CORRELATION BETWEEN FREQUENCY OF CHATGPT USAGE AND ACADEMIC WRITING MOTIVATION OF ESL LEARNERS

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APPROVAL SHEET

This research paper attached hereto, entitled Correlation Between Frequency Of Chatgpt Usage and Academic Writing Motivation of ESL Learners prepared and submitted by Yong Mei Wei 2005236 in partial fulfilment of the requirements for the Bachelor of Arts (Hons) English Education (ED) is hereby accepted.

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ABSTRACT

This paper presents the findings of the relationship between frequency of ChatGPT usage and motivation to develop academic writing. This cross-sectional correlational study involves 236 ESL learners in a private university in Perak, Malaysia as participants. Based on the responses collected through an online questionnaire, the findings indicates a strong and positive correlation between the participants' ChatGPT usage and their academic writing motivation. Using ChatGPT for developing writing skills is perceived to ease writing, increase confidence, enhance independence with writing task. These findings denotes the role of ChatGPT as a digital more knowledgeable other (MKO) that scaffolds them within their Zone of Proximal Development (ZPD) in the writing process. Utilising ChatGPT for academic writing satisfies their needs for competency and autonomy, which are the fundamental constructs of the Self-Determination Theory (SDT). The results provided insights to the that integrating AI tools like ChatGPT into ESL academic writing development enhances their motivation. ESL learners, educators, policymakers, educational technology developers may consider leveraging such technologies to boost motivation and create personalised learning experiences. In conclusion, ESL learners who use ChatGPT frequently are more motivated to develop their academic writing skills.

Keywords: ChatGPT, Academic Writing, ESL Learners, Zone of Proximal Development (ZPD), Self-Determination Theory, Competency, Autonomy

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LIST OF ABBREVIATIONS

Abbreviation	Full Term
ESL	English as a Second Language
ZPD	Zone of Proximal Development
SDT	Self-Determination Theory
ESP	English for Specific Purpose
EFL	English as a Foreign Language
SPSS	Statistical Package for Social Sciences

Chapter 1: Introduction

1.1 Background of the Study

Technology in today's world has revolutionised education. As the world becomes more connected and dependent on technological advancements, technology has become a crucial factor in shaping transformative learning experiences within education. It serves as a key enabler for innovation, enhancing how knowledge is acquired and shared (Kalyani, 2024). Information technology has become a key factor in spreading knowledge and is a major driver of education reforms. The introduction of new learning tools, such as educational applications, websites, mobile devices, smartboards, Massive Open Online Courses (MOOCs), tablets, laptops, simulations, dynamic visualisations, and virtual laboratories, has transformed how education is delivered in schools and institutions. In this 21st century, these innovations provide opportunities for more interactive, engaging, and personalised learning journey, reshaping traditional educational models and enhancing accessibility. It offers numerous opportunities to enhance modern education. Unlike the traditional classroom instruction, it often lacks the immediacy, rapid feedback, and high engagement levels that are characteristic of digital learning tools and technologies (Haleem et al., 2022). As a result, it can potentially impact on how students learn and how teachers incorporate technology into their teaching methods. By leveraging technological tools, a broad spectrum of educational topics can be covered, significantly enhancing the overall learning experience. According to Hussain et al. (2024), the availability of technology in education empowers students to access a wide range of instructional materials with ease anytime and anywhere. Currently, a trending technology—artificial intelligence (AI)—transforms education on a global scale. From a conceptual standpoint, artificial intelligence (AI) encompasses the structured application of algorithms that process data inputs and transform them into specific outputs (Ifenthaler at al., 2024). Its impact includes influencing various aspects of education, such as the teaching and learning processes,

student outcomes, as well as assessment and grading practices. Studies have reported that AI is having a profound impact on the future of higher education, as it demonstrates greater efficiency than humans in areas such as replacing educators, promoting learning independence, improving academic achievement, and detecting plagiarism (Slimi, 2023; Sasikala & Ravichandran, 2024).

A prime example of this transformative AI technology is ChatGPT. It is a chatbot developed by Open AI, an American artificial intelligence company, and launched in 2022 (Caulfield, 2024). It is a natural language processing (NLP) system designed to facilitate human-like interactions by analysing conversational context and generating contextually relevant and coherent responses (Deng & Lin, 2022). It is frequently used now due to its advanced capabilities, making itself one of the most prominent and widely recognised systems in the current educational contexts, particularly in tertiary education level.

In university and colleges, the common factors students use ChatGPT include performance expectancy, perceived usefulness, social influence, optimistic attitude toward technology, and facilitating conditions, in which all these factors are highly relevant and beneficial for education purposes (Alshammari & Alshammari, 2024; Abdaljaleel et al., 2024). In simpler terms, they use ChatGPT by typing their inquiries into the chatbot and use the information provided for various purposes. For example, students can use ChatGPT to brainstorm ideas for composition. They can input their ideas and requirements into the chatbot to receive text-based suggestions for expanding existing ideas, finding inspiration, and obtaining feedback on their ideas (Mosaiyebzadeh et al., 2023). To work with text, a study by Črček and Patekar (2023) found that students even use ChatGPT to paraphrase sentences, summarise articles and proofread their work to determine its appropriateness or effectiveness. Although the free version of ChatGPT is not equipped with an automatic referencing function, it can help to create references and citations when given the details of a source. For advanced

users, they can opt for the paid version of ChatGPT that cites its sources for increased credibility (Batt, 2024). These are the features that are commonly utilised by students throughout their academic journey.

In the context of their academic journey, it is essential to recognise the significant impact that writing skills have on students' success and personal growth. Among the four language skills—reading, writing, speaking, and listening—writing requires special attention due to the fact it requires the ESL learners' ability to express language in written form by creating phrases, sentences, paragraphs and essays with proper grammar, punctuation, organisation and clarity. These skills are important to effectively convey the writer's intended message to inform, report, or persuade. For the tertiary-level students, they ought to be familiar with academic writing skills. The significance of academic writing includes learning, understanding, applying, summarising and synthesising novel information (Defazio et al., 2010). In the case of the university and college students, they require academic writing skills for their academic responsibilities and coursework which includes report writing and referencing. Universities often emphasise academic writing skills to the extent of establishing special courses and centres to help students enhance this skill (Sulaiman, 2022). This skill is required regardless of their choice of major; writing in English is necessary for all students in either their core or elective subjects or even both. In the long run, students who are willing to put effort into polishing this skill helps them to improve their academic performance because they can critically analyse, process and evaluate the knowledge they are exposed to.

However, with the rise of artificial intelligence (AI), students have an additional aid for academic writing. The emergence of ChatGPT, which can act as a writing tool, creates a connection with students' writing motivation. This NLP analyses and generates words, phrases, and sentences that provide specific information based on the user's description, which in turn enhances their writing process. Seifert (2004) suggested that the perception of students'

motivation could be behaviour patterns and influence. ChatGPT can lead to many desirable behaviours of students to enhance their writing skills via appropriate influence. It can be from aiming to compose a perfect essay to finding the most accurate wording and even to achieving an award with the power of writing. Therefore, motivation is crucial for progressing towards proficiency in writing. Academic writing motivation is shaped by several factors that help students stay engaged and confident. This includes building positive beliefs about writing, using real-world writing tasks, and creating a supportive environment. Motivation is also influenced by students' confidence, goals, interest in the task, and views on success and failure. Additionally, motivation connects to the social aspect of writing, where feeling competent, independent, and connected to others plays a significant role (Bruning & Horn, 2000; Troia et al., 2012; Russell, 2023).

1.2 Statement of Problem

In Malaysia, many students struggle to develop writing skills due to its complex nature. Specifically, academic writing is often seen as unengaging and overly formal, particularly for learners whose first language is not English, necessitating more practice. Undergraduates face specific challenges in vocabulary, coherence, and paraphrasing, arising from limited English proficiency, mother-tongue interference, insufficient practice, ineffective teaching strategies, and the medium of instruction (Lin & Pua, 2024). Rosida and Istiqomah (2024) stated that the other notable difficulties in mastering academic writing skills for ESL learners include frequent grammatical and punctuation errors, struggles with organising structure, developing ideas, and selecting appropriate vocabulary. Such issues impede their ability to produce fine academic English and effectively compose scientific papers. Additionally, students who struggle to achieve their writing goals may experience a loss of confidence and a decline in self-motivation

(Nguyen et al., 2024; Baharudin et al., 2023). These difficulties significantly affect their academic performance and contribute to low motivation to engage with academic writing.

Due to that, this study seeks to examine the use of AI, particularly ChatGPT, as a tool to motivate undergraduate students in developing their academic writing skills. While studies have explored the impact of ChatGPT on academic writing and student motivation across various contexts (Song & Song, 2023; Wang et al., 2023), there remains limited understanding of how its usage influences motivation specifically among ESL learners. This gap is particularly evident in the Malaysian context, where English as a second language poses unique challenges. Investigating how ChatGPT can motivate learners and support their academic writing skills is crucial to addressing these persistent issues. Hence, the finding of this study could potentially shed some light in assisting them to improve their academic writing skills.

1.3 Research Objective

1. To examine the relationship between frequency of using ChatGPT and ESL learners' motivation to develop academic writing skills.

1.4 Research Question

1. Is there any significant relationship between frequency of using ChatGPT and ESL learners' motivation to develop academic writing skills?

1.5 Significance of the study

This study could benefit ESL learners in the aspect of technology-integrated writing skill learning. They may be empowered to use ChatGPT, a modern and efficient tool and be positive in developing their English writing skills. As they realise it is a helpful tool, they may

be motivated to engage in their assignments and produce better-quality work. Also, they can make good use of this AI-powered assistant for their overall language development. To mitigate the risk of over-reliance on AI tools, universities must establish clear policies regarding their use in academic work. ESL learners or students must recognise that AI-generated information is not always reliable and must adhere to university guidelines on ethical AI use and academic integrity (Universiti Tunku Abdul Rahman [UTAR], 2024). They should always research and find evidence to back up the information suggested by AI tools to study the reliability and validity of information from past studies. While AI tools are beneficial, over-reliance on them would hinder students' development in critical thinking and editing skills (Trisnawati et al., 2023). Thus, students should recognise the importance of editing for varied word choice and sentence structures in academic writing for demonstrating language proficiency, conveying complex ideas and maintaining reader interest as the sentence structures given by AI tools often lack diversity.

As for educators, the findings may allow them to know the helpfulness of ChatGPT for students and encourage them to use it as an assistant for their academic tasks. Its ability to provide large amounts of information is effective in prompting students to progress in their writing. The educators' role in the teaching and learning process is to promote effective tool use and address underlying issues. This means educators should provide students with guidance on how to utilise AI tools for specific purposes, including detailed context and well-established information. This will ensure a comprehensive demonstration of the ethical use of AI tools in academic settings. Also, Aljuaid (2024) stated they should clearly explain to the students the goals of using AI chatbots as a supplementary learning assistant. At the same time, educators should explicitly communicate generative AI tools usage policies, emphasising the permissible and impermissible applications of them. In other words, educators may consider this

technology as a friend, instead of a foe since it is a relatively new technology that could benefit them in their teaching as well.

In addition to the significance for ESL learners and educators, knowing the students' motivation in using AI tools enhances personalisation of learning as these tools provide tailored support to individual needs that prioritise their learning needs and goals (Neji et al., 2023). Learners get to express their unique requirement of information needed to achieve a particular purpose. Furthermore, recognising students' motivation can help in creating more engaging and motivating learning experiences when students get immediate feedback and increased efficiency (Aljuaid, 2024). This encourages students to self-regulate their learning according to their own pace.

1.6 Definitions of Key Terms

1.6.1 ChatGPT

ChatGPT is a natural language processing (NLP) system created by Open AI to comprehend conversational context and to provide users with responses that resemble human communication (Deng & Lin, 2022). In the context of this study, ChatGPT is viewed as a tool to motivate undergraduate students to develop and essentially improve their academic writing skills.

1.6.2 Academic Writing

Academic writing is a writing style that states facts and ideas in a formal, objective, and technical language (University of Sydney, 2023). Similarly, this study defines academic

writing as one of the many writing skills that undergraduate students should have in order for them to produce a high-quality piece of writing for their assessment.

1.6.3 Motivation

Motivation is a directed internal force that influences peoples' behaviour, thoughts, and feelings (King, 2011). In this study, motivation focuses on undergraduates' attitudes towards their intention to develop academic writing skills in order to improve their academic performance especially in regards to their continuous assessments.

1.7 Scope and Limitations of Study

The current study will represent ESL students from a private university in Kampar, Perak, Malaysia. It is small-scale sample research that requires 80 ESL learners from all faculties. The scope of the current study includes the frequency of ChatGPT usage, motivation to develop academic writing skills and the technology of artificial intelligence and the use of AI in assisting learning. Hence, its findings could specifically provide insights into students from one university only

As for the limitations of this study, the findings may only be applicable to ESL students in this private university only in this due to access and time limitation to collect data. Factors that will affect the study outcomes could be the writing proficiency, language background, individual preferences, and digital literacy of ESL learners. Thus, the findings of this study may only provide insights about a particular group of ESL learners. This study focuses on ChatGPT's use in academic writing, but it may not address the reliability of the content

generated by ChatGPT, nor the specific challenges ESL learners encounter in their writing processes.

1.8 Hypothesis

There is a positive correlation between the frequency of ChatGPT usage and motivation to develop academic writing skills among ESL learners.

Chapter 2: Literature Review

2.0 Introduction

This literature review discusses and reviews existing literature related to the concepts of this research. The topics covered in this chapter include writing skills among ESL learners, writing skills with ChatGPT, AI tools supporting academic writing, impact of ChatGPT usage on academic writing motivation, and theories related to the study.

2.1 Writing skills among ESL Learners

To produce language in written form, ESL learners encounter numerous challenges to effectively convey their ideas (Fareed et al., 2016). They need this skill to create concepts and write down mental representations to build meaningful connections (Akhtar et al., 2024). To achieve writing goals, learners need to develop basic language mechanics such as word choice, punctuation, capitalisation and grammar to ensure clarity and accuracy (Luby & Southern, 2022). Apart from clarity, it also needs coherence and cohesions for neat presentation and effective reading that can be done by utilising cohesive devices. Coherence refers to the logical sequencing and appropriate organisation of a composition, whereas cohesion pertains to the seamless connection of ideas (British Council, n.d.). Considering of the process of transmitting information involves reading, writers must also take into account the writing style and target audience to fit their needs and background. Hence, these aspects for writing are helpful for pieces of writing for general and specific purposes.

As for academic writing, Wilson (2022) states that it is a formal style of writing that factual and educational. This writing styles often requires critical thinking in the process for research, arguments and ideas in academic settings. An important aspect of academic work is integrity, which involves ethical and technical considerations. ESL learners should remember never to claim other authors' work as theirs and always to cite original authors to give them

credit. The elements of academic writing include text, author, research problem, methodology, arguments, implications, terminology, assertions, evidence, citation, analyses and responses. Text serves as the central element in academic writing, and understanding it is essential for grasping the arguments, as it forms as the foundation of the arguments. Wilson (2022) also lists down three kinds of academic writing: the single-source paper, the multi-source paper and the research paper. In the context of this study, research papers are most relevant to ESL learners in university whereby they reference, discuss and expand existing knowledge on a specific topic. As a result, their writing contributes to continuing field of academic study.

2.2 Writing skills with ChatGPT

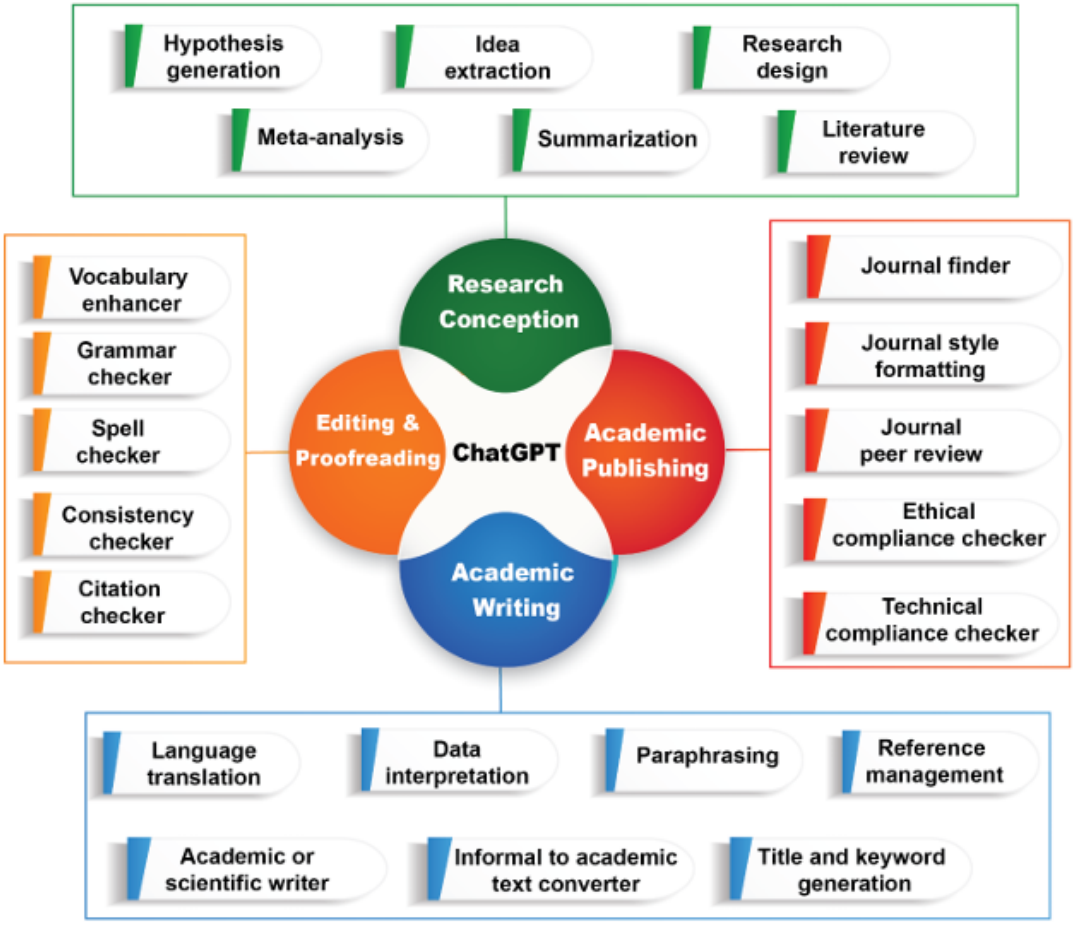
ChatGPT's ability to comprehend, interpret, and produce human-like language makes it an easy and effective way for people to prompt their compositions (Ray, 2023). Due to its popularity, many people are discussing their opinions about ChatGPT usage in research papers (AlZaabi et al., 2023). This is a trending topic in academia due to its significance since its emergence. Since then, it has been used for language skills learning purposes such as writing for academic assignments and research. According to Lund and Wang (2023), ChatGPT's efficacy of producing feedback or ideas in a few seconds requires far less time to compose essays than traditional writing. This AI tool feature of categorising ideas through subtopics makes users easily organise their thoughts for a full essay with minimal input. This carries implications for students using ChatGPT as a starting point for their writing on any topic. As an interaction-based writing tool, it is designed to appear able to understand authentic input by humans and respond according to keywords, just like ELIZA, a computer program developed by Joseph Weizenbaum in the 1960s (Fryer & Carpenter, 2006). Such a technology-assisted writing process gives students personalised required content, helpful feedback, and engaging interaction (Aydın Yıldız, 2023). In a study by Song and Song (2023), findings reveal the usage

of ChatGPT enhanced the writing skills of students in the aspects of organisation, coherence, grammar, and vocabulary. Generally, their writings are polished and improved with clarity and conciseness. These findings emphasise the helpfulness of using technology to aid language learning.

Having extensively discussed ChatGPT's role in supporting academic writing, the following illustration provides a summary for a comprehensive overview. Figure 2.1 explains what ChatGPT can help in writing for different purposes like academic writing, academic publishing, research conception, as well as editing and proofreading with the detailed usages stated.

Figure 2.1

ChatGPT's Applications in Academic Writing and Publishing



Note. From *Artificial Intelligence in Academia, Research and Science: ChatGPT as a Case Study* (p. 10-61), by M. Zohery, 2023, Novabret Publising (https://doi.org/10.5281/zenodo.7803703). Copyright 2023 by Creative Commons Attribution 4.0 International

2.3 AI Tools Supporting Academic Writing

Various AI tools serve distinct functions throughout the stages of academic writing, including pre-writing, writing, and post-writing processes. This section will classify the purposes of using AI tools in academic writing according to the stages which are brainstorming, drafting, editing and proofreading—such as for literature reviews, writing assistance, editing and proofreading.

Firstly, ESL learners use AI tools to brainstorm ideas for their writing content. The topics discussed in essays are usually from reviewing relevant studies. AI tools are transforming traditional research methods by enabling more efficient literature reviews of academic papers (Wagner et al., 2022). Traditionally, it is required to go through the process of finding relevant studies, assessing the reliability of selected resources, analysing the identified themes, planning the organisation of the review and writing a comprehensive literature review (McCombes, 2023). However, people can now employ AI tools to brainstorm ideas about their topics of interest. Examples of AI tools for literature review include Consensus, Connected Papers and SciSpace. They help students quickly find and synthesise relevant academic papers, visualise connections between studies, and understand complex scientific texts. By typing a topic into the search engine of any AI tool specialised in aiding literature review, themes and explanations are generated rapidly for users to collect and screen information to their liking. These tools enhance precision by classifying and summarising vast data without overlooking significant studies (Atkinson, 2024). The automation of screening

resources highly increases the efficiency of conducting a literature review by reducing the time and effort needed (Feng et al., 2022).

Next, students can use AI as a writing assistance tool for drafting and writing. Drafting is essential for organising thoughts and ensuring a logical flow, resulting in clearer and more impactful writing. This process allows students to refine their arguments early and ensure their ideas are conveyed effectively. AI writing tools like Co-pilot, Gemini and Afforai assist by generating outlines in structures according to given topics. These tools also expose many ideas, allowing students to discover points from different perspectives (Khalifa & Albadawy, 2024). This can let them refine their arguments early in writing to convey their ideas. Students can make a few drafts before writing to produce higher-quality output when choosing the best draft (University of Lynchburg, n.d.). During the writing stage, AI tools enhance language use at the word, sentence, and paragraph levels. They suggest alternative word choices, synonyms, and varied syntax to improve variety and avoid repetition. Moreover, students can receive feedback from real-time AI tools to adjust their writing approach accordingly. Whether it is writing tone or topic relevance, the feedback helps students to have a better context and stay on the main idea.

Finally, AI tools serve a vital role in editing and proofreading academic writing. These tools help students to refine their writing by identifying and correcting errors. AI tools can effectively identify errors that may have been missed during the writing process. Three examples of editing and proofreading AI tools are Grammarly, Turnitin and QuillBot. Tools like Grammarly are widely used to catch a range of errors in grammar, punctuation and spelling and provide corrected versions to polish formal writing for professionalism. It cannot help students to think or write; Nevertheless, it allows students to identify repeated problems, diminish them and track their progression (Zinkevich & Ledeneva, 2021). Moving on to Turnitin, it is an operating system that specialises in detecting plagiarism and examining

academic works for ethical writing. It pinpoints occurrences of duplicated or inaccurately cited materials, avoiding students' dishonesty to take credit for other authors' writing (Aditya et al., 2023). Turnitin vividly displays a clear picture of plagiarism by highlighting the plagiarised parts and concluding the plagiarism percentage in the entire work. On the other hand, another popular AI paraphrasing writing tool is Quillbot. It not only eases the paraphrasing process but also replaces improper word choice with suitable synonyms and rewrites sentence structures (Kurniati & Fithriani, 2022).

2.4 ESL Learners' Motivation to Develop Academic Writing Skills

Motivation is undeniably a contributing factor towards learning language skills. Gardner and Lalonde's (1985) view of language learning motivation embarks on three main elements, which are the want, the effort, and the attitude towards learning the language. They argue that all three (3) components are essential to adequately represent motivation, which arises from the effort made, the aspiration to achieve language learning goals, and positive attitudes toward the process. For example, a student who aims to write an essay might actively seek out sample essays, consult teachers or peers, and approach the task with optimism to enhance their writing progress. Apart from that, Ryan and Deci (2000a) stated being motivated means having the drive or willingness to take an action. They categorised motivation into different types based on the various reasons or objectives that inspire a particular action which are intrinsic and extrinsic motivation. Intrinsic motivation involves engaging in an activity because it is inherently enjoyable or interesting, while extrinsic motivation involves performing a task to achieve a distinct outcome or benefit (Nickerson, 2023). A student driven by intrinsic motivation learns a language out of genuine interest and enjoyment, deriving internal satisfaction and positive emotions from the process. Such students are more likely to engage in long-term learning and show a willingness to progress independently toward higher language

proficiency. In contrast, extrinsic motivation occurs when a student puts effort into language learning to achieve external rewards, such as higher grades or gifts from teachers or parents. These external incentives encourage the student to complete necessary but less engaging tasks associated with language learning. This distinction highlights the fundamental differences between intrinsic and extrinsic motivation (Mitchell, 2013).

Specifically, motivation to develop academic writing skills is influenced by both internal and external factors. Research by Troia et al. (2012) identifies four (4) major aspects of human motivation in the field of academic writing: self-efficacy beliefs or perceived competence, orientations toward mastery and performance goals, interest in and value of tasks, and explanations for success and failure. In the context of this study, self-efficacy beliefs refer to ESL learners' perceptions of their ability to produce a polished and informative paper. This positive self-perception encourages them to engage in the writing process towards learning, mastery and performance goals (Dweck & Leggett, 1988, as cited in Troia et al., 2012, p. 9). Additionally, their engagement is driven by their interest on the writing tasks that they find valuable (Pintrich & Schunk, 2002, as cited in Troia et al., 2012, p. 11). Finally, ESL learners' attributions regarding the success and failure of their writing efforts impact their performance. When they believe their efforts will lead to positive result, they are more likely to succeed in academic writing (Borkowski, Weyhing, & Carr, 1988; Weiner, 1985, 1986, as cited in Troia et al., 2012, p. 11).

2.5 Impact of ChatGPT Usage on Academic Writing Motivation: Insights from Recent Studies

This section reviews recent research, exploring how different approaches—such as quasi-experimental designs, mixed methods, and quantitative analyses—have contributed to understanding the influence of ChatGPT on writing proficiency and motivation.

In recent years, studies about ChatGPT, motivation, and language learning have been conducted (Wei, 2023; Song & Song, 2023; Aydın Yıldız, 2023; Ali et al., 2023; Lashari et al., 2023). The findings of these studies are interrelated due to their consistent outcome, and they have the same viewpoint regarding the influence of ChatGPT towards learners' motivation for English language learning. As for the distinction between their research, Aydın Yıldız (2023) employs a different research approach compared to all other researchers. The employment of a pre-test and post-test experimental control group quasi-experimental design allows them to see the contrast between the achievement before and after the experiment and see if students are more motivated by the integration of ChatGPT in lesson activities. The studies by Wei (2023) and Song and Song (2023) stand out from other researchers because they used mixed methods for their studies with both qualitative and quantitative data analysis. This enables their study to provide a better overview of ChatGPT and language learning motivation. According to Wei (2023), the findings indicate that AI-facilitated education enhances English learning outcomes, second language motivation, and self-regulated learning. As for the findings of Song and Song (2023), the quantitative analysis indicates remarkable improvement in writing proficiency and motivation among students who underwent AI-assisted instruction relative to the control group while the qualitative analysis reveal varied opinions, including acknowledgment of AI's unique instructional function and its beneficial impact on writing abilities and motivation, with concerns over contextual correctness and excessive dependence.

Moreover, Süğümlü et al. (2019) highlighted the role of writing motivation level plays in learners' writing skills. Their study reported that students who achieved high writing evaluation scores were the ones who had high writing motivation. Furthermore, the study conducted by Aryanika (2016) discovered that the motivation of eleventh-grade students at Senior High School Utama Wacana Metro is connected positively to their writing ability. Although the study by Ziahosseini and Salehi (2008) revealed that extrinsic motivation has no significant correlation with the choice of language learning strategies of Iranian students, they were meaningfully correlated with intrinsic motivation. On the other hand, Ali et al. (2023) and Lashari et al. (2023) adopted quantitative research methods and collected data via questionnaires for their studies. Using online questionnaires for data collection is efficient because it is a self-administering way of providing information to the participants at their own pace regardless of time and location. It is a flexible way for the participants to contribute to the research. Their findings support the notion by previous researchers that ChatGPT significantly impacts learners' language learning motivation. However, their studies could have investigated how it affects a particular language skill, specifically writing in an ESL context. Therefore, this study focuses on academic writing in the Malaysian context, where English holds the status of a second language.

2.6 Theories Related to Study

This section explains the theories used in this study: Zone of Proximal Development (ZPD) and Self-Determination Theory of Motivation. Both frameworks explain the learning process and the factors influencing motivation, which are central to understanding the correlation between ChatGPT usage and ESL learners' academic writing motivation.

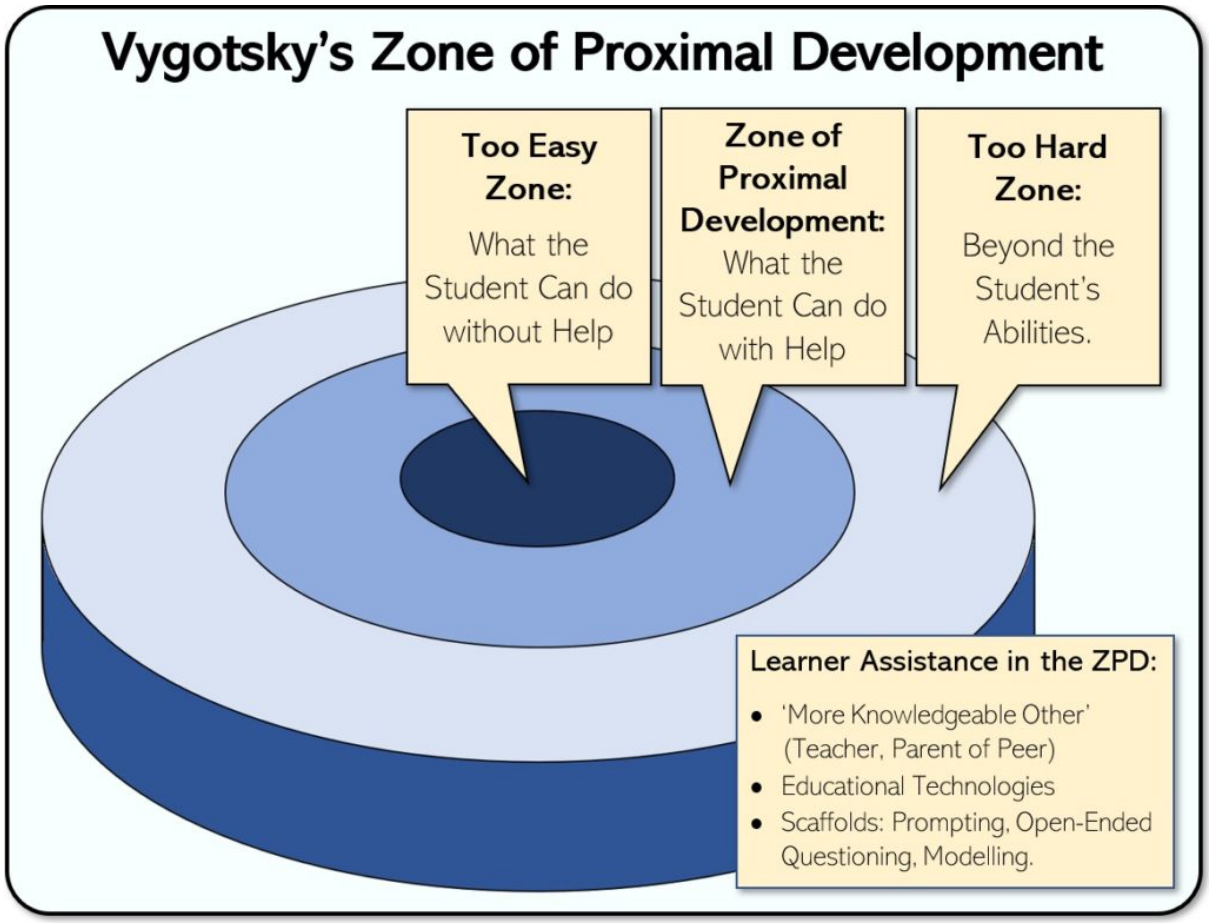
To begin, the ZPD is a theory developed by Lev Vygotsky, a Soviet psychologist in 1978. He was an iconic figure in sociocultural theory, which highlights the formation of cooperative conversations between children and more knowledgeable members of society. According to Vygotsky, human behaviour occurs within cultural contexts and cannot be comprehended in isolation. Human interaction influences their cognitive development in terms of learning and thinking. The ZPD is the space between what a learner can accomplish independently and what they can achieve with educational guidance and support from a more knowledgeable other who are commonly adults and peers. This interaction is driven by the difference in knowledge and skill levels, with the instructor playing a key role in helping the learner progress toward greater competency. As for Vygotsky, he defined the ZPD as:

> *It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (Vygotsky, 1978, p. 86)*

Another term commonly associated with the ZPD is scaffolding, introduced by Wood et al. (1976). Scaffolding refers to the process that allows learners to resolve issues, conduct tasks and accomplish goals beyond their ability. The presence of an adult to regulate the aspects of a task that are out of the learners' reach allows learners to focus on and settle their task by reaching their maximum competency. The activities that an adult, teacher or more experienced peer provides to help learners go through the ZPD are known as scaffolding. Figure 2.2 below illustrates the three zones of learning, whereby the ZPD highlights the importance of learner assistance for them to achieve learning goals that exceed their current abilities.

Figure 2.2

Illustration of Vygotsky's Zone of Proximal Development



Note. From *15 Zone of Proximal Development Examples,* by D. Cornell, 2024, Helpful Professor (https://helpfulprofessor.com/zone-of-proximal-development-examples/). Copyright 2024 by Helpful Professor.

In the context of this study, the ZPD provides a theoretical lens to comprehend how ChatGPT plays the role of scaffolding for ESL learners in scaffolding. This AI writing tool serves as educational guidance that offers personalised feedback and immediate support, assisting learners to close the gap between their present writing skills and potential abilities. Similar to how Vygotsky's ZPD highlights the value of help from more experienced people,

ChatGPT functions as both a virtual assistant and a writing mentor by offering examples, corrections, and recommendations to help students advance toward increased writing proficiency (Ghafouri et al., 2024).

On the other hand, the Self-Determination Theory (SDT) is a theory that addresses learners' motivation. It is a framework for studying human motivation that focuses on needs through the interplay of intrinsic and extrinsic factors: the need for competence, autonomy, and relatedness (Ryan & Deci, 2000b; Woolfolk, 2021). These three (3) needs are essential for fostering intrinsic motivation, which is the key to engaging in the process of achieving learning goals.

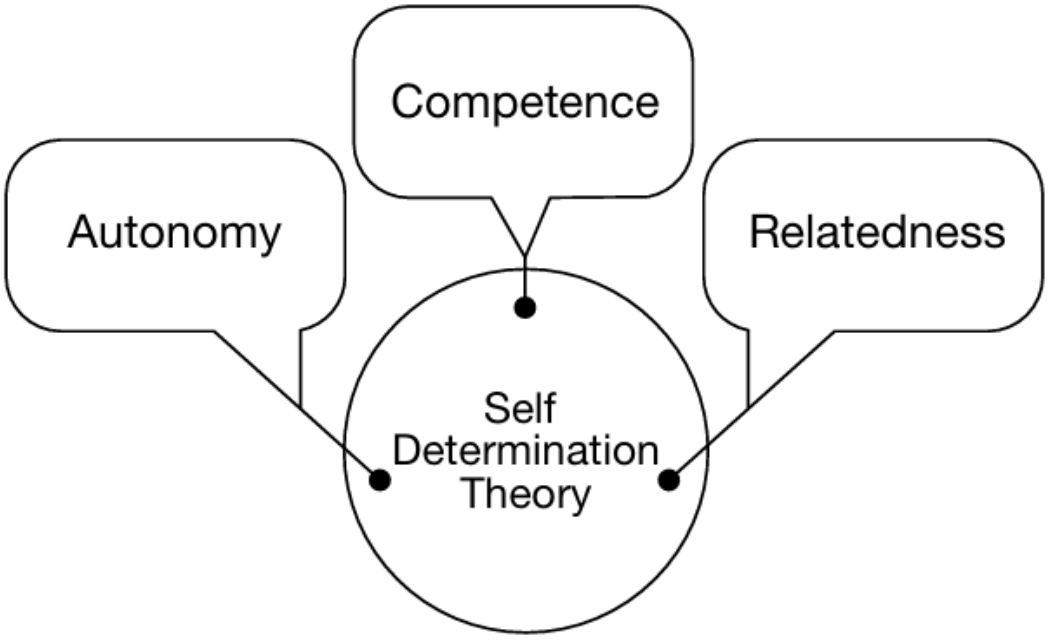
The need for competence is the individual's need to showcase their ability to master a task. Fulfilling this need allows humans to feel accomplished and progress future tasks for better learning goals. Using ChatGPT boosts the students' ability to perform their writing more efficiently as this tool allows them to feel confident in completing their writing tasks; Consequently, it increases their sense of competence in the English language and writing skills (Du & Alm, 2024). As for the need for autonomy, it explains human behaviours result from a personal desire to have wishes and choices internally, instead of external aspects such as reward or pressure. This sense of autonomy can be thought of as the want to have the freedom to control behaviour along the learning process. In academic writing, autonomous learning includes developing independent learning and writing strategies, making reflections and adjustments and being self-driven and responsible for their academic work (Ma, 2023). ChatGPT satisfies this need when students can work at their own pace and request or specialise feedback. In such conditions, students experience empowerment for completing their writing tasks without depending on educators or peers. Even though ChatGPT is a virtual tool, it indirectly contributes meaningfully to the need for relatedness. This is the need for human desire to feel a sense of belonging and attachment to emotional bonds. The students can feel

the relatedness when ChatGPT offers feedback without judgement while providing constructive feedback. While it is not a human-to-human interaction, the personalised responses and interactions enable students to feel supported by an AI tool with a tutor-like role (Baidoo-Anu & Owusu Ansah, 2023; Chiu, 2024).

Having said that, this study will only focus on the need for competence and autonomy as they are the needs for one's determination to develop writing skills. Figure 2.3 shows the three components in SDT.

Figure 2.3

Three Components of Self Determination Theory



Note. From *"Research Pods: building community resilience and research together A team approach designed to enhance community resilience and research output for practitioners of homoeopathy in Australia,"* by C. J. Salter and S. Goddard, 2022, *The Australian Journal of Homoeopathic Medicine, 35*, p. 17

(https://www.researchgate.net/publication/366901400_Research_Pods_building_community_resilience_and_research_together_A_team_approach_designed_to_enhance_community_resilience_and_research_output_for_practitioners_of_homoeopathy_in_Australia_Similia_352).

Therefore, the ZPD serves as the theoretical framework that provides a lens for examining the role of ChatGPT, while SDT supports the motivation for developing academic writing skills in this study. These two theories, which emphasise different aspects of this research, will offer a comprehensive understanding of their relationship to students' writing skills.

2.7 Summary

In brief, this chapter has discussed the topic of writing with ChatGPT and its usage. The literature gap has been recognized, and the way this research will be contributing to the existing literature is supportable.

Chapter 3: Methodology

3.0 Introduction

This chapter discusses the methodology used for this research. Therefore, this chapter consists of the following subtopics: Research Design, Sample, Data Collection, Data Analysis and a summary of the research procedure.

3.1 Research Design

The present study will be a cross-sectional correlational study which also knowns as a non-experimental survey design. It is employed as a research design because it aligns with the objective of this study to investigate the relationship between ESL learners' motivation to develop their academic writing skills and the frequency of using ChatGPT to assist them. Devi et al. (2022) alluded that cross-sectional correlational study allows the researcher to examine the relationship between two or more variables. The independent variable (IV) for this study is the frequency of ChatGPT usage, while the dependent variable (DV) is the ESL learners' motivation to develop academic writing.

3.2 Sample

The target participants of this study are the students in a private university in Perak, Malaysia. Samples of these students are selected through convenience sampling.

According to Golzar et al. (2022), employing a convenience sampling technique is a way to select participants with easy accessibility. They further explained this techniques has several benefits. Due to its nature, the sampling technique is advantageous due to its cost-effectiveness, low time commitment and straightforward implementation. As the data will be obtained from these participants as dependable sources, this sampling method ensures high-

quality results. In connection with the study, the researcher can yield significant and valuable data about ESL learners' motivation to develop academic writing skills. In the next heading, the characteristics of sample will be stated.

For the sample size, this study aims to include 80 participants to yield reliable and conclusive results, while ensuring feasibility due to time constraints (Gowda et al., 2019, as cited in Adhikari, 2021, p. 14). Bujang and Baharum (2016) note that a minimum sample size of 80 participants is required to reliably detect a difference of at least 0.2 units in the correlation coefficient. In social science research, a significance level of 0.05 (5%) is commonly recognised as the standard threshold, which is applicable to this study as it examines motivation as one of its variables (Hair et al., 2010 as cited in Memon et al., 2020, p. 9).

3.2.1 Characteristics of the Participants

Participants of this study will be selected on two (2) characteristics. Firstly, they must have enrolled in the degree program in a private university in Perak, Malaysia. Secondly, he or she must be an existing university student. These students are selected because the course content aligns with this study's focus on writing development. According to Graham et al. (2020), developing writing skills is important to cultivate the learners' critical thinking and writing abilities. In this case, these students have a better overall learning experience when they think and write critically for assignments, making them relevant to the study.

3.3 Data Collection

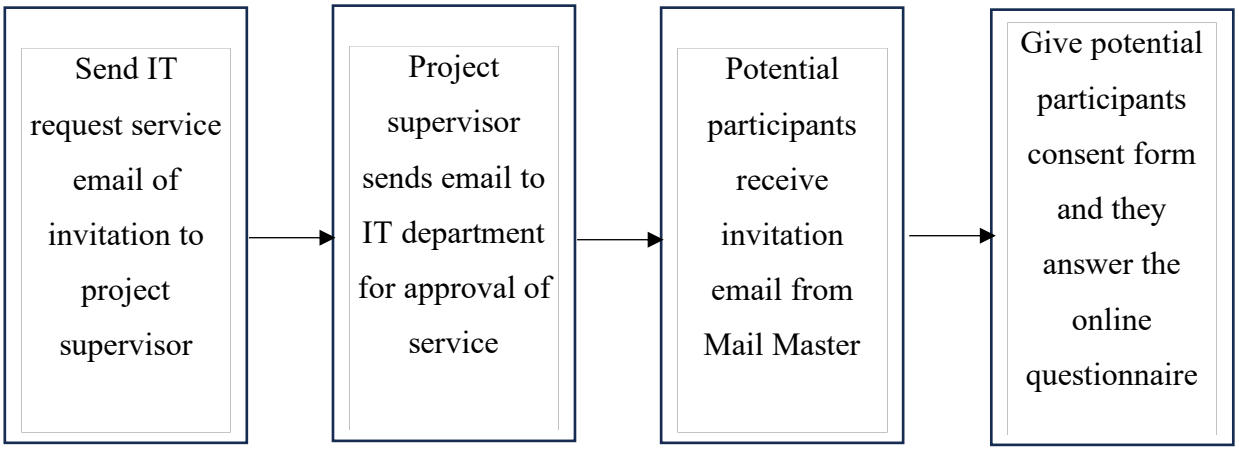
To recruit participants for this study, an email of request for a Mail Master service is written to the supervisor of this project. The content of the email contains the title of the research, name of the researcher, study objective, duration needed for participation, link to

online questionnaire and researcher's email (Appendix 1). This email is then sent by the supervisor to the information technology (IT) department of the university. After the department's approval, the email is sent to every students of the university once per week for one month.

In a matter of ethical consideration, potential participants will be informed about the study's objectives, procedures for data collection and ethical considerations. Their written consent will be obtained to ensure confidentiality and specify the use of data. The participants will be informed about the purpose of the current study, the time required for participation, and their rights to withdraw from the study at any time with no consequences. Ethical concerns such as voluntary participation, informed consent, confidentiality, and anonymity will be ensured for this research.

Figure 3.1

Flow Chart of the Process of Data Collection



3.3.1 Research Instrument

To determine the ESL learner's motivation in developing their academic writing skills, this study will employ a questionnaire as its research instrument. The questionnaire will be adapted from Academic Writing Motivation Questionnaire (AWMQ) (Payne, 2012).

The adapter questionnaire will have three sections which are section A, B and C (see Appendix). Section A will collect demographic information, including participants' email, age, gender, and faculty. Then, Section B contains five (5) questions about the participants' familiarity with and frequency of ChatGPT usage, both in general and for academic purposes. There will be a Likert-type agreement scale that will range from 1 to 5 in this section. For the first two questions regarding participants' familiarity with AI and ChatGPT, a five-point scale will be used: one (1) is *Strongly Disagree*, two (2) is *Disagree*, three (3) is *Neutral*, four (4) is *Agree*, and five (5) is *Strongly Agree*. As for the third to fifth questions, the scales will be representing the estimated frequency of ChatGPT usage as follows: one (1) is *Less than once a month*, two (2) is *Once a month times per week*, 3 is *Once a day*, 4 is *More than once a day*, and 5 is *Everyday*. Lastly, in Section C, 20 out of 37 statements are selected from the original AWMQ. These 20 selected questions are more relevant to the theoretical framework of this study, which are ZPD and SDT. These questions have been modified by incorporating ChatGPT as a writing tool and restructuring the sentences to include its elements. The selected questions address both the cognitive support provided by ChatGPT (ZPD) and the motivational factors (SDT) that influences the motivation to develop their academic writing skills. The participants will have to read the statements, reflect on their level of agreement and respond using a five-point scale. This scale ranges from 1-5, with one (1) is *Strongly Disagree*, two (2) is *Disagree*, three (3) is *Neutral*, four (4) is *Agree*, and five (5) is *Strongly Agree*.

This AWMQ is chosen to be adapted due to its relevance, reliability and validity. It is relevant to this study about writing skills and motivation in an academic context. The

questionnaire demonstrates a high level of internal consistency, with Cronbach reliability coefficient indication of 0.95, making it a trustable tool for this study. Additionally, Payne (2012) stated that the amount of literature on writing motivation, the availability of instruments measuring students' views about their writing, and the guidance of educators all contributed to the good content validity of this questionnaire.

3.4 Pilot Study

3.4.1 Purpose of the Pilot Study

This pilot study was conducted evaluate the reliability, clarity, and suitability of the adapted questionnaire before distributing it to the full sample. This preliminary step helped to ensure that the items were easily understandable to the participants and that the scales indicated acceptable internal consistency (Morin, 2023).

3.4.2 Procedure

The pilot study was conducted with a group of 30 ESL students who shared similar characteristics with the target population. They were selected through convenience sampling. The questionnaire was administered online using Google Forms with clear instructions and informed consent before participation. After data collection, the responses were analysed using SPSS 29 to examine the internal consistency of the scales with Cronbach's alpha.

3.4.3 Reliability Analysis

Cronbach's alpha was used to assess the internal consistency of the adapted questionnaire. Two separate reliability analyses were conducted: one for the items about

frequency of ChatGPT usage and another for the adapted AWMQ. The reliability analysis yielded a Cronbach's alpha of .890 for the frequency of ChatGPT usage, which is considered good. For the adapted AWMQ, the Cronbach's alpha was .974, reflecting excellent internal consistency. The reliability analysis show that removing any individual item from either scale would not result in a higher reliability coefficient (Collins, 2007). This suggests all items positively caused the consistency of the scales.

3.4 Data Analysis

After collecting data from the participants, the data is analysed using Statiscal Package for Social Science (SPSS) 29 with descriptive analysis, including means, standard deviations, and percentages. A correlation analysis is performed to examine the impact of the IV on the DV to find out the relationship of the variables. The Spearman's correlation coefficient (ρ) will be calculated to identify if the variables are positively or negatively correlated (Hauke & Kossowski, 2011). This type of correlation coefficient was used because the variables may not have a strictly linear relationship and this is known as nonlinear but monotonic relationships (Pallant, 2020). The amount of the Spearman's rho (ρ) will then represent the strength of the correlation. Ultimately, if the amount of r is near +1, it signifies a positive correlation; if it is near -1, it indicates a negative correlation (Nettleton, 2014).

3.5 Summary

This quantitative cross-sectional correlational study will use an online questionnaire as the instrument for data collection. With the convenience sampling method, a total of 236 ESL learners in a private university in Perak, Malaysia were enrolled as the participants for this study. The online questionnaire were created with a Google Form and it consists of a consent

form, information sheet, and two main sections. The link for this questionnaire were sent to the participants university's email inboxes to complete it. After data collection, the results are analysed with SPSS 29. Tables, figures and texts were used to present the findings along with data analysis. These elements served as a guidance for the researcher to answer the research questions.

Chapter 4: Findings and Analysis

4.0 Introduction

The findings are based on the data collected from an online questionnaire. The data shows the participants usage of ChatGPT and motivation scores to develop academic writing. The analysis was conducted using SPSS (version 29) and the results are presented in figures and tables for better clarity and comprehension.

4.1 Section A: Participants' Demographic Background

The participants' demographic information was collected to ensure sample representativeness and participant diversity to ensure transparency (Breen & Feehan, 2024). Demographic information such as age, gender and faculty of 236 university students are presented in the table below.

4.1.1 Age, Gender, and Faculty

Table 1 shows most of the participants are 21 to 23 years old. With 104 participants, they made up 44.1% of the overall percentage. Additionally, 103 (43.6%) participants in the study were between the ages of 18 to 20 years old. In contrast, only 8.1% (19 participants) were aged 24 to 26, while a small percentage of 4.2% (10 participants) were aged 27 and above. Among 236 participants, 151 of them are females (64%). On the other hand, 85 male participants represent 36%, as shown in Table 1.

The data collection involved students from 12 different faculties from a private university in Perak, Malaysia. The majority of participants were from social sciences-related faculties. Specifically, 74 participants (30.3%) were from the Centre for Foundation Studies (CFS), 47 participants (19.9%) were from the Faculty of Arts and Social Sciences (FAS), and

38 participants (16.1%) were from the Faculty of Business and Finance (FBF). The Lee Kong Chian Faculty of Engineering and Science (LKC FES) was represented by 18 participants (7.6%). Next, the Faculty of Science (FSc) had 14 participants (5.9%). Both the Faculty of Accountancy and Management (FAM) and the Faculty of Information and Communication Technology (FICT) had 9 participants each (3.8%). The three smallest portions were contributed by the Faculty of Engineering and Green Technology with 8 participants (3.4%), the M. Kanadiah Faculty of Medicine and Health Science (MK FMHS) with 5 participants (2.1%), and the Institute of Chinese Studies (ICS) with 2 participants (.8%).

Table 4.1

Frequency and Percentage of Participants' Age, Gender and Faculty

Age

		Frequency (n)	Percent (*p*)
Valid	18-20	103	43.6
	21-23	104	44.1
	24-26	19	8.1
	27 and above	10	4.2
	Total	236	100

Gender

Valid	Female	151	64
	Male	85	36
	Total	236	100

Faculty

		Frequency (n)	Percent (*p)*
Valid	Centre for Foundation Studies (CFS)	74	31.36
	Faculty of Arts and Social Sciences (FAS)	47	19.92
	Faculty of Business and Finance (FBF)	38	16.10
	Lee Kong Chian Faculty of Engineering and Science (LKC FES)	18	7.63
	Faculty of Science (FSc)	14	5.93
	Faculty of Creative Industries (FCI)	12	5.08
	Faculty of Accountancy and Management (FAM)	9	3.81
	Faculty of Information and Communication Technology (FICT)	9	3.81
	Faculty of Engineering and Green Technology (FEGT)	8	3.39
	M. Kandiah Faculty of Medicine and Health Science (MK FMHS)	5	2.12
	Institute of Chinese Studies (ICS)	2	.85
	Total	236	100

4.2 Section B: ESL Learners' ChatGPT Usage

The first set of questions aimed to assess the participants' familiarity with AI and ChatGPT, as well as their frequency of usage across different contexts. There are five (5) items in this section: the first two (2) focus on familiarity, while the remaining three (3) addressed

the use of ChatGPT for daily, academic, and writing context. The responses were analysed using descriptive analysis and presented in Table 2 below.

Table 4.2

Descriptive Statistics of Participants' Familiarity with AI and ChatGPT

	N	Mean	Standard Deviation
I am familiar with Artificial Intelligence (AI).	236	4.02	.820
I am familiar with ChatGPT.	236	4.36	.751

Item B1

The findings in illustrate majority of the participants are highly familiar with AI (M = 4.02, SD = .820). Upon a 5-point Likert scale, the responses given for Item B1 are illustrated in the form of frequency and percentage in Table 3 below. Nearly half of the participants (49.8%, n = 117) agreed, and 28.4% (n = 67) strongly agreed that they are familiar with AI. Meanwhile, about 18.6% (n = 44) remained neutral. A small number of participants disagreed, with 2.1% disagreeing and 1.3% (n = 3) strongly disagreeing.

Table 4.3

Frequency and Percentage Distribution for B1

I am familiar with Artificial Intelligence (AI).

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	3	1.3
	Disagree	5	2.1
	Neutral	44	18.6
	Agree	117	49.6
	Strongly Agree	67	28.4
	Total	236	100.0

Item B2

Results from above reveals that participants are highly familiar with ChatGPT (M = 4.36, SD = .751). The data in Table 4 strongly indicate approximately half of the participants (49.6%, n = 117) strongly agreed that they are familiar with ChatGPT. A notable 40.3% of participants also agreed with the statement (n = 95). A further 7.6% of participants neither agreed nor disagreed (n = 18). However, a minority of 2.1% of participants disagreed with the statement (n = 5), while .4 participants strongly disagreed (n = 1) that they are familiar with ChatGPT.

Table 4.4

Frequency and Percentage Distribution for B2

I am familiar with ChatGPT.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	1	.4
	Disagree	5	2.1
	Neutral	18	7.6
	Agree	95	40.3
	Strongly Agree	117	49.6
	Total	236	100.0

Item B3

Based on Figure 4.1, Figure 4.2 and Table 4.5, the frequency of ChatGPT use in daily life among participants varied. The largest two groups' reported usage is once a day (27.5%, n = 65), and more than once a day (27.1%, n = 64). Additionally, 47 individuals who made up 19.9% of the total participants used ChatGPT once a month. Also, a result of 13.6% was recorded for 32 participants who used it less than once a month. The remaining 28 participants reported they use ChatGPT every day (11.9%).

Figure 4.1

Distribution of Participants by Frequency of ChatGPT Usage in Daily Life (Number of Participants)

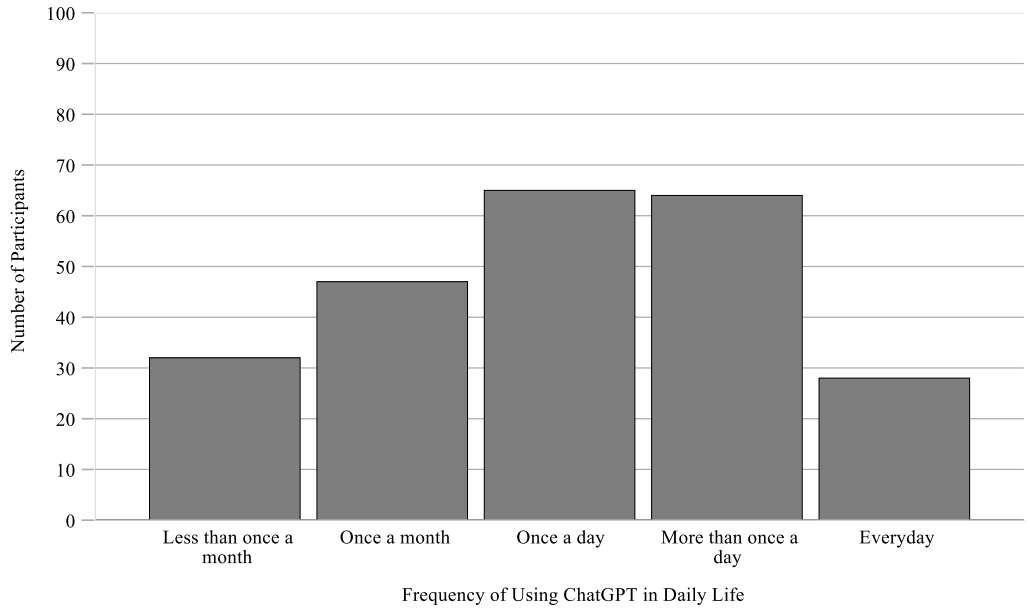


Figure 4.2

Distribution of Participants by Frequency of ChatGPT Usage in Daily Life (Percentage of Participants)

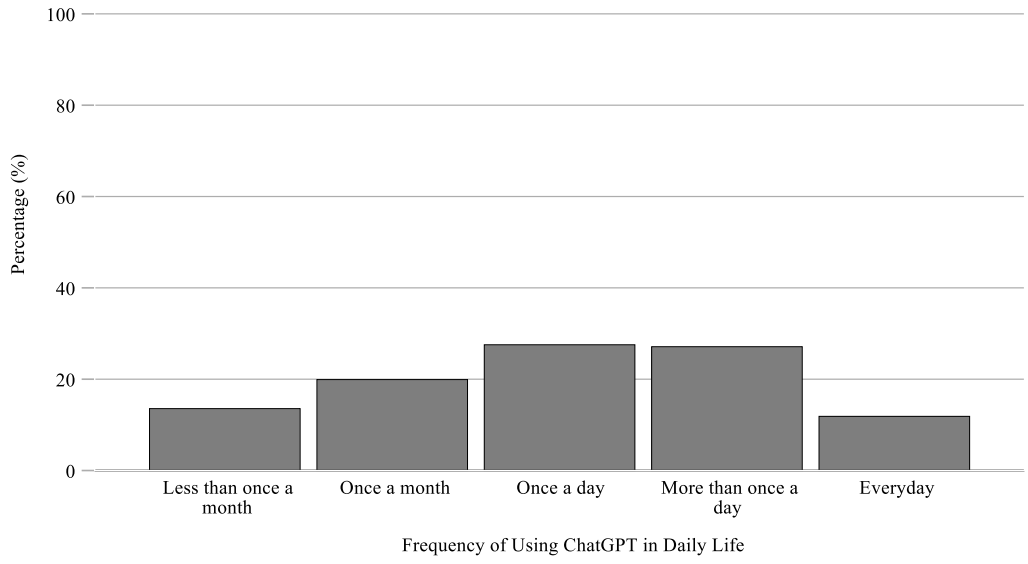


Table 4.5

Frequency and Percentage Distribution for B3

I use ChatGPT in daily life.

		Frequency (n)	Percent (*p*)
Valid	Less than once a month	32	13.6
	Once a month	47	19.9
	Once a day	65	27.5
	More than once a day	64	27.1
	Everyday	28	11.9
	Total	236	100.0

Item B4

Examination of data in Figure 4.3, Figure 4.4 and Table 4.6 showed different frequencies of using ChatGPT for academic purposes. It showed 36.9% (n = 87) of the participants uses it more than once a day. Another 18.6% (n = 44) participants used it once a day, and 16.1% (n = 42) use it once a month. Meanwhile, 38 participants (16.1%) used ChatGPT every day for academic reasons, while 25 participants (10.6%) used it less than once a month. Overall, most people use ChatGPT regularly for their academic work.

Figure 4.3

Distribution of Participants by Frequency of ChatGPT Usage for Academic Purposes (Number of Participants)

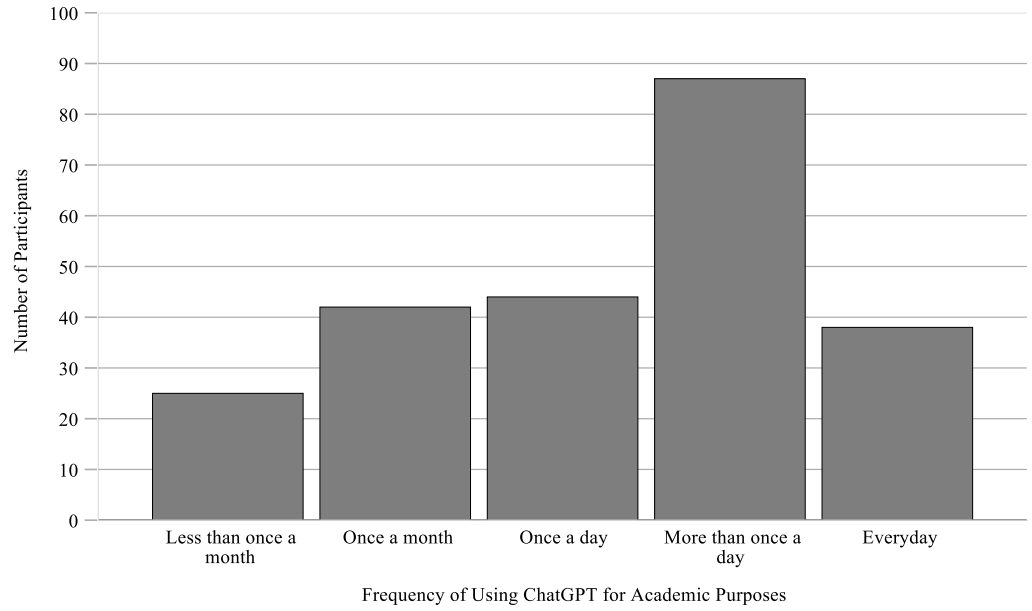


Figure 4.4

Distribution of Participants by Frequency of ChatGPT Usage for Academic Purposes (Percentage of Participants)

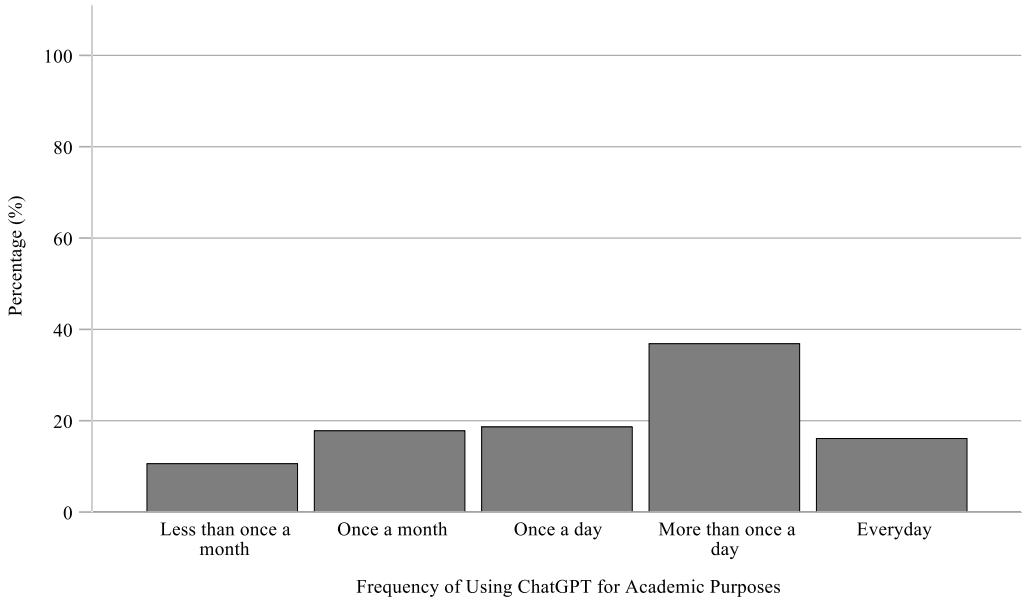


Table 4.6

Frequency and Percentage Distribution for B4

I use ChatGPT for academic purposes.

		Frequency (n)	Percent (*p*)
Valid	Less than once a month	25	10.6
	Once a month	42	17.8
	Once a day	44	18.6
	More than once a day	87	36.9
	Everyday	38	16.1
	Total	236	100.0

Item B5

As shown in Figure 4.5, Figure 4.6 and Table 4.7, the data obtained from 236 ESL learners reported using ChatGPT frequently to develop their writing skills. The highest number of participants (28.4%, n = 67) used it more than once a day, followed by 24.6% (n = 58) who used it once a day. Furthermore, 20.3% (n = 48) used it once a month, and 16.1% (n = 38) used it less than once a month. The remaining 25 participants (10.6%) reported using it every day. Generally, the results indicate that most participants engaged with ChatGPT regularly to develop writing skills and perform writing-related task.

Figure 4.5

Distribution of Participants by Frequency of ChatGPT Usage for Writing Skills (Number of Participants)

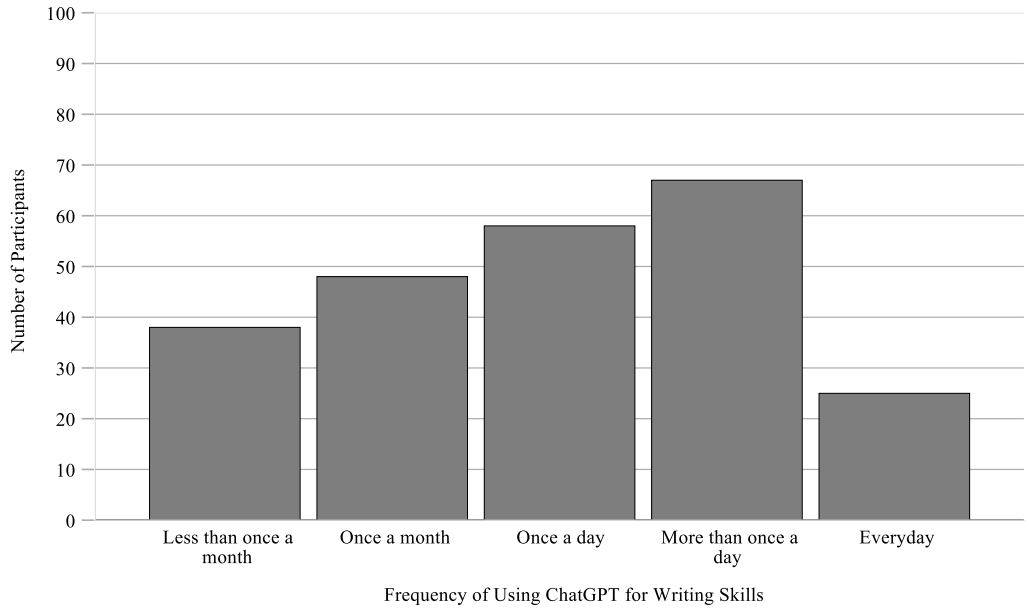


Figure 4.6

Distribution of Participants by Frequency of ChatGPT Usage for Writing Skills (Percentage of Participants)

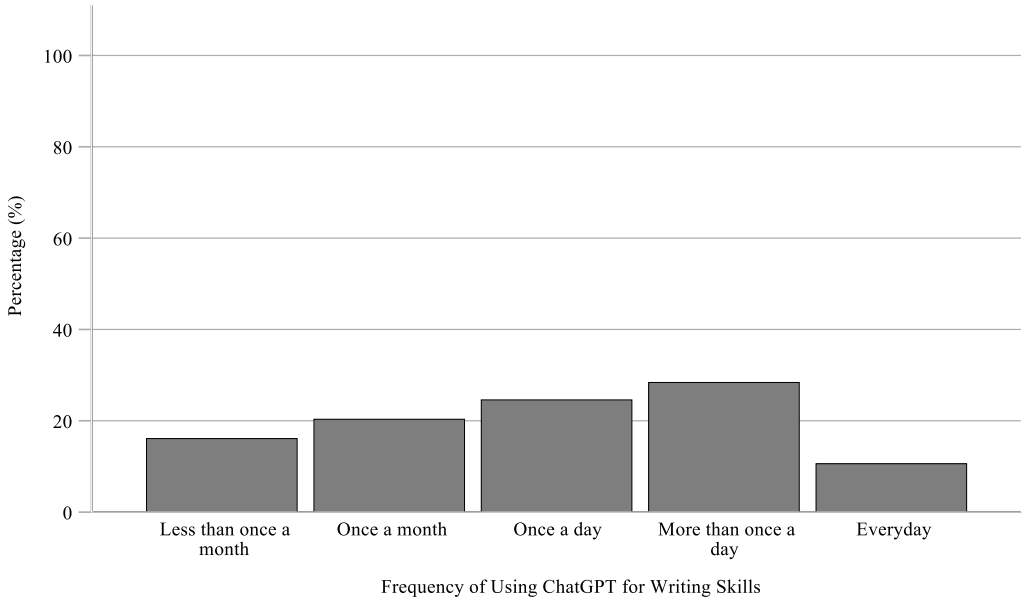


Table 4.7

Frequency and Percentage Distribution for B5

I use ChatGPT to develop my writing skills.

		Frequency (n)	Percent (*p*)
Valid	Less than once a month	38	16.1
	Once a month	48	20.3
	Once a day	58	24.6
	More than once a day	67	28.4
	Everyday	25	10.6
	Total	236	100.0

4.3 Section C: ESL Learners' Motivation to Develop Academic Writing

This section aimed to assess the participants' motivation to develop their academic writing skills with ChatGPT by measuring their level of agreement with the statements provided. Table 8 presents the descriptive statistics analysed from their responses. The mean motivation score was M = 3.63 with a standard deviation of SD = .852, based on a 5-point Likert scale across all 20 items in Section C. This shows a moderately high level of motivation to develop academic writing with ChatGPT among the participants.

Table 4.8

Participants' Motivation Score

	N	Mean	Standard Deviation
Motivation Score	236	3.63	.852

While Table 8 above presents the descriptive statistics of the total motivation score, the Table 9 below presents those of the twenty individual items. The breakdown in the following table offers additional detail but is not the primary focus of this study.

Table 4.9

Descriptive Statistics of ESL Learners' Academic Writing Motivation of Each Items in Section C

	N	Mean	Standard Deviation
I enjoy writing with the help of ChatGPT.	236	3.90	1.018
ChatGPT makes it easier for me to write down my own thoughts.	236	4.00	.996
With ChatGPT, I complete a difficult writing assignment more confidently.	236	3.93	1.078
ChatGPT helps me put a lot of effort into my writing.	236	3.69	1.105
ChatGPT encourages me to participate in written online discussions.	236	3.28	1.173

I like to get feedback from ChatGPT on my writing.	236	3.72	1.128
I feel more confident about my writing being graded when I use ChatGPT.	236	3.60	1.157
I am more likely to succeed if I can write well with ChatGPT.	236	3.56	1.107
When I can use ChatGPT, it is easy for me to write good essays.	236	3.78	1.048
I enjoy creative writing assignments when I can use ChatGPT.	236	3.48	1.183
I find classes that require a lot of writing more enjoyable when using ChatGPT.	236	3.46	1.164
I plan how to write with ChatGPT before writing.	236	3.52	1.253
ChatGPT has encouraged me to be a better writer.	236	3.57	1.148
ChatGPT makes me feel that improving my writing skills is important for my future career.	236	3.78	1.012
Using ChatGPT helps me aim for higher grades in writing assignments.	236	3.77	1.047
Challenging writing assignments become more enjoyable when I use ChatGPT.	236	3.59	1.066
I revise my writing with ChatGPT before submitting my assignments.	236	3.62	1.233
I like to write with ChatGPT even if my writing will not be graded.	236	3.38	1.234
When I can use ChatGPT as a writing tool, I enjoy writing research papers more.	236	3.38	1.155

ChatGPT motivates me to practice writing and improve my skills.	236	3.60	1.104

Tables 10 presents the responses to Items C1 to C20 in Section C, shown in the terms of frequency and percentage. Again, although Tables 10 to 29 provide a detailed breakdown of the individual item responses, the main focus of this study is on the overall motivation score; thus, item-level analyses are not analysed further in paragraph form.

Items in Section C

Table 4.10

Frequency and Percentage Distribution for Each Items in Section C

I enjoy writing with the help of ChatGPT.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	7	3.0
	Disagree	16	6.8
	Neutral	45	19.1
	Agree	94	39.8
	Strongly Agree	74	31.4
	Total	236	100.0

ChatGPT makes it easier for me to write down my own thoughts.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	6	2.5
	Disagree	15	6.4
	Neutral	36	15.3
	Agree	96	40.7
	Strongly Agree	83	35.2
	Total	236	100.0

With ChatGPT, I complete a difficult writing assignment more confidently.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	10	4.2
	Disagree	15	6.4
	Neutral	40	16.9
	Agree	87	36.9
	Strongly Agree	84	35.6
	Total	236	100.0

ChatGPT helps me put a lot of effort into my writing.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	11	4.7
	Disagree	25	10.6
	Neutral	51	21.6

	Agree	89	37.7
	Strongly Agree	60	25.4
	Total	236	100.0

ChatGPT encourages me to participate in written online discussions.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	19	8.1
	Disagree	41	17.4
	Neutral	71	30.1
	Agree	65	27.5
	Strongly Agree	40	16.9
	Total	236	100.0

I like to get feedback from ChatGPT on my writing.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	13	5.5
	Disagree	20	8.5
	Neutral	53	22.5
	Agree	83	35.2
	Strongly Agree	67	28.4
	Total	236	100.0

I feel more confident about my writing being graded when I use ChatGPT.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	16	6.8
	Disagree	23	9.7
	Neutral	58	24.6
	Agree	81	34.3
	Strongly Agree	58	24.6
	Total	236	100.0

I am more likely to succeed if I can write well with ChatGPT.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	11	4.7
	Disagree	30	12.7
	Neutral	62	26.3
	Agree	81	34.3
	Strongly Agree	52	22.0
	Total	236	100.0

When I can use ChatGPT, it is easy for me to write good essays.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	11	4.7
	Disagree	30	12.7
	Neutral	62	26.3

	Agree	81	34.3
	Strongly Agree	52	22.0
	Total	236	100.0

I enjoy creative writing assignments when I can use ChatGPT.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	19	8.1
	Disagree	28	11.9
	Neutral	60	25.4
	Agree	79	33.5
	Strongly Agree	50	21.2
	Total	236	100.0

I find classes that require a lot of writing more enjoyable when using ChatGPT.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	17	7.2
	Disagree	30	12.7
	Neutral	65	27.5
	Agree	75	31.8
	Strongly Agree	49	20.8
	Total	236	100.0

I plan how to write with ChatGPT before writing.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	22	9.3
	Disagree	29	12.3
	Neutral	50	21.2
	Agree	75	31.8
	Strongly Agree	60	25.4
	Total	236	100.0

ChatGPT has encouraged me to be a better writer.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	15	6.4
	Disagree	26	11.0
	Neutral	59	25.0
	Agree	81	34.3
	Strongly Agree	55	23.3
	Total	236	100.0

ChatGPT makes me feel that improving my writing skills is important for my future career.

		Frequency (n)	Percent (*p*)
Valid	Strongly Disagree	7	3.0
	Disagree	17	7.2
	Neutral	59	25.0

	Agree	91	38.6
	Strongly Agree	62	26.3
	Total	236	100.0

Using ChatGPT helps me aim for higher grades in writing assignments.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	7	3.0
	Disagree	21	8.9
	Neutral	57	24.2
	Agree	85	36.0
	Strongly Agree	66	28.0
	Total	236	100.0

Challenging writing assignments become more enjoyable when I use ChatGPT.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	10	4.2
	Disagree	25	10.6
	Neutral	67	28.4
	Agree	84	35.6
	Strongly Agree	50	21.2
	Total	236	100.0

I revise my writing with ChatGPT before submitting my assignments.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	19	8.1
	Disagree	28	11.9
	Neutral	42	17.8
	Agree	81	34.3
	Strongly Agree	66	28.0
	Total	236	100.0

I like to write with ChatGPT even if my writing will not be graded.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	26	11.0
	Disagree	28	11.9
	Neutral	57	24.2
	Agree	80	33.9
	Strongly Agree	45	19.1
	Total	236	100.0

When I can use ChatGPT as a writing tool, I enjoy writing research papers more.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	14	5.9
	Disagree	43	18.2
	Neutral	63	26.7

	Agree	72	30.5
	Strongly Agree	44	18.6
	Total	236	100.0

ChatGPT motivates me to practice writing and improve my skills.

		Frequency (n)	Percent (*p)*
Valid	Strongly Disagree	11	4.7
	Disagree	27	11.4
	Neutral	62	26.3
	Agree	81	34.3
	Strongly Agree	55	23.3
	Total	236	100.0

4.3 Relationship between frequency of using ChatGPT and ESL learners' Motivation to Develop Academic Writing Skills

In Table 30 below, the analysis revealed a strong and positive correlation between the two variables, $\rho = .615$, $p = < .001$, $n = 236$. This result was very highly significant, and it suggests a monotonic association between the two variables. It also shows that significance is less than .001 ($p < .001$), indicating that there is less than 0.1% chance that the correlation between the variables occurred randomly and there is a significant monotonic relationship.

Table 4.11

Spearman's correlation

			I use ChatGPT to develop my writing skills.	Motivation Score
Spearman's rho (ρ)	I use ChatGPT to develop my writing skills.	Correlation Coefficient	1.000	.615
		Significance (2-tailed)	.000	< .001
		N	236	236
	Motivation Score	Correlation Coefficient	.615	1.000
		Significance (2-tailed)	< .001	.000
		N	236	236

**Correlation is significant at the 0.01 level (2-tailed)

4.4 Summary

In a nutshell, the findings collected showed most of the participants use ChatGPT more than once a day to develop writing skills. Furthermore, it is evident that the participants are motivated to use ChatGPT for writing skills as their motivation score is moderately high. Also, there is a relationship between the frequency of ChatGPT usage for writing skills and motivation to develop those skills, as indicated by a strong and positive Spearman's correlation coefficient.

Chapter 5: Discussion

5.0 Introduction

This chapter consists of the discussion on findings collected from 236 ESL learners from a private university in Perak, Malaysia through an online questionnaire. There are also the research implications, recommendations for future research, and a conclusion for this study.

5.1 Discussion on the Significant Relationship between Frequency of Using ChatGPT and ESL Learners' Motivation to Develop Academic Writing Skills

The study aimed to examine the relationship between ChatGPT usage and ESL learners' motivation to develop academic writing skills. After collecting data from 236 ESL learners from a private university in Perak, Malaysia, the results of the current study revealed the strong and positive correlation between ChatGPT usage and academic writing motivation ($\rho = .615$, $p < .001$, $N = 236$). According to Cohen's guideline (1988), this relationship is significant due to the large effect size. This finding suggests that the more frequent students engage with ChatGPT, the more motivated they are to improve their academic writing skills. These positive findings are aligned with a similar study by Bouzar et al. (2024), which supported the notion of positive correlation between ChatGPT usage and academic writing self-efficacy. Besides, the study by Bin-Nashwan et al. (2023) suggests a strong correlation between the use of ChatGPT and motivation in academic writing task, potentially driven by the elevated self-esteem and capable among students. Another study further highlights the positive correlation between ChatGPT-assisted facilitation and boosted motivation (Song & Song, 2023). The researchers discovered remarkable improvements in writing motivation when ChatGPT is used in the process. A relevant study by Zare et al. (2025) found a positive relationship between ChatGPT usage and learners' motivation to write academic essays; However, there is a decline in motivation at the post-intervention stage. This contrasts with the

strong and positive correlation found in the present study between the variables. The temporal dimension highlighted by Zare et al. (2025) suggests a potentially dynamic relationship. This means the positive impact of ChatGPT on learners' motivation to write may not be constant over time. While this study shows a positive and strong connection, their research indicates that this boost in the beginning could fade or decrease after a certain period. Conversely, the present study's finding indicates a more consistent and direct correlation between the frequency of ChatGPT engagement and the level of writing motivation.

The findings of the positive correlation can be examined from the perspective of the Zone of Proximal Development (ZPD) and self-determination theory (SDT). As Bouzar et al.'s (2024) study highlights self-efficacy, a key component within SDT that is closely linked to the need of competence. As this need is fulfilled, it contributes to the students' confidence in writing. In relation to the current study, the positive relationship between variables shows high positive impact on writing motivation and confidence with ChatGPT, which aligns with some items in the questionnaire. Items such as *"I enjoy writing with the help of ChatGPT," "ChatGPT makes it easier for me to write down my own thoughts,"* and *"With ChatGPT, I complete a difficult writing assignment more confidently."* received high mean scores. These results showcased the ability of ChatGPT as the more knowledgeable other (MKO) in increasing academic writing motivation. Suarez et al. (2025) reported their findings of positive correlation between ChatGPT and students' writing confidence, specifically for essay composition for sentence construction, paragraph organisation, and grammar correctness. As ChatGPT provides support for students to progress in their writing task, they feel more competent from the guidance received. This competence fuels students' motivation to complete their writing works on their own as they believe in their ability and feel more skilful. This is supported by Alves-Wold et al. (2024) who claimed students' beliefs about writing help them to internalise a growth mindset about success and failure which promotes writing motivation.

Their sense of competence is a belief of their own ability that attributes to motivation on writing.

Nevertheless, there are participants who disagree and strongly disagree using ChatGPT can satisfy their need for competence in terms of writing success. In this study, a finding was highlighted by 17.4% participants who do not agree using ChatGPT will make them succeed in writing. The result of this item suggests ChatGPT may not be a significant MKO to let them surpass their existing writing performance even with AI assistance. In this situation, ChatGPT usage may not necessarily contribute to motivation since students do not perceive an increase in their competence. These contrasting responses may be interpreted through the findings of Shi et al. (2025). Their findings indicate ChatGPT had a disadvantageous effect as students scored significant lower in writing aspects such as content, elaboration, presentability and similarity. Though their study focuses on creative writing while the current research focuses on academic writing, both reflect writing skills among students. Consequently, students are less motivated when they experience unsuccessful outcomes in writing scores (Mauliya et al., 2020).

Beyond the facilitative role of ChatGPT within the ZPD for writing competence, the positive correlation observed between its usage frequency and academic writing motivation can also be examined through the lens of SDT in terms of the fundamental need for autonomy. The participants in this study shows slight to moderate agreement to level of agency and control in the writing process based on their responses to the following items. The findings from the item *"I plan how to write with ChatGPT before writing"* shows 57.2% of the participants are engaging with it in a self-directed manner to plan their writing deliberately. Similarly, for the item *"I like to write with ChatGPT even if my writing will not be graded",* over half of the participants also indicated a genuine interest in writing for intrinsic reasons, regardless of assessment. Nasution Kholilah Yuniar et al. (2024) reported ChatGPT supports students'

creative autonomy by enhancing their writing experiences. This suggests they can explore their creativity out of pleasure independently, maintaining control over their writing process. Corresponding to the findings of this study, this aspect is reflected in the work by Parker et al. (2023) which explains ChatGPT supports learner autonomy by providing individualised feedback on a few submissions actively. This feature of ChatGPT has proven it is a MKO that can cater to students need and boost their writing initiative. The whole writing process with ChatGPT is helpful for students' experience with AI. This is further reflected in the study by Huang and Mizumoto (2024) who claimed that the students' motivation is related to their self-learning experience with ChatGPT. These findings support the stand of the current study that ChatGPT provides scaffolding for support before their autonomous learning.

Interestingly, conflicting results have emerged in the findings whereby one-fifth of the participants disagreed with the statement *"I revise my writing with ChatGPT before submitting my assignments."* This suggests that a notable portion of participants are not taking advantage of ChatGPT for the revision stage of writing where they have direct control. This finding aligns with the concerns raised by Phung Tan et al. (2024). Their work documented there is little impact of ChatGPT on learner autonomy among third-year English students although it does improve study habits through personalised feedback and recommendations. In the context of their study, it suggests there is limited effectiveness in increasing writing autonomy. Another study by Lee (2024) supports the notion of the differentiated assistance by ChatGPT for students to refine their writing on their own, but he concerns about the tendency of over-reliance on AI that will reduce students' self-governance and motivation for self-directed learning. These two studies have a similar learner demographic as this study also involves university students in Asia. However, it is important to note that while the present study focused on ESL learners, the others examined EFL and ESP contexts, which may differ in terms of language exposure and instructional goals. Although the abovementioned studies are in EFL

and ESP contexts, they both provided insightful opposing findings on the findings of the current research. These findings suggest ChatGPT has limited potential to fulfil the students' need for autonomy and motivate them to operate within their ZPD.

5.2 Summary

Overall, the present study revealed a strong and positive correlation ($\rho = .615$, $p = < .001$) between the frequency of ChatGPT usage and ESL learners' motivation to develop academic writing skills among 236 students from a private university in Perak, Malaysia. Based on the high mean scores on items perceived ease of writing and increased confidence suggest that using ChatGPT boosts most participants' writing skills and their senses of competence and autonomy. This aligns with the notion of ChatGPT acting as a MKO and helping learners in their ZPD. However, there are a portion of participants did not agree that ChatGPT necessarily strengthen their sense of competence and autonomy, which suggests a possible reason for lower motivation in them and highlights and adds complexity to the overall positive findings.

5.3 Implications of study

The crucial implication of this study is that it would be helpful for people in the academia such as students, educators, policymakers and future researchers. For different stakeholders who wish to utilise the AI technology in the learning and teaching setting, the results of this study provide a comprehensive insight on the relationship between ChatGPT usage and academic writing motivation. This suggests that there is a positive justification for integrating ChatGPT into the teaching and learning process and can have a positive impact on learners' motivation.

Therefore, these findings can let students learn about the potential motivational benefits of using ChatGPT as a writing aid for overall academic performance. Not only for academic writing skills in English, but students are also advised to use ChatGPT for learning other types of writing or even knowledge from other fields for basic to advanced understanding with text. Theoretically, this study's findings support the integration of Vygotsky's ZPD and Deci and Ryan's SDT. When learners work within their ZPD, ChatGPT enables scaffolded experience that provides sense of competence for their success. This is a pathway to let learners learn independently and take control of their writing in terms of content and organisation as they gradually adopt writing skills through ChatGPT's scaffolding, satisfying the need for autonomy in SDT. Hence, this study has proven learning within the ZPD can increase SDT's motivational components of competency and autonomy. As learners learn and succeed with support, they feel skilful and in control, which increases motivation.

Regarding educators, it is suggested that this study will encourage the promotion of ChatGPT's use in classroom to facilitate students' independent learning and enhance results through academic writing. They are suggested to explore other AI tools such as Gemini, Claude, DeepSeek, and Grammarly. Guiding students to use ChatGPT strategically could make the usage more effective for various purposes of writing. Nonetheless, it is crucial for educators to communicate deliberately about the ethical guidelines of AI use for academic task and students to strictly adhere them. Moreover, education policymakers could consider the incorporation of AI information and usage in classroom when developing future curriculum and syllabus. AI usage should be highlighted to ease and enhance teaching and learning to make these processes comprehensive and holistic. Apart from that, developers of educational technology can also create AI-assisted applications or websites with user-friendly interfaces and feedback mechanism to explicitly teach writing skills. Also, another feature can be multilingual support for ESL learners to utilise AI for learning for their specific demographic.

Essentially, students' high academic writing motivation is believed to be frequent usage of ChatGPT for writing skills.

5.4 Recommendation

The present study sheds light on ChatGPT usage and ESL learners' motivation to develop academic writing. Future studies are recommended to examine additional factors that would affect ChatGPT usage and investigate specific aspects of motivation on other English language skills. To strengthen generalisability and contextual relevance, researchers could conduct interview with participants of targeted academic background. This is to have a comprehensive view in terms of the key factors, challenges and motivation on relevant topic to generate qualitative data. Additionally, future research should adopt longitudinal design and use longer timeframe to assess long-term impacts and explore alternative frameworks.

5.5 Conclusion

This research was conducted to determine the relationship between ChatGPT usage and ESL learners' motivation to develop academic writing skills. The investigation on the research question has revealed a strong and positive correlation between the variables. Hence, it can be concluded that ESL learners' who frequently use ChatGPT are more motivated to develop academic writing competence with it. In other words, the more they use ChatGPT, the more motivated they are to enhance their academic writing abilities.

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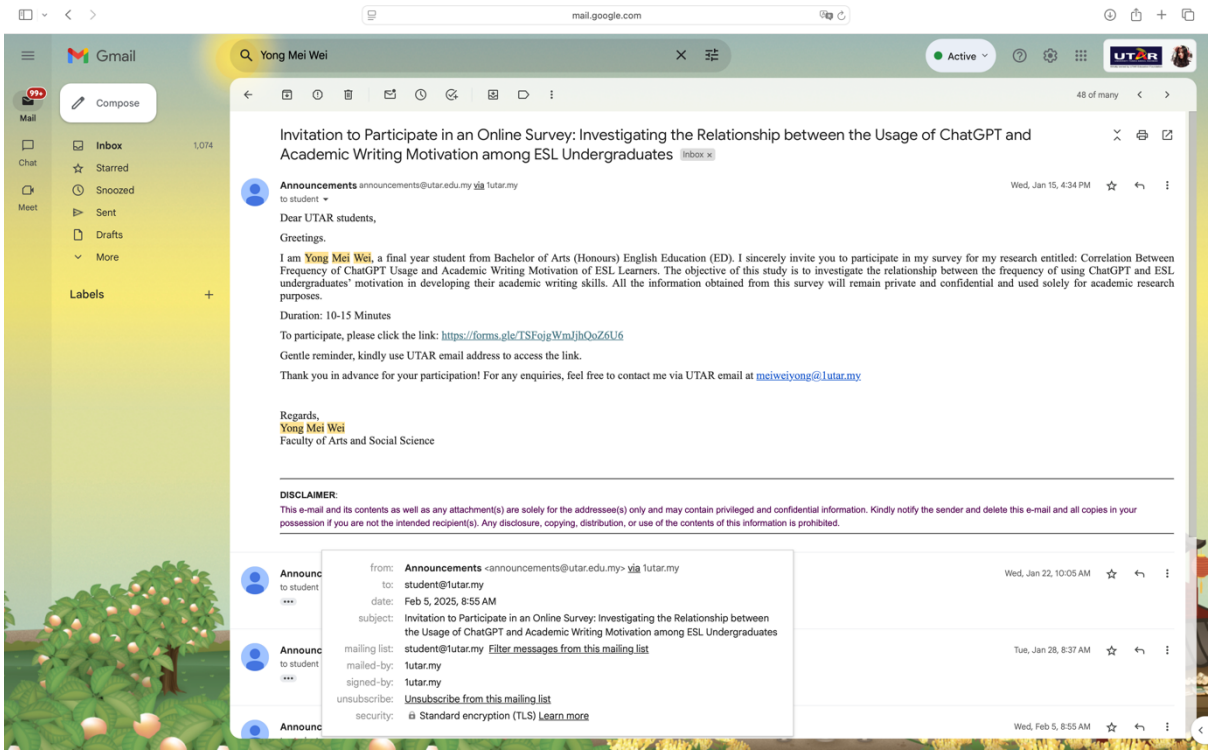
Appendix

Appendix 1 – Email of Invitation



Appendix 2 - Questionnaire

Correlation Between Frequency of ChatGPT Usage and Academic Writing Motivation of Malaysian ESL Learners

Good day! I am Yong Mei Wei, a final year student from Bachelor of Arts (Honours) English Education (ED) in Universiti Tunku Abdul Rahman (UTAR). As part of my final year project, I am conducting a research study and gathering information from students who have passed UALL1083/UALL2023 Academic Writing.

This study aims to examine the relationship between frequency of using ChatGPT and (English as a Second Language) ESL learners' motivation to develop academic writing skills.

Please fill up this survey form that consists of three sections, which will take about 10-15 minutes to complete. Participation is entirely voluntary, and participants have the right to withdraw from the study at any time without any consequences. By agreeing to participate, you confirm that your responses will remain confidential and that your identity will not be disclosed at any stage of the research.

Your participation will be highly appreciated, and your responses will be kept confidential for academic purposes only.

( ) I AGREE to participate in this study

( ) I DISAGREE and wish to quit

Section A: Demographic Information

Please (√) in the box below.

Age ( ) 18-20 ( ) 21-23 ( ) 24-26 ( ) 27 and above

Gender ( ) Male ( ) Female

Faculty ( ) Centre for Foundation Studies (CFS)

( ) Faculty of Arts and Social Sciences (FAS)

( ) Faculty of Business and Finance (FBF)

( ) Lee Kong Chian Faculty of Engineering and Science (LKC FES)

( ) Faculty of Science (FSc)

( ) Faculty of Creative Industries (FCI)

( ) Faculty of Accountancy and Management (FAM)

( ) Faculty of Information and Communication Technology (FICT)

( ) Faculty of Engineering and Green Technology (FEGT)

( ) M. Kandiah Faculty of Medicine and Health Science (MK FMHS)

( ) Institute of Chinese Studies (ICS)

Section B: Usage of ChatGPT

This section contains five (5) questions. Please read the statements and (√) in the box below.

For Question 1 and 2, please choose a number from 1 to 5 for each statement according to the scale below:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

No	Statement	Responses				
		1	2	3	4	5
1	Are you familiar with Artificial Intelligence (AI)?					
2	Are you familiar with ChatGPT?					

For Questions 3, 4 and 5, please choose a number from 1 to 5 for each statement according to the scale below:

1	2	3	4	5
Less than once a month	Once a month	Once a day	More than once a day	Everyday

No	Statement	Responses				
		1	2	3	4	5
3	How often do you use ChatGPT in your daily life?					
4	How often do you use ChatGPT for academic purposes?					
5	How often do you use ChatGPT for writing skills?					

Section C: Academic Writing Motivation

Please choose a number from 1 to 5 for each statement according to the scale below:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

No	Statement	Responses				
		1	2	3	4	5
1	I enjoy writing with the help of ChatGPT.					
2	ChatGPT makes it easier for me to write down my own thoughts.					
3	With ChatGPT, I complete a difficult writing assignment more confidently.					
4	ChatGPT helps me put a lot of effort into my writing.					
5	ChatGPT encourages me to participate in written online discussions.					
6	I like to get feedback from ChatGPT on my writing.					
7	I feel more confident about my writing being graded when I use ChatGPT.					
8	I am more likely to succeed if I can write well with ChatGPT.					
9	When I can use ChatGPT, it is easy for me to write good essays.					
10	I enjoy creative writing assignments when I can use ChatGPT.					
11	I find classes that require a lot of writing more enjoyable when using ChatGPT.					
12	I plan how to write with ChatGPT before writing.					
13	ChatGPT has encouraged me to be a better writer.					
14	ChatGPT makes me feel that improving my writing skills is important for my future career.					
15	Using ChatGPT helps me aim for higher grades in writing assignments.					
16	Challenging writing assignments become more enjoyable when I use ChatGPT.					
17	I revise my writing with ChatGPT before submitting my assignments.					
18	I like to write with ChatGPT even if my writing will not be graded.					
19	When I can use ChatGPT as a writing tool, I enjoy writing research papers more.					

20	ChatGPT motivates me to practice writing and improve my skills.					