especially in the final semester who are doing the academic writing process. 45 respondents were doing academic writing. 9 respondents were then selected for in-depth interviews. Then the type of data is documents and recording becomes the process of entering the data. Observations, interviews, and documents are some of the types of data obtained (Lodico et al., 2010).

Resource	Specification	Type of Data
English Pre-service Teachers	<ul style="list-style-type: none"> • Final semester class of 2020 • Performing academic writing process • Ever used ChatGPT 	Questionnaire Observation Checklist <i>(Document)</i> Interviews <i>(Recording)</i>

Table 1.1 Source and Type data

In addition to the primary data from the questionnaires, observation, and in-depth- interviews, document analysis was also the main foundation of this research. A comprehensive literature review was conducted to understand the conceptual framework, gain an in-depth understanding of previous studies, and identify the knowledge gaps that might be filled by this research. The literature provides a theoretical context that supports the interpretation of data, connects the research results with previous findings, and strengthens the arguments put forward.

A literature study was conducted to obtain detailed data sources. In more detail, a literature review provides a structured and well-organized search of published data, aiming to evaluate the depth of relevant references related to a particular issue (Grewal et al., 2016), whether online or print-based sources, a literature review involves different types of references (Lodico et al., 2010).

- 1) Articles or Journals
- 2) Government reports and technical reports
- 3) Conference Proceedings and Papers
- 4) Book References
- 5) Monographs
- 6) Books (general circulation)
- 7) Masters' and Doctorals' Theses
- 8) Website

These sources are useful as references to assist researchers in finding appropriate information to achieve the objectives of this research. Although not all types of sources need to be explored, researchers are selective in choosing sources that are relevant to their research.

1.8.2. Data Collection Technique

This study adopts an approach that combines a questionnaire, Interviews, and document analysis. The selection of these methods aimed to gain an in-depth understanding of topic research from the participants'

perspective while utilizing the theoretical foundation that had been developed in previous literature.

1) Questionnaire

In the early stages of this research, the researcher analyzed the phenomenon of using ChatGPT in the context of the academic writing process. To collect data, The researcher distributed a questionnaire to English pre-service teachers. According to Lodico et al. (2010), In some studies, baseline or background information is often collected before observation are conducted through the use of questionnaires.

To obtain specific primary data for the identification of phenomena, the researcher employed questionnaires comprising 25 items. Each item in the questionnaire presented four alternative answers, symbolized as:

1 = never (tidak pernah)

2 = sometimes (kadang - kadang)

3 = often (Sering)

4 = always (Selalu)

The reason the researcher chose to use a closed-ended questionnaire was to increase efficiency in the research as well as to select the most relevant participants for the next stage of the research, which was in-depth interviews. This questionnaire aimed to strengthen the validity of the data related to the phenomenon being observed, by collecting measurable and concrete information about the respondents' experiences towards the use of ChatGPT in the academic writing process.

2) Observation

Observation is a design for general data about activities, and behaviors, and generally focuses on the setting. The observation is intended to find out how English pre-service teachers use ChatGPT as a tool in the English academic writing process. This observation will get natural data.

3) Interviews

After the data collection process using the questionnaire & observations, this research will involve ten participants who provide the most relevant

answers to be interviewed in depth regarding the phenomenon of using ChatGPT in the academic writing process. According to Lodico et al. (2010), When it comes to exploring more nuanced opinions, expertise, or experiences, interviews might offer more in-depth information than questionnaires. Semi-structured interviews are the sort that were performed, and based on Lodico et al. (2010), Semi-structured interviews are often carefully planned before they are conducted. Beforehand, researchers develop an interview protocol that includes a list of questions or topics to be discussed with all participants. Semi-structured interviews are scheduled with predetermined times, dates, and topics. Through these interviews, the aim is to gain a deeper, valid, and accurate understanding of their experiences and perspectives on the phenomenon. In-depth interviews are considered important in enhancing the richness of data and strengthening the interpretation of research results. By delving directly into the experiences of individuals, this study hopes to gain a richer and more thorough insight into the phenomenon being researched.

4) Document Analysis

Document analysis came next, after in-depth interviews with the people who had been chosen. This procedure entailed writing up the interview transcripts and conducting more research on the information gleaned from the interviews.

Document Analysis was used as a theoretical and contextual foundation to support the questionnaire findings. Creswell (2012), argues about documenting both public and private records acquired by qualitative researchers concerning a specific site or participants in a study. Document analysis was also conducted on relevant documents to gain additional insights and support the qualitative findings from the questionnaires. The documents that the researchers analyzed were observation documents, questionnaire documents, articles, and scientific journals relevant to the research.

1.8.3. Data Analysis Technique

According to Lodico et al. (2010), The procedures for qualitative data analysis vary based on study objectives and approach, however, the following steps are typical throughout most studies:

1. Gathering and organizing data.

The first step in data analysis is to ensure that the data is in a format that can be easily studied. The researcher undertook different levels of data preparation based on the time and resources available. the type of interview data was recorded, so the preparation involved translating the recorded information into written form.

2. Analyzing and exploring the data.

In this step, researchers analyze the data that has been obtained after being converted into transcripts and documents. Researchers used software called NVIVO version 12 as a tool to analyze the research data.

3. Coding the data into categories.

Coding identifies interrelated segments of data and labels them with broad category names. Inductive data analysis involves evaluating several small pieces of information and abstracting their relationships. The data that has been transcribed and documented is entered into the NVivo12 software, the researcher codes the data, and the data findings are labeled and categorized so that they match the research objectives.

4. Reporting and evaluating information.

The final step in qualitative data analysis is to write the study report, which includes the researcher's interpretation of the data. Qualitative research is typically presented in a narrative format, making it more engaging to read.

1.9. Timeline of Research

NO	Activities	Month																				
		Oct	Nov	Dec	Jan	Feb	Mar	Apr														
1	Identification Phenomenon	█	█																			
2	Preparing Research proposal		█	█	█																	
3	Instrumental Development Research Proposal					█																
4	Taking care of administration and research permits.																					
5	Revision													█								
3	Data Collection													█	█	█						
4	Data Analysis																█	█				
5	Interpreting data analysis																			█	█	
6	Revision																					█

Table 1.2 Timeline of Research

1.10. Coding

Lodico et al. (2010), defined coding as the process of identifying various data segments to label them with general category names and describe related phenomena.

Table 1.3 Codes of Respondent

No	Code	Initial	As
1	R1	LZ	English Pre-Services Teacher
2	R2	RX	English Pre-Services Teacher
3	R3	IE	English Pre-Services Teacher
4	R4	HFS	English Pre-Services Teacher
5	R5	NZS	English Pre-Services Teacher
6	R6	DM	English Pre-Services Teacher
7	R7	SG	English Pre-Services Teacher
8	R8	SN	English Pre-Services Teacher
9	R9	HN	English Pre-Services Teacher