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TITLE

Investigating EFL Learners' and Teachers' Perceptions of ChatGPT as a Tool for Developing the Writing Skill at the Department of English at MMUTO

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Dedication

I dedicate this work, first and foremost, to myself for the hard work I invested in it.

To my supportive and encouraging family, friends, and loved ones.

Lastly, to my dear partner in this project, Thinhinane, thank you for being by my side throughout this journey.

Lydia, BEN CHIKH

I dedicate this work to my lovely parents, who have been and continue to be my source of encouragement.

To my beloved sister and brother.

To the special names in my life I dedicate this work.

Without missing my binomial Lydia, Thank you for the moments I spent with you while conducting this research.

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Abstract

Artificial Intelligence (AI) has transformed various fields, including education, by providing new methods to improve learning and enhance educational tasks. Hence, this dissertation investigates EFL learners' and teachers' perceptions of ChatGPT as a tool for enhancing writing skills at Mouloud Mammeri University. Relying on Rogers' Diffusion of Innovations Theory (1962) as a theoretical framework, this study aims to achieve three objectives: first, to explore EFL students' attitudes towards ChatGPT; second, to identify the benefits and challenges associated with its use for writing improvement; and third, to examine EFL teachers' views on its integration into students' writing processes. This exploratory research adopts a Mixed-Methods approach for data collection. Quantitative data were collected through a questionnaire distributed to thirty (30) randomly selected students, while qualitative insights were gathered via structured interviews with six (6) randomly selected teachers. The analysis of data included Descriptive Statistical Analysis for quantitative data, and Qualitative Content Analysis for qualitative data. Findings from the questionnaire indicate that the majority of students hold positive perceptions towards ChatGPT, finding it effective for improving their writing skills. From the results of the interviews, teachers expressed mixed views, with some acknowledging its benefits while others raised concerns about authenticity and productivity. In conclusion, while EFL students perceive ChatGPT as beneficial for improving writing skills, the differing teacher views illustrate the challenges of integrating AI in education. Future research should consider comparative and long-term studies to examine ChatGPT's effectiveness across various levels of language proficiency and educational contexts.

Key words: Perceptions, ChatGPT, EFL Learners/Teachers, Writing Skill, The Diffusion of Innovations Theory.

List of Abbreviations

AI	Artificial Intelligence
ICT	Information and Communication Technology
EFL	English as a Foreign Language
GPT	Generative Pre-trained Transformer
TEL	Technology Enhanced Learning
TELL	Technology Enhanced Language Learning
QCA	Qualitative Content Analysis
DOI	Diffusion Of Innovations
MMUTO	Mouloud Mammeri University of Tizi Ouzou
ESL	English as a Second Language
Q	Question
H	Hypothesis
N	Number

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General Introduction

Statement of the Problem

Artificial intelligence (AI) tends to bring significant changes to information and communication technology (ICT) through the use of different advanced technologies, such as machine learning, deep learning, and natural language processing. These are there to improve communication, facilitate learning, help in using applications(Haldorai, Murugan,& Ramu,2020). Therefore, AI is applied in various fields such as health, banking, finance, business, as well as education.

In recent years, AI plays a crucial role in the field of education. Remarkably, its integration into language learning, specifically EFL classes has seen beneficial outcomes. Artificial intelligence refers to the ability of a device to achieve tasks that are usually associated with human intelligence(Willick,1983). Current advancements in AI have led to the emergence of a chat-bot known as ChatGPT. The latter refers to itself as a language model developed by OpenAI. This AI-powered writing tool has received remarkable feedback regarding its ability to generate human-like texts and understand language. Consequently, studies show that EFL students have benefited from ChatGPT in regards to improving their writing ability, as it provides automated responses on different elements of writing, such as organization, coherence, grammar, and vocabulary. Therefore, facilitating the writing process. Besides, this AI tool makes it easier for learners to develop their writing by pointing out and correcting grammatical and lexical errors, resulting in overall improved writing quality and structure(Song & Song, 2023).

Internationally, numerous noteworthy studies have been published concerning the use of ChatGPT in an EFL writing context. Among them, an experimental study that was conducted by Song and Song (2023) titled “*Enhancing Academic Writing Skills and Motivation: Assessing The*

Efficacy of ChatGPT in AI-assisted Language Learning for EFL Students”. The findings of this study recognize the positive impact of AI-assisted instruction on enhancing writing skills and motivation, as well as express concerns about contextual accuracy and over-reliance. Another case study with the title “*Examining The Effectiveness of AI-integrated Approach in EFL Writing: A Case of ChatGPT*” was conducted by Harunasari (2023). The research provides significant insights to EFL learners regarding the use of ChatGPT in a responsible and effective way in their writing process.

The majority of research on integrating ChatGPT into EFL education has been carried out in foreign countries. However, within the Algerian context, although studies like “*Exploring Chat GPT Potential in Flipped Classrooms for Improving Lexicogrammatical Features in Algerian EFL Learners’ Essay Writing*” by Amina Abde lhadi (2023), have examined the role of ChatGPT in enhancing specific aspects of writing, such as lexicogrammatical competence, there has been little focus on the perceptions of EFL learners and teachers regarding the use of ChatGPT for developing writing skills, particularly at Mouloud Mammeri University of Tizi Ouzou. Therefore, our study aims to address this gap by investigating the attitudes of both EFL learners and teachers concerning the use of ChatGPT to enhance overall writing skills.

Aims and Significance of the Study

ChatGPT is a software that runs on digital devices used for various purposes, such as developing the writing skill. The overall aim of this dissertation is to investigate the perceptions of both EFL learners and teachers regarding the use of ChatGPT as a tool to develop the writing skill for different levels (L1, L2, L3, M1 and M2) in the Department of English at Mouloud Mammeri University of Tizi Ouzou. This study has three main objectives: First, it aims to explore

the attitudes of EFL learners towards using ChatGPT to develop their writing. Second, it seeks to identify the challenges and benefits that are associated with the use of ChatGPT in developing the writing skill. Third, it aims to examine the views of EFL teachers on ChatGPT as a tool for students' writing improvement.

The research at hand contributes to the field of technology-enhanced language learning by focusing specifically on the use of ChatGPT in an EFL context. It explores the possibility of using ChatGPT as a tool to improve writing skills and highlights the perceptions of both learners and teachers regarding its effectiveness. The study also examines how ChatGPT can assist with different stages of writing, such as idea generation, composing, and revising, while offering practical suggestions for its effective and ethical use in the classroom.

Research Questions and Hypotheses

In order to reach the objectives mentioned above, we formulate the following questions:

- **Q1:** How do EFL students at the Department of English at MMUTO perceive the use of ChatGPT as a tool for developing their writing skill?
- **Q2:** What challenges do students encounter, and what benefits do they gain when using ChatGPT to improve their writing skills?
- **Q3:** What are EFL teachers' views regarding students reliance on ChatGPT to enhance the writing ability?

The following hypotheses are advanced to address the previous research questions:

- **H1:** EFL students at the Department of English at MMUTO perceive the use of ChatGPT as helpful and effective in improving their writing performance.

- **H2:** Students' use of ChatGPT for writing development can have both positive and negative outcomes based on how the tool is used.
- **H3:** EFL teachers maintain negative attitudes concerning students' reliance on ChatGPT in their writing process.

Research Techniques and Methodology

The present study investigates EFL teachers and learners' perceptions of ChatGPT as a tool to develop the writing skill in the department of English at MMUTO. In this regard, we have used both quantitative and qualitative research methods, so as to collect and analyse data. We have opted for a Mixed-Methods approach. Two data collection instruments are used in this research which are a questionnaire and an interview. On the one hand, the quantitative data are collected through a questionnaire designed for learners of different levels (L1,L2,L3,M1,M2) at the Department of English, in order to explore their attitudes towards the use of ChatGPT, as well as to identify the impact that this tool has on them. On the other hand, the qualitative data are gathered using a structured interview conducted with teachers (N=6) in order to gain insights on their opinions about the use of ChatGPT. In the qualitative data is analyzed via Qualitative Content Analysis, while the quantitative data is examined through the descriptive statistical method.

The theoretical framework that we have relied on to conduct our research is the Diffusion of Innovations Theory, developed by the sociologist Everett Rogers in 1962. This theory provides a way to study the integration of innovations, such as ChatGPT, into educational contexts. It explains how new ideas and technologies spread among individuals and groups, making it particularly useful for understanding how ChatGPT is adopted and used by learners and teachers.

Structure of the Dissertation

This dissertation is structured based on the simple traditional model that starts with a General Introduction, followed by four chapters, and a General Conclusion. The General Introduction includes the statement of the problem, aims and significance of the study, research questions and hypotheses, and research techniques and methodology. The first chapter is the Review of Literature, which explores the main ideas about the topic as well as the theoretical framework guiding the research. The second chapter entitled Research Design and Methodology, concerns the tools and methods used to collect and analyze data. The third chapter entitled Presentation of The Findings, offers a detailed overview of the results extracted from the questionnaire and the structured interview. The fourth chapter is the Discussion of the Findings which examines the results and provides responses to the research questions, and verifies the validity of the hypotheses by confirming or refuting them. Finally, the General Conclusion is a summary of the entire work.

Chapter One:

The Literature Review

Introduction

This chapter focuses on exploring the important concepts concerning the subject matter of our research. It is divided into five sections; the first section deals with Artificial Intelligence and ChatGPT and all the concepts related to them, as well as the tool's positive and negative aspects. Then the second section delves into the different definitions of the writing skill and highlights its benefits, as well as identifying the relationship between technology and writing. The third part explains the concept of perception, including diving into the perspectives towards technology-enhanced language learning. The fourth section, presents previous studies related to ChatGPT, while the final section outlines the theoretical framework underlying our study.

1 Definition of Artificial Intelligence (AI)

The concept of AI was created by the British thinker Alan Turing, whose 1950 study "*Computing Machinery and Intelligence*", explored the creation and development of intelligent machines. Two more important figures behind AI are John McCarthy known as the "father of AI" who came up with the term artificial intelligence in 1956, and Marvin Minsky who made significant contributions to the field (Redillas, 2023). McCarthy(2007) defined AI as "the science and engineering of making intelligent machines, especially intelligent computer programs". This definition shows that AI combines both science and engineering to create smart machines and computer systems, which allows them to think and learn like humans. Additionally, artificial intelligence refers to a computer's capacity to do things that human beings can do; it involves making systems that contain characteristics of humans such as thinking, understanding, learning, solving problems (Copeland, 2024).

AI could be defined as a theory that involves inventing computer systems which are able to do things that needs human intelligence, such as making decisions. It includes multiple technologies like machine learning, deep learning, and natural language processing (Coursera Staff, 2024). On the other hand, according to Minsky (1968) AI is a field that focuses on creating machines capable of performing tasks that would require intelligence if carried out by humans (as cited in Marsden, 2017). Essentially, artificial intelligence involves developing systems that can handle tasks that depend on human intelligence.

Interestingly, Li et al. (2018) assert that smart computers and robots are changing society as they become more advanced. AI is now a part of nearly every part of people’s lives. (as cited in Limna et al., 2022). That is to say, AI is basically used in various fields and domains, meaning that it is a valuable and important technology today. In this matter, its integration into the field of education has seen notable feedback. For instance, a study conducted by Altun (2015), titled “*The Integration of technology into foreign language teaching*”, reveals that technology-based instruction significantly improves the teaching and learning process for language learners, in addition to traditional methods.

1.1 Introduction to OpenAI

OpenAI defines itself as “an AI research and deployment company. Our mission is to ensure that artificial general intelligence benefits all of humanity”. Moreover, Rouse (2024) states that OpenAI is a tech company launched in December 2015 by Elon Musk and Sam Altman; the company is based in San Francisco, California. OpenAI tends to promote artificial intelligence through an open collaboration with others to make sure that its benefits are commonly shared and accessible to everyone. Likewise, according to Zarnowska (n.d.) OpenAI is an innovative

organization that has changed the artificial intelligence and machine learning fields. Its aim is to make sure that AI benefits everyone, and it has created interesting technologies which are used in different industries. In 2018, the company released a report clarifying what a Generative Pre-trained Transformer (GPT) is. The latter, refers to a neural network or machine learning model that is designed to work like a human brain (Hashemi-Pour, 2024).

OpenAI has developed multiple technologies which aimed at enhancing various fields. In this regard, Hashemi-Pour (2024) indicated that one of the most known product of this company is ChatGPT, launched in 2022, it was immediately considered as the most advanced chatbot in the world due to its capability of offering responses to users on countless different subjects. Despite it being an outstanding AI technology, ChatGPT has both advantages and disadvantages.

1.2 The Use of ChatGPT

ChatGPT is a software that was developed by the American company OpenAI, launched on November 30,2022. It is designed to understand and provide responses to people's questions using conversational or natural language. ChatGPT defines itself as a language model created by an artificial intelligence research laboratory, which is based on the GPT or Generative Pre-training Transformer architecture. The latter refers to a neural network designed to function like a human brain. According to ChatGPT, its main purpose is to produce texts that imitate human language (Gregersen,2024). Similarly, Hetler (2023) defines ChatGPT as an artificial intelligence (AI) chat-bot that utilizes natural language processing in order to create human-like conversational dialogue. It is also capable of generating different types of written content, such as articles, social media posts, essays, code, and emails.

According to Baum and Villasenor (2023), the introduction of ChatGPT by OpenAI in late 2022 made a significant impact in the technology sector and other domains. Two months after its release, ChatGPT gained over 100 million monthly users, surpassing popular platforms such as TikTok and Instagram. Unlike other chat-bots ChatGPT has seen a noticeable interest worldwide due to its capacity to engage in human-like conversations as well as providing responses to prompts like writing essays and poetry. In addition to this, Ferguson (2023) regarding how ChatGPT works simply states that:

The model is trained on massive amounts of text data from the internet, including books, articles, and other written sources. During training, the model learns to predict the next word in a sentence based on the context of the previous words. This process is repeated many times, resulting in a model that can generate coherent and grammatical sentences in response to prompts.(p.5).

Nowadays, ChatGPT is basically considered one of the most advanced language models on the market, as it is indeed a powerful tool that provides countless options and opportunities, which makes it versatile and easy to use for various purposes (Stankov, 2023). Many individuals consider this AI chat-bot as an excellent tool for offering different content based on what the person is actually looking for. Students tend to use it either to help them solve their tasks or as an idea generator to enhance their writing ability in English because it corrects grammar mistakes and gives coherent sentence structure. ChatGPT just like any other social media platform or computer software has its benefits as well as its inconveniences, and it all depends on how people use it and for what purposes.

1.3 Positive and Negative Aspects of ChatGPT

ChatGPT has gained its success due to its ability to provide various content on a variety of topics. It has a positive impact on people across multiple fields. To mention some benefits; ChatGPT enhances students' language abilities as it provides correct and grammatically well structured responses, and students can learn new vocabulary and grammar rules in an entertaining and engaging way. As a result, this improves their language skills. Indeed, ChatGPT facilitates students' access to information and resources as it gives them significant information from various sources (Hamdan, 2023). Additionally, ChatGPT is easily accessible, free and available on every digital device, offering assistance anytime and anywhere. Finally, given that ChatGPT is versatile, it does not only provide answers, but it can be used for various other tasks, such as content generation, educational purposes, productivity improvement, as well as encouraging creativity and invention across different fields.

While it is a useful AI tool, ChatGPT also has its negatives. To point out a couple of its drawbacks; ChatGPT can diffuse false information or propaganda, especially if it is used on social media. Also, since ChatGPT can write like humans, there is a risk of stealing identities or someone else's work. That is why it is important for businesses and organizations to take into consideration these kinds of risks (Deng and Lin, 2022). Another disadvantage is that ChatGPT can make students over rely on technology in looking for answers to everything they ask for, which in turn can constrain their ability to be independent critical thinkers and problem-solvers (Hamdan, 2023). In this regard, ChatGPT can generate incorrect responses, resulting in the transmission of misinformation. Finally, ChatGPT can also present other people's work without

proper reference which leads to issues of plagiarism, as well as concerns about academic integrity.

2 The Writing Skill

Writing is a way of human communication where words are expressed in a written form following a specific language structure (Olson,2024). Nunan(2003) claims that writing involves the mental process of generating ideas, deciding how to communicate them, and arranging them into sentences and paragraphs that are understandable to the reader. That is to say, writing is a language skill that involves coming up with ideas and giving them explanation, as well as organizing them into coherent sentences then paragraphs so as to make sense to someone reading them. On the other hand, Hutchinson (2005) indicates that writing is simply another type of expression, where the ability to write develops through practice by transferring thoughts and grammatical structures into written words (as cited in Saputra,2014).

Additionally, the writing skill is the ability of transmitting thoughts, emotions, ideas and information to a piece of writing in an organized way, which involves an effective vocabulary, a right punctuation, a coherent form and clear paragraphs to communicate correctly. Hence, it plays a crucial role for EFL students. Likewise, Brown (2001) explains that written works are usually the outcome of a process involving thinking, creating, and revising, which demands specific skills that not all speakers develop easily. In other words, the writing skill is not only about the act of writing itself, it involves skills such as research, editing, planning, outlining, revising, spelling, grammar and organization; which are important to consider in order to master writing. According to the Norwegian ministry of education and research (2012) writing includes conveying ideas clearly and appropriately on different topics while engaging with people through

written communication. It is also considered as a means for one's thought development during the learning process. Lastly, effective writing requires the mastery of certain skills, such as planning, creating, and editing texts based on the subject, goal, and audience.

2.1 The Benefits of Teaching Writing

Writing is considered as a difficult skill when compared to the other language skills, namely, listening, speaking and reading. In this regard, Alderson (2005) states that writing in a foreign language is one of the most challenging skills to learn and it is infrequently taught in secondary schools. However, at the university level, students whose first language differs from that of the institution must be able to write in the language used for instruction, as much of their learning is presented through written work. According to Harmer (1998) "the reasons for teaching writing to students of English as a foreign language include reinforcement, language development, learning style and, most importantly, writing as a skill in its own right" (p.79). These purposes of teaching writing could be summarized in the following:

Reinforcement: It is a crucial reason since its principle is to provide a positive feedback, promote students to develop their writing skills. Consequently, it helps boost their confidence and keeps them motivated.

Language development: when giving students tasks in writing, it helps them in enhancing their grammar, vocabulary, and rules of sentence structure. That is to say, teaching writing is not only about the act of writing itself, it also educates them on how to properly use their own information.

Learning style: some students find it hard to learn through oral practices. Hence, writing is an opportunity to learn. In other words, some students may find the oral style more suitable to learn and others may prefer the writing style.

Writing as a skill: language skills are interrelated, therefore, writing is an essential skill that plays an important role in enhancing and mastering the other language skills, as well as facilitating communication for EFL learners.

Byrne (1993), mentioned two other important purposes:

Variety: when providing a range of writing activities, it helps students foster their creativity, and critical thinking. By including variety in teaching writing, it is important to keep students motivated and engaged.

Testing: It helps teachers see what students master and what they need to work on. In addition, it facilitates testing oral skills to a large number of students at the same time, for example by giving them true or false activities and ask them to fill the gaps at the same time of reading a text.

2.2 Technology and Writing

Technology according to the Oxford Learner's Dictionaries is defined as the practical application of scientific knowledge in industries, such as creating new machines. Likewise, "technology refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes"(Collins Dictionary, n.d). That is to say, technology refers to tools, machines and systems that people invent to solve problems, and to facilitate tasks, such as computers, smartphones, and the internet.

Therefore, the integration of technology into EFL classes has a positive impact on students' writing skills, because it enhances their performance, lexical abilities, and creativity. All these are provided by ChatGPT. Technology helps students to stay motivated and engaged in the writing process which in turn improves their writing skills. To put it simply, technology could be defined as a tool that makes writing easier and more convenient for students, as it gives them

access to a vast amount of information. For example, students can conduct a research and find information quickly thanks to the internet, computers, and smartphones, and in turn they are able to produce a piece of writing that is reliable and well organized.

3 The Concept of Perception

The concept of perception can be defined in different perspectives. According to the Oxford Learner's Dictionaries, perception is described as "An idea, a belief, or an image you have as a result of how you see or understand something". That is to say, perception is the way people think about things based on their own observations and understandings of the world around them. From an etymological point of view the word "perception" is derived from the Latin word "*perceptio*", which means receiving, collecting, and understanding things using the mind and the senses.

From the psychological view Robbins and Judge (2017) define perception as "a process by which we organize and interpret sensory impressions in order to give meaning to our environment. What we perceive can be substantially different from objective reality" (p.209). In other words, perception is a mental process by which individuals make sense of and give meaning to their environment, and that every person has their unique way of understanding the world around them based on their own experiences.

However, Aristotle describes perception as a smart way of understanding things, which allows individuals to react thoughtfully in different situations (Gasser-Wingate,2022). The psychologist Richard Gregory's Constructivist Theory of perception claims that perception involves active use of prior knowledge and past experiences in order to give meaning to things. However, Gibson's Direct Theory views perception as a direct process which does not rely on

previous knowledge and experiences, because, according to him perception is an innate process that does not require learning (as cited in StudySmarter, n.d.).

The concept of perception can be simply defined as the way people understand and give meaning to the things they experience, using their five senses which are sight, hearing, smell, taste, and touch. Perceptions differ based on the field and the context that is being discussed. For instance, perceptions towards language learning and teaching can vary within different groups of people, such as teachers, language learners and linguists.

3.1 Technology-Enhanced Language Learning Perceptions

Technology-enhanced learning or TEL could be defined as the integration of technology into the teaching and learning process to improve the classroom experience (Villegas, n.d.). Faramarzi and Dayag (2023) state that technology-enhanced language learning involves using tools like computers, mobile devices, and software applications to improve language learning and offer enjoyable and interesting experiences for learners (as cited in IGI Global Dictionary). This approach makes the learning process more engaging and accessible.

Perceptions towards technology-enhanced language learning may differ for teachers, and learners. For example, a study done by Liu, Zhang, and Gao, in 2023, reveal that teachers are very positive about using technology in language learning. They consider it as a helpful tool in the classroom. However, a study conducted during the Covid-19 pandemic, in 2020, by Supriadi, Nisa, and Wulandari, show that the majority of the EFL teachers' views on technology-enhanced language learning changed, and they were not pleased with the use of technology during lock down and they preferred in-person interactions over online ones.

4 Previous Studies

Recent studies have explored the impact of technology, particularly ChatGPT, on language learning and writing skills, revealing both its benefits and challenges. For instance, Özçelik and Ekşi's study(2024), found that students perceived ChatGPT as a valuable tool for acquiring formal writing skills, while Mahapatra's (2024) research demonstrated that ESL students had a positive view of ChatGPT's role in enhancing their academic writing abilities. These findings suggest that ChatGPT can effectively support writing skill development in diverse educational contexts.

Similarly, Muhtar, Pammu, and Nasmilah's (2021) study reported that most students found various technological tools to be helpful and beneficial for academic purposes, noting improvements in their overall learning experiences through technology-enhanced language learning. Meanwhile, Nguyen's (2023) research, acknowledged that ChatGPT contributes to improving writing skills but also pointed out its drawbacks, such as the risk of over-reliance and concerns about academic integrity. Nguyen emphasized that teachers were excited about using ChatGPT in writing lessons but highlighted the need for proper training to ensure its safe and effective use. Overall, these studies showcase the potential of ChatGPT and other technologies in supporting language learning, while also emphasizing the importance of using these tools with caution and proper guidance.

5 Theoretical Framework

A theoretical framework functions as the basis of research by connecting the research problem to existing knowledge and helping with the interpretation of findings. In this study, the

framework will help explore how innovations like ChatGPT are adopted and diffused among EFL learners and teachers. By using Rogers' Diffusion of Innovations Theory, the research will better understand the perceptions, attitudes, and the impact of AI tools in an educational context.

5.1 Rogers' (1962) Diffusion of Innovations Theory

The Diffusion of Innovations Theory (DOI) was developed by the sociologist Everett Rogers in 1962, in his book *Diffusion of Innovations*. This theory aims at explaining how new ideas and technology spread, why and how quickly they do so. As far as our study is concerned, the purpose of using the Diffusion of Innovations Theory is to investigate how ChatGPT is adopted and diffused among EFL learners and teachers. We intend to achieve our aim by examining the perceptions of EFL learners towards ChatGPT, as well as determining EFL teachers' attitudes, and identifying the impact of this AI tool on learners. These procedures align with the key concepts of the theory, which include innovation characteristics; adopter characteristics, such as attitudes and perceptions, as well as communication channels and the adoption process.

Rogers (1983) refers to diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system”(p. 34). Additionally, according to Rogers there are many elements that influence the diffusion of an innovation within a society. These elements include the innovation itself, communication channels, adopters, and the innovation-decision process.

An innovation is defined by Rogers(1983) as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption”(p.11). Besides, he identifies five innovation

characteristics or attributes that individuals consider when deciding to adopt an innovation which consist of the following:

Relative advantage: it is defined as “the degree to which an innovation is perceived as better than the idea it supersedes”. Put differently, it is how much people think of a new idea or product as better than the old one it replaces.

Compatibility: “is the degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of potential adopters”. That is to say, an innovation that does not correspond with the beliefs of a society will not be easily adopted compared to an innovation that is compatible.

Complexity: “is the degree to which an innovation is perceived as difficult to understand and use”. Meaning that there are innovations that are easily understood by individuals, and others more difficult to comprehend.

Trialability: Rogers defines it as “the degree to which an innovation may be experimented with on a limited basis”. Said differently, it is testing or trying out the innovation before deciding to adopt it.

Observability: “is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt”. In other words, it is how much an innovation gives real and noticeable outcomes.

Communication channels are described by Rogers(1983) as “the means by which messages get from one individual to another” (p.17). These channels could be mass media, such as, television and radio, interpersonal channels like face to face interactions; social networks, and opinion leaders who hold the power to influence others’ adoption decisions.

On the other hand, adopters are individuals or organizations that are part of a social system; the characteristics of adopters refer to the personality traits and attributes that shape their attitudes and perceptions towards deciding whether to adopt an innovation. The innovation-decision process involves five stages that an individual goes through when deciding to adopt a new innovation, these include knowledge, persuasion, decision to adopt or reject, implementation, and confirmation. In the context of our study, using this theory provides valuable insights into the reasons behind the adoption of innovations, such as ChatGPT in educational settings, particularly in EFL writing. It also helps identify the factors that affect its adoption and diffusion among EFL learners and teachers in the department of English at MMUTO.

Conclusion

This literature review chapter summarizes the key concepts which are related to our research topic. It starts by explaining what Artificial Intelligence is and introducing OpenAI, followed by a definition of ChatGPT that includes its negative and positive aspects. The chapter also describes the writing skill and the concept of perception. Additionally, it presents previous studies related to ChatGPT. Lastly, it provides a detailed overview of the theoretical framework underlying our research. The next chapter will focus on the design and methodology of the study.

Chapter Two:

Research Design and

Methodology

Introduction

This chapter deals with the methodology we have relied on in our research, which aims at investigating the perceptions of both EFL teachers and learners towards the use of ChatGPT to develop the writing skill at the Department of English at MMUTO. This chapter involves the research method and design, as well as the procedures followed to collect and analyze data. It also aims at addressing the research questions and hypotheses stated in the general introduction. This chapter consists of three sections, the first one discusses the research method and design. The second focuses on the data collection procedures, including the context, participants, and tools used to gather data. The third section delves into the procedures used to analyze the gathered data.

1 Research Method and Design

Research method and design refer to the structured plan used to investigate a research problem. This involved choosing appropriate methodologies, such as qualitative, quantitative, or the combination of both which is known as Mixed-Methods research. In this study, the focus is on the Mixed-Methods approach, since it gives a more comprehensive understanding of the research topic, as it provides statistical data along with detailed insights from participants' experiences.

1.1 Mixed-Methods Research

The dissertation at hand follows a Mixed-Methods approach. According to Creswell (2012), mixed methods designs are approaches for gathering, analyzing, and combining both quantitative and qualitative data within a single study or across multiple phases of research. That is to say, Mixed-Methods research is basically the combination of both quantitative and

qualitative research, which offers a comprehensive understanding of the subject being investigated, as qualitative data gives detailed and deep insights and quantitative data provides broader findings.

2 Data Collection Procedure

In order to get a proper understanding of the subject matter underlying this research, two data collection instruments have been used which consist of a questionnaire designed for students and an interview designed for teachers.

2.1 Context and Sample

This research was carried out at MMUTO's Department of English throughout the academic year of 2023/2024. The questionnaires were distributed to students on May 2024, and the same applies to the interview designated to the teachers.

In order to select a sample, it is important to identify the participants from which it will be chosen. The participants being focused on in this study consists of EFL teachers and learners in the Department of English at Mouloud Mammeri University of Tizi Ouzou. Hence, a sample of six (6) students from each level L1,L2,L3,M1,M2 is randomly selected from the large number of students at the Department of English. Besides, six (6) teachers were randomly selected among all those working at the Department of English at MMUTO. Random sampling refers to selecting a sample so that each individual has an equal and independent opportunity of being chosen as a sample (Gay, Mills, Airasian, 2012, p.131). The main reason for choosing students from different levels (L1,L2,L3,M1,M2) is to gather diverse perspectives on ChatGPT, ranging from different educational levels.

2.2 Students' Questionnaire

A questionnaire is a research tool or instrument which contains a list of questions or items used to collect data from participants about their views, experiences and perspectives on a specific research topic (Bhandari, 2023). According to Mcleod(2023) questionnaires are a cheap, fast, and easy method to collect a lot of information from a large group of individuals.

The questionnaire used in this study for students is a combination of 19 closed-ended and open-ended questions. The closed-ended questions provide participants limited options, while the open-ended questions allow respondents to freely express their thoughts. It is divided into five(5) sections. The first section gathers demographic information, including participants' level of study. The second section involves students' knowledge and experience with ChatGPT; it consists of five(5) questions, one closed-ended (Yes/No) question (Q2), and four(4) multiple choice questions(Q3,Q4,Q5,Q6).

The third section focuses on students' perceptions of using ChatGPT to enhance their writing skill, it contains eight(8) items, three multiple choice questions(Q7,Q8,Q11), three closed-ended(Yes/No) questions(Q9,Q12,Q14), one semi-structured question(Q10) where students select an option and then explain their answer, and one open-ended question(Q13). The fourth section collects information about teacher support and feedback on ChatGPT; it has three(3) items, one open-ended question(Q15), and two closed-ended questions(Q16,Q17). The fifth section addresses recommendations and future use, consisting of two closed-ended (Yes/No) questions. Finally, there is a dedicated section for students to provide any additional information or suggestions they may have regarding their experience with ChatGPT.

2.3 Pilot of the Questionnaire

In order to make sure that the questionnaire was effective, it has underwent a pilot phase with a small group of five EFL students from each level before its wider distribution. Piloting a questionnaire refers to testing its content in order to make sure that the items are well structured, and identify issues or mistakes if there are any. In general, the five students gave positive feedback regarding the simplicity of the chosen words, claiming that the questions were easily understood and straightforward. However, there have been some slight mistakes and we corrected them before the distribution of the questionnaire.

2.4 Teachers' Interview

According to George and Merkus(2023) a structured interview refers to a data collection tool that involves asking questions in a fixed order to gather information on a specific subject. That is to say, a structured interview consists of an already planned list of questions which are set to be asked following a specific order. The interviews were administered to teachers in an asynchronous online format via emails, and this was chosen due to its practicality.

The structured interview designated to six (6) teachers, is intended to capture their different opinions and views towards students' reliance on ChatGPT in relation to writing improvement. The interview is composed of thirteen (13) questions; the initial question deal with the teachers' familiarity with ChatGPT, the remaining questions aim to collect teachers' perceptions and views towards students' use of ChatGPT to develop their writing skill.

3 Data Analysis Procedures

After collecting data, the analysis and presentation of the information is done objectively. The chosen data analysis method depends on the type of data that is collected, which could be

qualitative or quantitative. For the quantitative data, the method used is descriptive statistical analysis, while Qualitative Content Analysis (QCA) is used to analyze the qualitative data.

3.1 Descriptive Statistical Analysis

Quantitative data analysis involves examining and interpreting numerical data through the use of statistics. In this regard, we have used the descriptive statistical method in order to analyze the data obtained from closed-ended questions. This technique involves manual calculation by applying the rule of three to calculate percentages, which are later on used in describing the data that was collected. According to Vetter(2017) descriptive statistics are methods used to calculate, describe, and summarize research data clearly and efficiently. To put it differently, descriptive statistics are simply tools used to give meaning to research data, by summarizing and organizing the gathered information in order to have a better understanding of it through the use of pie charts, graphs, or tables.

3.2 Qualitative Content Analysis

Qualitative data analysis is the collection, organization and analysis of qualitative data in order to get a proper understanding. Unlike quantitative data, is non-numerical unlike quantitative data, it is basically textual content gathered from the open-ended questions of the students' questionnaire and the teachers' interview. In this context, Qualitative Content Analysis is the method used in this study in order to analyze the textual data that is collected. Additionally, Delve et al.(2023) define qualitative content analysis as a research method for examining and interpreting textual data, including written documents and interview records. They further state that it offers a structured approach to recognize patterns, concepts, and themes in the data, allowing for a deeper understanding of the meaning and context of the content.

In this research study, the categories and themes or patterns considered are learners' perceptions regarding the use of ChatGPT to enhance their writing skills. It also includes teachers' views and opinions on students use of ChatGPT for writing improvement. Finally, the study examines the innovation characteristics and communication channels related to ChatGPT.

Conclusion

This chapter has explained the research methodology that forms the basis of our study. It has presented comprehensive information regarding the design of this research and offers a rationale for the methodological choices employed in order to gather and analyze EFL teachers' and students' perceptions towards the use of ChatGPT as a tool to develop their writing skills.

Chapter Three:

Presentation of the Findings

Introduction

This chapter is dedicated to the presentation of the results of our research. It is organized into two sections; the first section aims to present the findings obtained from the questionnaire distributed to thirty (30) students of the Department of English at MMUTO. The second section presents the results generated from the structured interview conducted with six (6) teachers from the same department.

1 Presentation of the Results of the Questionnaire

The questionnaire consists of five(5) sections addressing demographic information; students knowledge and experience with the use of ChatGPT; students perceptions of the use of ChatGPT for enhancing their writing skill; teacher support and feedback on ChatGPT; and recommendations and future use. The presentation of the results in these sections is done through the use of the Descriptive Statistical Method and the Qualitative Content Analysis.

1.1 Demographic Information

This section aims to collect information about the participants' educational level.

Question 01: Choose your level of study

Table 1. Students' Level of Study.

Level of study	L1	L2	L3	M1	M2	Total
Number of participants	6	6	6	6	6	30
Percentage	20%	20%	20%	20%	20%	100%

Table (01), representing students' level of study, illustrates the number of participants selected randomly from different levels of study, with each level including six (06) students, representing 20% of the total participants.

1.2 Students Knowledge and Experience with the Use of ChatGPT

This section aims at collecting information about students' awareness, usage frequency, as well as comfort levels, and sources of information regarding ChatGPT.

Question 02: Do you know about ChatGPT, an Artificial Intelligence powered tool?

Figure 1. Students' Awareness of ChatGPT.

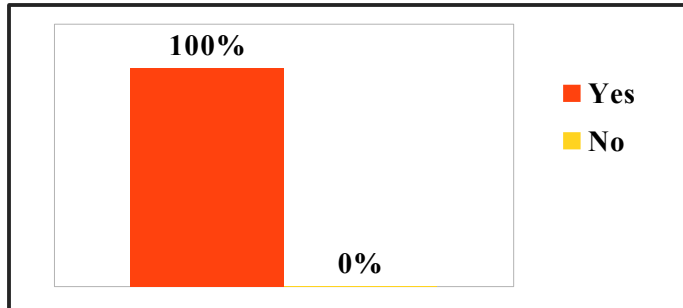


Figure 1, titled 'students' awareness of ChatGPT', displays that all the students (100%) who participated in this study know about ChatGPT.

Question 03: For what purposes do you usually use ChatGPT?

Table 2. Students' Purpose of Using ChatGPT.

Options	Generating ideas	Writing assistance and improvement	Answering questions	Seeking information	Other	Total
Number of responses	7	6	9	9	5	36
Percentages	19.4%	16.7%	25%	25%	13.9%	100%

The second table which represents students' purpose of using ChatGPT, indicates that the same amount of (25%) of students report using ChatGPT for both answering questions and seeking information, while (19.4%) claim using it for generating ideas. On the other hand, (16.7%) of participants utilise it for writing assistance and improvement. Additionally, (13.9%) of students use it for other purposes.

Question 04: How frequently do you use ChatGPT for writing tasks?

Figure 2. Students' Frequency of Using ChatGPT.

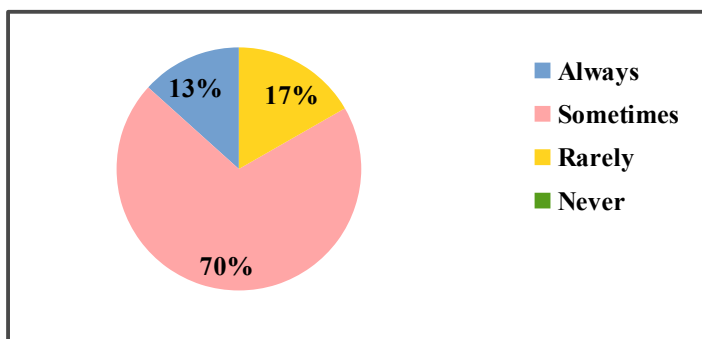
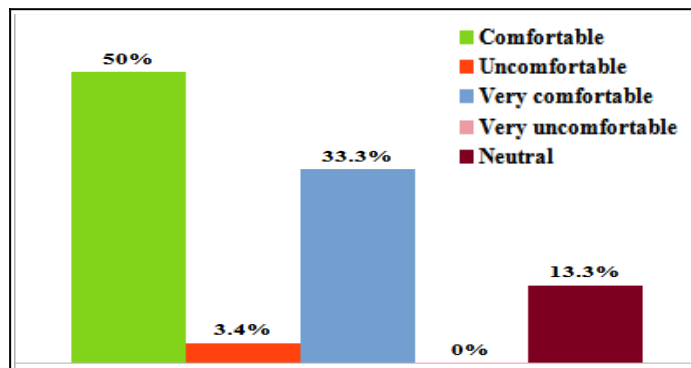


Figure two (2) shows the frequency of participants' usage of ChatGPT. Based on their responses, the majority of students,(70%), state that they use it sometimes. In contrast, (17%) claim to rarely use the software, while (13%) of them admit to always using it. Finally, none of the participant(0%) report never using ChatGPT.

Question 05: How comfortable are you with using ChatGPT for writing improvement?

Figure 3. Students' Comfort Levels with Using ChatGPT.



According to figure (03), which displays participants' comfort levels with using ChatGPT for writing improvement, a great portion of students (50%) state that they are comfortable with using the AI tool, while (33.3%) admit to being very comfortable with it. Additionally, (13.3%) remained neutral and did not express an opinion. On the other hand, a small percentage (3.4%) assert that they are uncomfortable with using ChatGPT. Lastly, (0%) responded with very uncomfortable.

Question 06: From where did you first hear about ChatGPT?

Figure 4. Students' Source of Information Regarding ChatGPT.

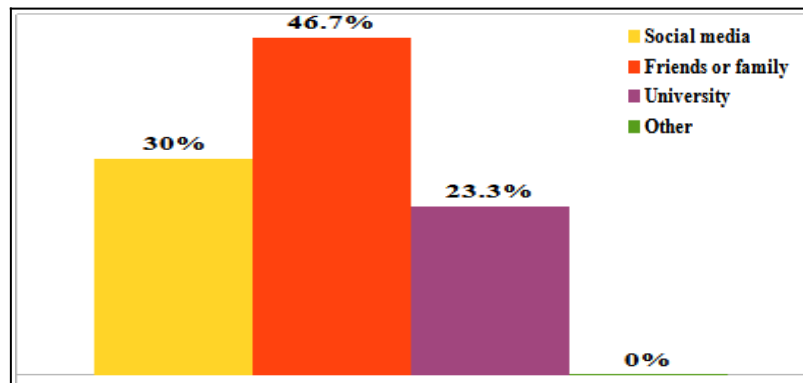


Figure four(04) illustrates the sources from which participants first heard about ChatGPT. According to their responses, (46.7%) maintain that they heard of it from friends or family, while (30%) report that they heard of the software from social media. Additionally, (23.3%) state hearing of it from university, however, none of them (0%) replied with other sources.

1.3 Students Perceptions of the Use of ChatGPT for Enhancing their Writing Skill

This section aims to gather valuable perspectives from students regarding the efficacy and practicality of ChatGPT as a tool for enhancing their writing abilities. It seeks to explore students'

thoughts on how ChatGPT contributes to the improvement of their writing skills and its overall usefulness in that context.

Question 07: To what extent do you agree with this statement: “using ChatGPT has improved my writing performance”

Figure 5. Students’ Agreement with the Statement.

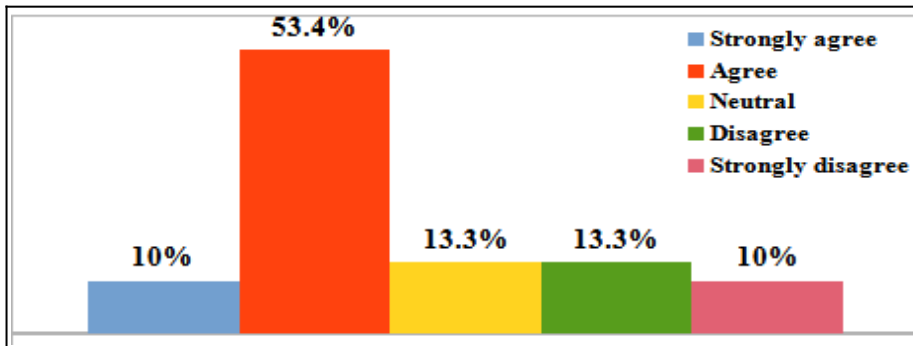


Figure five (05) indicates students’ level of agreement with the statement: “using ChatGPT has improved my writing performance”. The results show similar percentages across different agreement levels. The majority of respondents, comprising (53.4%), agreed with the statement, while, a smaller percentage of (10%) expressed their strong agreement or strong disagreement. Meanwhile, around (13.3%) either disagreed with the statement or have had a neutral stance.

Question 08: In which aspects of writing do you find ChatGPT most helpful at?

Figure 6. Students’ Opinions on ChatGPT’s Helpfulness in Writing Aspects.

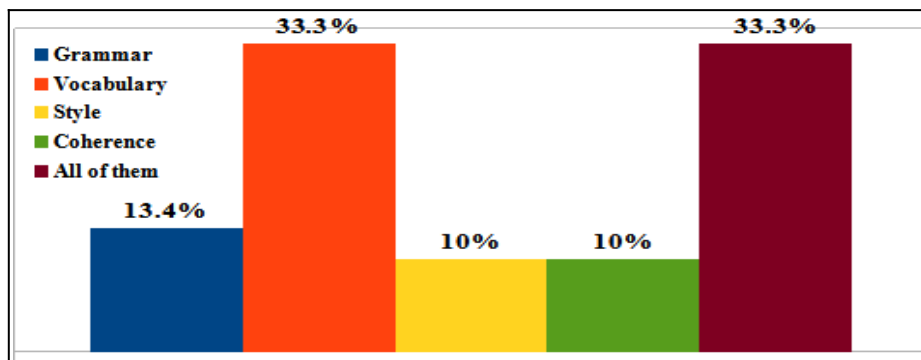
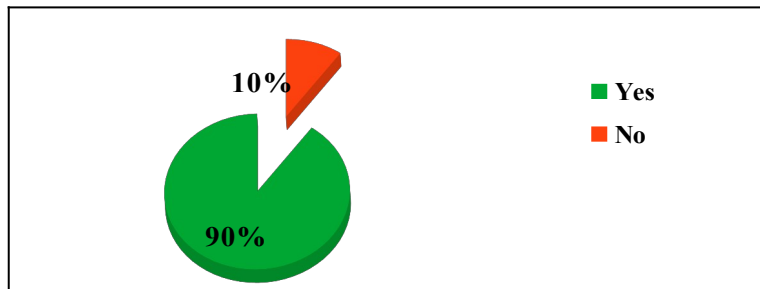


Figure (6) showcases the aspects of writing where participants find ChatGPT most helpful. (33.3%) of students claim that ChatGPT is mostly helpful in all aspects, while the same percentage find it beneficial for improving their vocabulary. Additionally, (13.4%) affirm that the AI tool assists them with grammar; whereas, (10%) of students reveal that it helps them enhance their writing style or coherence.

Question 09: While using ChatGPT, have you encountered any new and interesting ideas that you had not considered before when writing?

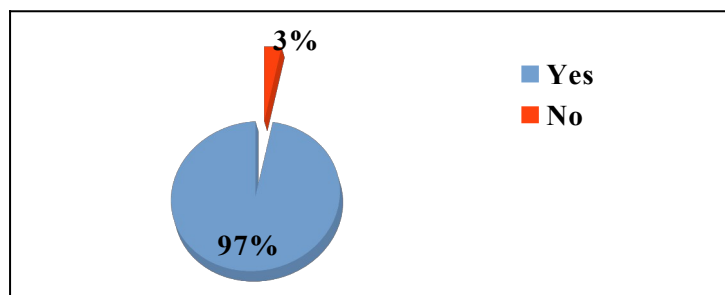
Figure 7. Students' Encounter with New Ideas while Using ChatGPT.



The above Figure demonstrates participants' experience of encountering new and interesting ideas while using ChatGPT for writing. Based on the results, a significant majority of students (90%) acknowledge encountering new and interesting ideas thanks to the AI tool, meanwhile, only a small minority (10%) (3 participants) responded negatively to this question.

Question 10: Do you think using AI tools such as ChatGPT when writing essays and research works can increase the risk of plagiarism?

Figure 8. Students' Thoughts on ChatGPT and the Risk of Plagiarism.



In the first part of this question, students were asked to choose between “yes” and “no” regarding whether using ChatGPT in writing assignments could increase the risk of plagiarism. According to the results shown in Figure (08), which represents students’ thoughts on ChatGPT and the risk of plagiarism, most of the students who participated in this research, (97%) (29 participants), responded positively to this question; while only one (1) participant (3%) responded negatively.

Please explain

In the second part of the question, students were asked to provide an explanation for their choice of “yes” or “no”. Nine (9) participants did not give an explanation, while twenty-one (21) did. Nineteen (19) of them gave similar answers, expressing concerns that ChatGPT could provide unreliable information as it does not give credit to the original authors or sources, and some of them noted that the AI tool can make mistakes leading to plagiarism risk. Additionally, one student had a different opinion, stating that using ChatGPT in writing tasks might promote plagiarism because some students tend to copy and paste its output instead of relying on their own knowledge. On the other hand, one participant responded with ‘no’ to the question and explained that using ChatGPT can help improve their English skills if used correctly and cautiously to avoid plagiarism.

Question 11: How has your overall writing style changed due to the use of ChatGPT?

Figure 9. Students’ Writing Style Changes due to Using ChatGPT.

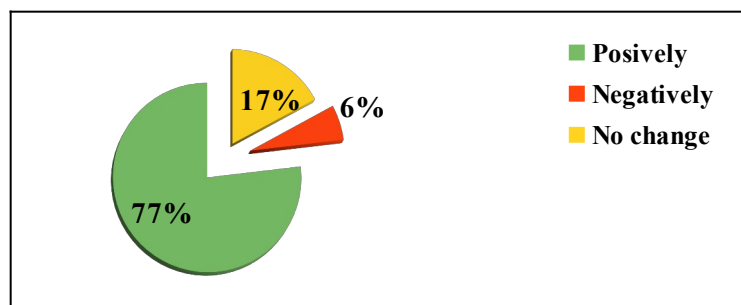


Figure nine(9) depicts how students' writing style changes due to using ChatGPT. The majority of participants (77%) express that the tool positively changed their writing style; however, (16%) of them claim to have seen no change. On the other hand, only (6%) (2 students) have said that ChatGPT negatively affects their writing style.

Question 12: Do you feel more confident in your writing abilities when using ChatGPT?

Figure 10. Students' Confidence in their Writing Abilities when Using ChatGPT.

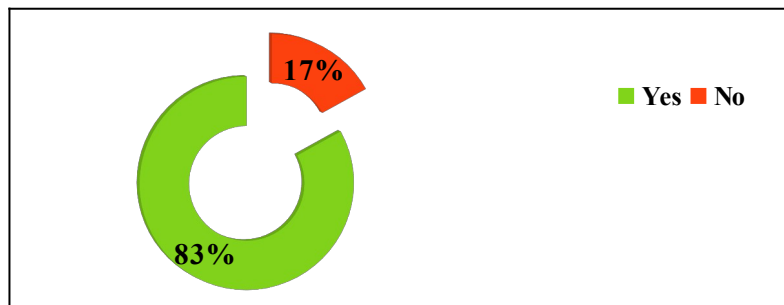


Figure (10) portrays participants' confidence in their writing skills when using ChatGPT. A significant percentage of students, (83%), report that they feel confident in their writing when using the tool; nevertheless, (16%) (5 students) claim they do not feel confident in their writing abilities when using ChatGPT.

Question 13: Have you noticed any improvements or difficulties in your writing since using ChatGPT? If yes, please describe.

Among a group of thirty (30) participants, six (6) of them gave no response, while thirteen (13) answered with "no". Nine (9) did not provide any further explanation. However, four(4) of them did, expressing different opinions. Two participants mentioned that they have not noticed any improvements or difficulties because they use ChatGPT mostly for generating ideas and seeking information rather than for improving writing skills. Another participant stated that they do not use it for writing tasks, while another noted that relying too much on ChatGPT affects one's way of thinking.

On the other hand, eleven (11) participants have responded with “yes” to the question. Among them, two (2) did not justify their response. However, eight (8) participants reported noticing improvements and no difficulties. These improvements included enhanced vocabulary, improved writing style, and assistance in organizing ideas. Finally, one student mentioned that ChatGPT helps correct grammar mistakes, thereby improving overall grammar.

Question 14: Do you think ChatGPT has affected your ability to think critically and independently when writing?

Figure 11. Students’ Thoughts on ChatGPT’s Impact on Critical and Independent Thinking in Writing.

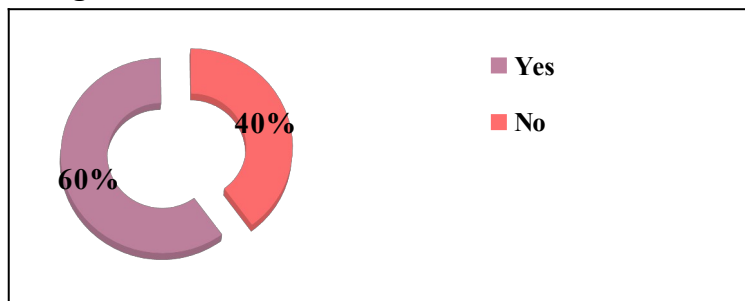


Figure (11) represents participants’ thoughts on whether ChatGPT has affected their critical and independent thinking skills when writing. Based on the results, (60%) (18 students) believe that ChatGPT has indeed impacted their critical and independent thinking skills. However, the remaining (40%) (12 students) do not think that ChatGPT affects their critical and independent thinking abilities.

1.4 Teacher Support and Feedback on the Use of ChatGPT

This section aims to understand how students discuss ChatGPT with their teachers. By doing so, we can gain insights into the role of interpersonal communication in the diffusion

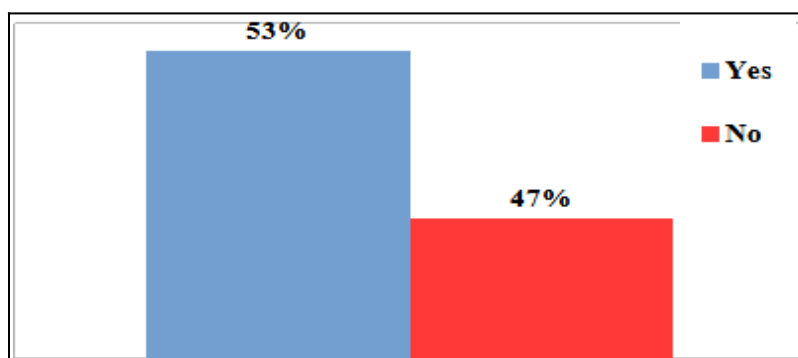
process of technology in education. This can reveal how students' thoughts and concerns about ChatGPT influence its acceptance and use in the classroom.

Question 15: Have you shared any work generated with ChatGPT with your teachers? If yes, what is their feedback?

In a sample consisting of thirty (30) participants, one student did not provide a response, while eight (8) claim that they have not shared any work generated with ChatGPT with their teachers. However, twenty-one (21) participants expressed that they have shared work done with ChatGPT with their teachers, but some received different feedback. Out of those, twelve (12), stated that the teachers' feedback was negative, advising them against using AI tools for writing tasks or assignments. Conversely, seven (7) students reported positive feedback from their teachers, because they contributed to generating new ideas. Additionally, two students mentioned that their teachers did not notice their use of ChatGPT even though they did.

Question 16: Do you feel supported by your teachers in using ChatGPT for developing your writing?

Figure 12. Students' View of Teacher Support in Using ChatGPT for Writing Development.



According to the results of figure (12), which presents participants' views on whether teachers support them in using ChatGPT for writing development or not. (53%) of students

responded with “yes”, indicating that they do feel supported by their teachers. Meanwhile, (47%) (14 participants) answered with “no”, meaning that a significant portion of students may not feel supported by their teachers in using ChatGPT for writing development.

Question 17: Have your teachers discussed the importance of developing your own writing skills rather than relying too much on AI tools such as ChatGPT?

Figure 13. Students’ Views on Teachers Discussing Independent Writing Skills.

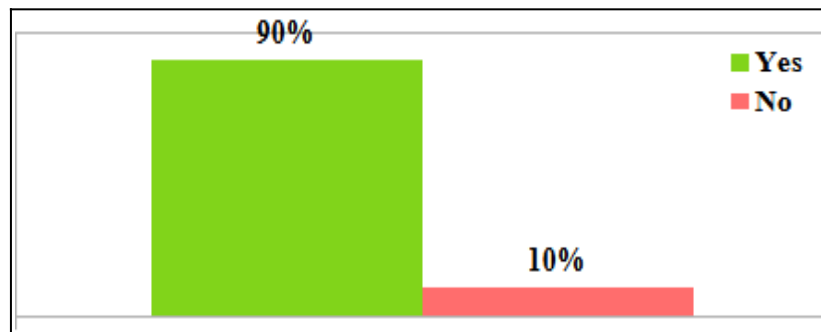


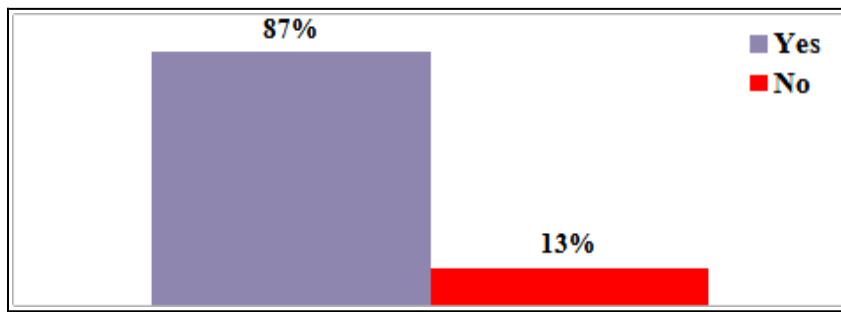
Figure (13), which represents students’ views on teachers discussing independent writing skills, shows that a great number of participants (90%) affirm that their teachers discussed the importance of developing their own writing skills without relying on Artificial Intelligence tools. On the other hand, (10%) responded with “no”.

1.5 Recommendation and Future Use

This section seeks to explore students’ intentions regarding the future use of ChatGPT and their recommendations for others.

Question 18: Would you recommend ChatGPT for other EFL students for enhancing their writing skills?

Figure 14. Students' Recommendation of ChatGPT for Other EFL Learners.



According to the results in figure (14) about Students' recommendation of ChatGPT for other EFL learners, the majority of participants, (87%), report they would totally recommend ChatGPT to fellow EFL students as a way to improve their writing skills. However, around 13% have a different opinion and said no.

Question 19: Do you think ChatGPT will change the way we communicate and interact with technology in the future?

Figure 15. Students' Future Thoughts on ChatGPT and Communication.

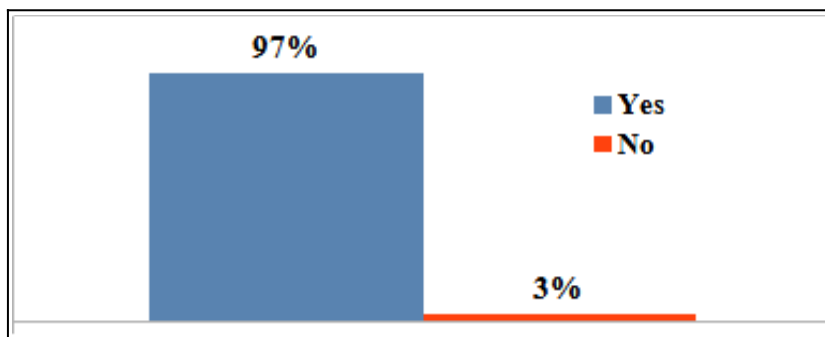


Figure (15) indicates students' future thoughts on ChatGPT. The majority (97%) said "yes"; they believe that ChatGPT will change totally the way we communicate and interact with technology in the future. However, a small percentage of (3%), responded with "no" to this question.

The space designated for participants to express extra thoughts about their experience with using ChatGPT for writing improvement indicates that the majority of students who

participated in this research think that ChatGPT is a useful tool for gathering information, whether for writing or for learning in general. They emphasize that it should be used intelligently and cautiously to avoid misinformation and plagiarism. For example, one student expressed, “Well, I might say that they should use it intelligently, which means they should not just copy and paste directly from ChatGPT. It is better to use it to generate ideas or find information.”(see Appendix B). Another wrote, “I think ChatGPT is effective and useful for developing writing skills, but it should be used wisely”(see Appendix B). Additionally, some participants claim that students should know how to critically evaluate information from ChatGPT, and that it is better for them to use articles, books, and other authentic sources to improve their writing skills. For instance, a participant stated, “To improve writing skills, it is much better to use articles, journals and read books. These are the tools that improve writing and critical thinking”(see Appendix B). On the other hand, some students did not provide any additional thoughts.

2 Presentation of the Results of the Interview

This part of the chapter illustrates the results of the structured interviews administered to six (6) randomly selected teachers in the department of English at MMUTO.

Question 01: Are you familiar with ChatGPT?

All six teachers who participated in this study stated that they are familiar and aware of ChatGPT.

Question 02: What are your first thoughts about students using ChatGPT to enhance their writing skills?

According to the results, four (4) teachers think that ChatGPT is a helpful tool as long as it is used correctly. For instance, one teacher expressed, “I think that it can be helpful as long as

they know how to use it ethically and effectively.”(see Appendix D). Nevertheless, the remaining two (2) teachers gave mixed opinions, expressing that ChatGPT if used to improve students’ writing skills then it’s a good thing, but it would be a problem if students just copy and paste from it without adding or evaluating the work generated by the AI tool with their own knowledge. One teacher explained, "I believe that if the aim of using ChatGPT is to enhance students’ writing skills, it is fine. However, it would be an issue if students copied instead of reflecting on their writing and comparing it to ChatGPT's suggestions."(see Appendix D)

Question 03: Have you noticed any of your students using ChatGPT for the writing tasks?

For this question, three teachers claim to have noticed their students using ChatGPT when doing their writing tasks. On the other hand, the three other teachers reveal that they have not noticed students using the tool in their written works. (see Appendix D).

Question 04: What are your attitudes towards students relying on ChatGPT in their writing assignments?

Among the six teachers who participated in this study, three stated that they do not encourage learners to depend on ChatGPT for their writing assignments, while only one said they are supportive of it. However, two participants chose to take a neutral position on this matter.

Question 05: How do you perceive the impact of ChatGPT on students’ writing abilities, especially in terms of enhancing their vocabulary, grammar, coherence, and writing style?

For this fifth question, two teachers expressed a similar opinion, which is that ChatGPT is a helpful tool in all areas of foreign language learning. For example, one of them wrote “it is beneficial to them in all spheres of FLL.”(see Appendix D). However, two other teachers gave negative answers, stating that students are becoming more dependent on it, which in turn affects their writing abilities as well as their critical thinking skills. One teacher remarked, “it depends. It

can be used as an aid but at the same time students may end up relying too much on it.”(see Appendix D). Additionally, the last two teachers indicated that ChatGPT can be very helpful in enhancing the mentioned aspects, but they added that students should be taught how to use it actively rather than passively. For instance, one of them stated, “Well, ChatGPT can be really helpful in enhancing students’ vocabulary, grammar, coherence, and writing style but I recommend organizing study days or training courses about how to be an active user instead of a passive one.”(see Appendix D).

Question 06: What difficulties do you think students might encounter while using ChatGPT in their writing process?

Based on the results, four participants think that among the difficulties students might encounter are lack of productivity, becoming lazy as they let ChatGPT do the work for them, and becoming over-reliant on the tool. For instance, one of them expressed, “They may become lazy and complacent if they let the tool do the job for them.”(see Appendix D). Moreover, one of the remaining two teachers mentioned that the students who use ChatGPT for writing are exposed to the risk of plagiarism, stating, “Being exposed to the risk of plagiarism is one of the issues students might face.”(see Appendix D), while the other added that learners may not be able to write without the help of ChatGPT anymore.

Question 07: Do you believe there are any benefits associated with students’ use of ChatGPT in their writing practices? If any, please specify.

For this question, all six teachers who participated in this study gave similar answers, revealing that if ChatGPT is used for a good reason, it could benefit students. Among the benefits mentioned by the teachers are improving students’ vocabulary, as the tool provides advanced vocabulary and advanced sentence structure, therefore they can enhance the coherence and

cohesion of their writings. For instance, one of them expressed, “Sure, they can enrich their vocabulary and improve the coherence and cohesion of their writings if again they use it in an active way not a passive one.”(see Appendix D). Additionally, one teacher stated that one of its advantages is the development of communication skills, and another added that it could help students overcome writers’ block by generating new ideas that may interest them. For example, a teacher explained, “It can help students when they experience writer block by generating new ideas or suggesting new words and expressions.”(see Appendix D).

Question 08: How can you educate students to use AI tools like ChatGPT responsibly and avoid plagiarism?

For this question, two teachers mentioned the importance of training students on how to use ChatGPT carefully and teaching them how to provide proper references. Additionally, one of them saying they would organize study days and even include it as a lecture in methodology: “By organizing study days, intensive training courses and integrating it as a lecture in methodology.”(see Appendix D). However, three teachers commented that they would educate students about the seriousness of plagiarism when using AI tools. One of these teachers suggested using ChatGPT as a supplementary tool rather than the main source of writing, starting, “I would teach students to the importance of originality and I would suggest to use ChatGPT as a supplementary tool rather than a main source of writing.”(see Appendix D). Lastly, one participant added that the only solution for now is to avoid assigning homework and instead have students use AI in the classroom under teacher supervision.

Question 09: In what ways do you encourage or discourage students from using ChatGPT in their writing tasks?

For this tenth question, four (4) teachers suggested using ChatGPT as a guide for students to compare their written works with AI to improve their writing, rather than just copying its content directly. For instance, one of them expressed, “I don’t encourage students to use it in the first stage of writing their academic text. However, they can use it at the end to get feedback on what aspect of their writing they need to improve.”(see Appendix D). Nevertheless, one of these teachers said they would encourage students by training them on how to use it correctly and give proper references, stating, “Train students to use it carefully and make sure they provide references for ideas that belong to others.”(see Appendices D). Lastly, one teacher did not provide any response to this question.

Question 10: How can you integrate ChatGPT into your teaching practice to improve students’ writing skills?

On the one hand, three teachers revealed that they would not integrate ChatGPT in their teaching practice. On the other hand, the other three mentioned integrating it by teaching learners how to use it to evaluate their writing through classroom tasks. As one of them explained, “It can be integrated in writing activities in which students learn how to use it on their own, but under the guidance of their teachers to avoid its misuse.”(see Appendix D).

Question 11: How do you think students’ writing style might be affected if they rely too much on ChatGPT?

Of the six teachers who took part in this research, two gave no response, while three indicated that texts generated by ChatGPT may have an AI style, making students’ work less authentic and personal. As one of them claimed, “It will become less authentic, and different

students' pieces of writing would look the same as they would come from the same source.”(see Appendix D). Additionally, one participant stated that using ChatGPT alongside other tools to enhance students' communicative abilities and writing styles would prevent over-reliance on it. (see Appendix D).

Question 12: What recommendations would you provide to students using ChatGPT for writing improvement?

Based on the results of this question, two participants asserted that students should minimize the use of ChatGPT and instead rely on traditional methods like reading academic writing guides and using applications that teach proper academic English. One of them stated, “To keep ChatGPT’s use to the minimum, and rely more on traditional methods such as reading guide books on academic writing, also watch videos or download applications teaching how to write proper academic English.”(see Appendix D). However, one teacher recommended using it correctly to avoid plagiarism, stating, “Use it in a suitable way and for honest intentions to avoid plagiarism.”(see Appendix D). Another teacher suggested using it as a tool for evaluating their personal works. Moreover, two educators gave no response.

Question 13: Are there any concerns or cautions you would like to mention regarding students' reliance on ChatGPT in their writing process?

Teachers expressed diverse opinions regarding this question. One teacher expressed concern that students may become passive if they use ChatGPT too much, starting, “The students may become passive if using chat GPT too much without any guidance”. Another teacher claimed that it has both advantages and disadvantages for students. Furthermore, two educators declared that students should not see it as the only solution to all their writing problems (see Appendix D). However, the last two teachers affirmed that excessive use of ChatGPT increases the risk of

plagiarism; therefore, students should maintain their own writing styles to develop independent writing skills. As one of them noted, “I am concerned about the potential for over-reliance on ChatGPT, which can trigger the development of independent writing skills.”(see Appendix D).

Conclusion

This chapter presents the findings of our study in a well-organized and visually engaging manner. It has illustrated the results gathered from both the questionnaire distributed to students and the interviews conducted with teachers on the topic of the perceptions of EFL learners and teachers towards the use of ChatGPT as a tool to develop writing skills. The results of the questionnaire, answered by thirty (30) students in the Department of English at MMUTO, indicate that the majority of participants have positive perceptions towards the use of ChatGPT as a tool to develop their writing skills. Meanwhile, the results from the interviews conducted with six (6) teachers in the same department show that they have mixed opinions. The next chapter will discuss deeply the results we have presented here.

Chapter Four:

Discussion of the Findings

Introduction

This last chapter focuses on critically evaluating the findings of our research. It seeks to provide explanations for the results gathered from our dissertation's research questions and literature review. The objective is to determine which results confirm, refute, or partially support the hypotheses presented in the general introduction. There are three points to discuss in this chapter, starting with students' perceptions regarding the use of ChatGPT to improve their writing skills, then the challenges and the benefits of using ChatGPT for students' writing development. Finally, the chapter discusses teachers' views concerning learners' reliance on ChatGPT for writing development.

1 Discussion of Students' Perceptions Regarding the Use of ChatGPT for Writing Improvement

Based on the findings presented in the second section of the questionnaire shown in the previous chapter, it is noticeable that all the thirty EFL students (100%) of the department of English at MMUTO, who took part in this research are well aware of what ChatGPT is, which relates to the knowledge stage of Rogers' diffusion of innovations theory. The fact that all students know about ChatGPT shows that information about this AI tool has been shared well, making it a useful educational resource. The results from question (3) indicate that students actually use ChatGPT for different purposes (see table 2), meaning that this AI tool is compatible according to Rogers' theory, since it fills students' needs and requirements, when it comes to providing them with new information, ideas, writing assistance, and many other purposes. Additionally, question (4) signifies that most students (70%) use ChatGPT sometimes in writing, and (13%) admit using it always, while (17%) claim rarely using it (see figure 2), this

demonstrates how trialability, defined by Rogers (1983) as the ability to test the innovation before deciding to adopt it, can enhance users' familiarity and eventual adoption among students. The different ways students use ChatGPT indicate that they are exploring its features, meaning they are not just aware of the tool but also using it in ways that fit their learning goals.

The results from question (5) illustrates that the majority of students find it comfortable or very comfortable to use, which suggests that ChatGPT's user-friendly system and functionality contribute to reducing the perceived complexity, therefore, enhancing its adoption(see figure 3). The perception of ease of use helps students adopt the tool, as they are more likely to use tools that do not complicate their writing processes. Furthermore, question (6) shows how different information sources contribute to the spread of ChatGPT, friends and family, social media, and universities which represent communication channels as noted in Rogers' theory, play important roles in raising awareness and encouraging its use by students (see figure 4). The role of these different communication channels emphasizes the importance of casual and formal connections in promoting new technologies in educational settings.

Considering at the results of section (3), particularly questions (7) and (8), it is clear that ChatGPT is perceived as extremely beneficial for various aspects of writing, including vocabulary, grammar, and overall writing improvement which in turn encourages its adoption, (see figure 5 and 6). Therefore, its ability to meet different students needs and integrate effortlessly with existing writing practices emphasizes its relative advantage and compatibility, which makes it very interesting to students. Question (9) highlights that students can easily see the benefits of using ChatGPT, such as having new and interesting ideas. Thereby, this high observability of benefits makes the tool more interesting and likely to be adopted. This concept refers to the extent to which the benefits of an innovation are visible to others as described by

Rogers' Diffusion of Innovations theory. However, results from question (10) show that the majority of students (97%) believe that ChatGPT could increase the risk of plagiarism if not used properly. Consequently, this perceived risk reduces its relative advantage. Only a small minority (3%) had an opposing opinion (see figure 8), which suggests that plagiarism can be a barrier for broader adoption. The recognition of ChatGPT's benefits for writing improvement highlights its potential as a valuable resource for EFL students. This perceived relative advantage is crucial for its adoption, as students can clearly identify how it can enhance their academic performance. The concern over plagiarism, indicates a level of awareness among students regarding academic integrity issues associated with AI tool usage. This awareness may encourage students to adopt responsible usage practices, supporting academic honesty while exploring the tool's advantages. The mixed perception of its risks and benefits may lead to a more cautious but informed engagement with the tool.

According to the results of the fourth section, a significant number of students use and share their AI-generated work, however, the mixed feedback from teachers and the different levels from the perceived support indicate that a more supportive communication is needed (see figure12). And, focusing on personal skill development as well as the use of AI tools can foster a more integrated and supportive educational environment. Consequently, the differing feedback from teachers creates a mixed perception among students about the use of ChatGPT in their work, as the social system(teachers) may influence their adoption of the innovation. The willingness of students to share AI-generated work suggests a level of comfort and acceptance of ChatGPT; however, the mixed feedback from teachers highlights the need for clearer communication and guidelines. As teachers' views significantly affect students' willingness to adopt new technologies.

Additionally, the fifth section presents that the majority of students (97%) have positive attitudes towards ChatGPT's future impact on communication and interaction with technology(see figure 15), as well as its usefulness in improving writing skills (87%) (see figure14), therefore, this indicates the innovation's relative advantage and its observability. The positive attitudes toward ChatGPT's future suggest that students are optimistic about the role of technology in enhancing their education. This positivity, along with a supportive environment, could lead to more creative ways to use AI in learning.

Overall, EFL students perceive the use of ChatGPT for writing improvement positively, with students appreciating its benefits while also being aware of its potential risks. In turn, this positive perception confirms the first hypothesis that EFL students at MMUTO perceive ChatGPT as helpful and effective for writing development.

2 Discussion of the Challenges and the Benefits of Using ChatGPT for Students' Writing Development

Reviewing the results of the questionnaire, question (11) illustrates a high percentage of students (77%) who express that ChatGPT has positively changed their writing style, indicating a positive impact on their writing practices. This suggests that ChatGPT may effectively enhance writing skills by introducing new styles and techniques. A smaller percentage (16%) report no change in their writing style, which means that some students might not see all the advantages of ChatGPT and may need to use it more to notice them. The very small percentage (6%) of students who report that the tool has a negative impact on their writing styles indicates that noticeable negative impacts are minimal, suggesting that most students find value in using the tool. This overall positive perception likely contributes to its potential widespread adoption among students,

based on Rogers' Diffusion of Innovations theory, which explains how new ideas spread in a society.

Considering the results of question (12), the majority of students (83%) feel confident in their writing when using ChatGPT, which indicates a clear relative advantage for these users. This boost in confidence may lead to increased willingness to engage in writing tasks, thereby enhancing their overall writing experience. On the other hand, the (16%) who do not feel this confidence indicates that some students may struggle with integrating the tool into their writing process or may not use it effectively. These different experiences show that individual differences are important in how students see and benefit from ChatGPT. Additionally, the findings from question (13) reveal that ChatGPT provides an evident relative advantage for a group of students who notice improvements in their writing skills. However, the lack of perceived benefits among other students, coupled with concerns about its complexity and over-reliance, signifies that while ChatGPT can be helpful, how well it works depends on how users see it and how they use it in their writing. This shows that getting users involved and teaching them how to use this tool effectively is important.

Based on the results of question (14), (60%) of students who claim that ChatGPT has affected their critical and independent thinking skills are frequent users of the tool. Their extensive use likely fosters a deeper integration of ChatGPT into their writing process, urging them to rethink their approach to writing tasks. In contrast, the (40%) who do not see any impact on their critical thinking skills tend to use ChatGPT less frequently, often viewing it just as a supplementary resource. This variation in perception illustrates the concept of compatibility: students who find ChatGPT aligns well with their existing writing practices are more likely to

experience its cognitive benefits, while those who view it as incompatible may fail to recognize its potential impact on their critical and independent thinking abilities.

Consequently, the benefits that students might gain when using ChatGPT for writing can be summarized as follows: improved writing style, increased confidence in writing, specific writing improvements, such as vocabulary enhancement, and grammar correction. Concerning the difficulties or challenges, they consist of lack of perceived improvement, concerns about over-reliance, potential negative impact on critical and independent thinking skills. In turn, these results support the second hypothesis which is that the use of ChatGPT for writing development has both negative and positive outcomes, which indicates that the tool's impact varies based on how it is used.

According to the data presented above from both research questions, it is clear that the overall perception of EFL students at MMUTO towards the use of ChatGPT for writing improvement, is generally positive. However, they also express concerns about possible negative impacts, such as reduced critical thinking, the risk of plagiarism, and mixed feedback from teachers. Despite these concerns, the students who participated in this study acknowledge both the advantages and disadvantages of integrating ChatGPT into their writing process. Based on these perceptions, it is likely that students will adopt ChatGPT as an innovation, as described in Rogers' the Diffusion of Innovations theory.

3 Discussion of Teachers' Views Concerning Students' Reliance on ChatGPT for Writing Improvement

Based on the interview findings, all six (6) teachers who have participated in this study express their familiarity with ChatGPT in question (1), which indicates their awareness of the

innovation. In the context of Rogers' diffusion of innovations theory, this represents the knowledge stage where the innovation begins to spread. This shows that ChatGPT is in the early awareness phase within the educational setting, with all teachers recognizing it. Their awareness marks the start of the diffusion process, preparing for later stages of adoption. Additionally, the results from question (2) about initial thoughts on ChatGPT and question (4) about teachers' attitudes towards students' reliance on it, show a mix of opinions among the teachers, signifying the persuasion stage where individuals develop positive or negative attitudes towards the innovation. This variation in opinions illustrates the complexity of the persuasion stage, as teachers consider the tool's benefits and risks. Teachers are in the process of forming opinions, which is a key point in the adoption process where attitudes about new technologies are shaped by their benefits and drawbacks.

On the other hand, question (3) about observations of students' use of ChatGPT reveals a split in teachers' responses: three noticed students using the tool, while the other three did not. Consequently, this corresponds to the implementation stage of the diffusion of innovations theory, where the innovation is put to use, and shows how it is being adopted by students. This uneven implementation indicates that while some students are actively engaging with the innovation, others have not yet embraced it. The differing levels of student adoption indicate the varying pace at which new technologies spread through a population.

Results from question (5) about the perceived impact of ChatGPT on students' writing abilities illustrates a diversity in responses. Some teachers mentioned potential benefits that the tool can offer for students, this indicates a perceived relative advantage compared to traditional methods, while others express concerns about its potential negative impact on students' skills. This aligns with the concept of relative advantage from Rogers' theory, where an innovation is

seen as beneficial when it offers clear improvements over existing methods. However, the concerns highlight the challenges of combining new technology with traditional skills, showing that while some teachers see value in ChatGPT, others are hesitant due to potential risks.

In addition, teachers' responses to question (6) about the difficulties that students may encounter while using the tool indicate concerns about the complexities related to the integration of ChatGPT into writing tasks, such as reduced productivity, dependence, plagiarism. This aligns with the concept of complexity of the Diffusion of Innovations theory, which refers to the perceived difficulty in understanding the innovation. These concerns suggest that for some teachers, ChatGPT presents challenges that make its widespread adoption difficult. Complexity in using the tool effectively, along with ethical concerns, could slow down its adoption process in educational contexts. However, the results of question (7) regarding the benefits of students' use of ChatGPT in writing practices highlight teachers' perceptions of the tool's advantages, including improvements in vocabulary, coherence, communication skills, and overcoming writer's block. This corresponds with the perceived attributes of Rogers' Diffusion of innovations theory, specifically the relative advantage of the innovation's characteristics and potential benefits. The acknowledgment of these benefits points to a key factor in adoption: if an innovation is seen to improve performance, its use is more likely to spread. These positive perceptions indicate that despite concerns, many teachers see value in integrating ChatGPT into students' writing processes.

Teachers' responses to question (8), which addresses how to teach students use ChatGPT responsibly to avoid plagiarism, suggest various strategies, such as training on proper referencing, organizing study days or lectures, emphasizing the seriousness of plagiarism. This reflects the adoption decision stage of Rogers' Diffusion of Innovations theory, where individuals

decide to adopt or reject the innovation based on their perceptions of its benefits and drawbacks. Here, teachers are carefully balancing the use of ChatGPT, indicating that while ChatGPT has potential, its use needs guidance to prevent misuse, such as plagiarism.

The results from question (9), which addresses the encouragement or discouragement of the use of ChatGPT in writing, demonstrate different strategies mentioned by teachers. These strategies aim to encourage the innovation's use while also expressing concerns of over-reliance. This relates to the persuasion stage as Rogers stated in his theory, where teachers develop attitudes towards the innovation and decide whether to encourage or discourage its use. Additionally, it ties into the decision stage, where teachers make adoption choices based on their perceptions of the innovation's benefits. This highlights the balance in adopting an innovation, where excitement is mixed with concerns about its impact on student independence and skill development.

Educators' responses to question (10) about the integration of ChatGPT into teaching practices to enhance students' writing skills show a split in opinions; three teachers would integrate the AI tool by setting up plans and strategies to include it in classroom tasks, while the other three would not. This aligns with the implementation stage of Rogers' theory, as it focuses on the actual use and integration of the innovation. This split in responses demonstrates that even after reaching the implementation stage, adoption is not guaranteed. Teachers' decisions show different levels of willingness to integrate new technology, with some actively planning its use while others remain cautious. Further, in question (11) teachers noted potential negative effects on students' writing styles such as developing an AI style and losing authenticity, while in question (12) they provide recommendation for appropriate and effective use of the tool, namely minimizing reliance on ChatGPT, proper referencing, and using it as a supplementary tool. These

concerns and recommendations highlight the confirmation stage, where teachers reflect on their experiences with the tool and consider how to improve its use to reduce potential harms. Teachers seem committed to ensuring that ChatGPT remains a supportive, rather than a dominant, element in writing instruction.

In question (13) teachers express concerns about passivity, the importance of not viewing ChatGPT as the main solution for writing problems, and increased plagiarism risks. Therefore, these questions correspond to the confirmation stage of the Diffusion of Innovations theory, where teachers aim to strengthen or adapt their use of ChatGPT based on its perceived impacts. This suggests that while teachers recognize the tool's benefits, they also see the need for ongoing evaluation and adaptation to ensure that its use enhances, rather than weakens, students' writing abilities. The confirmation stage reflects a continued balancing act between adoption and caution.

Overall, teachers' views on students' reliance on ChatGPT for writing improvement are mixed, meaning that there is a recognition of the tool's advantages as well as concerns about over-reliance, academic integrity, and the need for responsible use. Therefore, these research findings refute the third hypothesis which is that EFL teachers at the Department of English at MMUTO maintain negative attitudes concerning students' reliance on an AI tool to improve their writing skills, but rather EFL teachers' perspectives include both positive and negative elements regarding this matter. On the other hand, according to the mixed views among EFL teachers about ChatGPT, the adoption of this innovation differs among individuals and contexts, as some of them see it as a valuable tool for improving students' writing skills, while others remain cautious because of the concerns about its potential disadvantages.

Conclusion

This chapter has examined and contextualized the findings of our study within the broader framework of existing research on the application of ChatGPT in an EFL context. Drawing on Rogers' (1962) Diffusion of Innovation Theory, and based on the data collected from the student questionnaires and the structured interviews with teachers; reasoned responses have been given to the research questions previously stated in the general introduction. Thereby, our analysis confirms the first two hypotheses while refuting the third one. Specifically, the first confirmed hypothesis is that the majority of students hold positive perceptions towards using ChatGPT, as they consider it effective and helpful in improving their writing performance. Based on the findings of the questionnaire, the second hypothesis to be confirmed is that students' use of ChatGPT for writing development have both positive and negative outcomes, depending on how the tool is used. Besides, students have acknowledged both the benefits and drawbacks of integrating such technology into their writing process. The findings of the structured interviews with teachers refute the third hypothesis that EFL teachers maintain negative attitudes towards students' use of ChatGPT to enhance their writing skills. Instead, teachers have mixed opinions, encompassing both positive and negative attitudes regarding this matter. In the context of Rogers' Diffusion of Innovations theory, these findings indicate the different stages of adoption among students and teachers.

General Conclusion

The current dissertation has investigated EFL learners' and teachers' perceptions of ChatGPT as a tool for developing the writing skill in the Department of English at Mouloud Mammeri University. The purpose of this research was to accomplish three key objectives. The first objective was to explore the attitudes of EFL students towards using ChatGPT to develop their writing. The second objective was to identify the benefits and challenges that are associated with the use of ChatGPT to improve writing skills. The third objective was to examine the views of EFL teachers on ChatGPT as a tool for students' writing improvement. To achieve our objectives, we have used the Diffusion of Innovations Theory (DOI) developed by Everett Rogers in 1962 as a theoretical framework. This theory explains how new ideas or technologies spread, and identifies the elements that influence the adoption and the diffusion of the innovation among individuals. These elements or concepts that individuals rely on to decide whether to adopt or reject the innovation consist of innovation and adopter characteristics, communication channels, and the adoption decision process.

A Mixed-Methods Research methodology has been used in this study, combining both quantitative and qualitative approaches to collect and analyze data, as mentioned in the general introduction. In addition, the data is gathered using two research tools which are a questionnaire designed for thirty (30) randomly selected students from different levels (six from each level L1, L2, L3, M1, M2), in order to collect their perceptions of ChatGPT as a tool for writing improvement; and a structured interview designated for six (6) randomly selected teachers to gather their views on students' reliance on ChatGPT to develop their writing. Descriptive statistical analysis and Qualitative Content Analysis have been employed to analyze the obtained quantitative and qualitative data.

The results from the questionnaire's analysis have revealed that most students in this study find ChatGPT as a valuable and useful tool for enhancing writing skills. They appreciate its ability to enrich vocabulary, correct grammar mistakes, and provide cohesion and coherence for their writing. Moreover, many students view ChatGPT as a helpful supplementary tool for generating new ideas and topics, as well as for offering comparison options to improve their writing. Consequently, this shows that the majority of participants have positive perceptions of using this AI tool for writing. However, students also recognize the tool's disadvantages, such as the risks of plagiarism, concerns about academic integrity, and the potential for over-reliance. Despite these drawbacks, the findings confirm the first and second hypotheses as stated in the discussion chapter. Nevertheless, a small portion of students expressed negative attitudes towards using ChatGPT in an EFL context.

Based on the structured interviews that have been conducted with six (6) teachers to explore their views on students' use of ChatGPT to improve their writing skills, it is clear that there are mixed opinions among the teachers who participated in this study. Some educators view the tool positively if used correctly, and others regard it negatively when used incorrectly. Additionally, the benefits they mentioned include improvements in vocabulary, coherence, developments in communication skills, and overcoming writer's block. However, their concerns include reduced productivity, less authenticity of written works, over-reliance on the tool, and the risks of plagiarism. Therefore, the third hypothesis is refuted as the responses of the teachers indicate the presence of varied opinions regarding students' reliance on ChatGPT for writing enhancement.

In summary, this research has answered the three research questions, confirmed the first and second hypotheses, and refuted the third one presented in the General Introduction. The

results have revealed that EFL students in the Department of English at MMUTO perceive ChatGPT as extremely beneficial and useful for improving writing skills, reflecting their positive perceptions towards this AI tool. Furthermore, the findings have showed that EFL teachers in the same department have mixed views regarding the use of this Chatbot by students, including both positive and negative opinions. In the context of Rogers' Diffusion of Innovations Theory, the adoption of ChatGPT among students demonstrates the characteristics of an innovation perceived as advantageous, which leads to its acceptance for enhancing writing skills. This aligns with the theory's concept that the innovations that offer clear benefits are more likely to be adopted. However, the differing opinions among teachers signify the complexity of the innovation-decision process, which can affect broader adoption. Thus, the varying attitudes among students and teachers reveal how new technologies spread unevenly, as described by the Diffusion of Innovations Theory.

This study was conducted over a limited time frame, which may have not been sufficient to notice significant changes in writing skills or fully comprehend participants' attitudes and perceptions regarding the use of ChatGPT for writing improvement. Therefore, based on the findings and recognizing the limitations, for further research similar to this topic, it is recommended to compare ChatGPT with other AI-based language learning tools to evaluate their effectiveness. Similarly, conducting research on the impact of ChatGPT on EFL learners at different proficiency levels would help determine if its benefits are consistent across various stages of language learning. This study can be considered as an initial step in investigating the use of ChatGPT to support writing skills among EFL learners and teachers, as it connects two research concepts which are ChatGPT as a writing tool and its integration into language learning.

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Appendices

Appendix A

Questionnaire

Dear students,

We would like to express our sincere gratitude for taking the time to respond to the following questionnaire which is a part of our Master's dissertation on how learners in the English department at MMUTO perceive the use of ChatGPT as a tool for developing the writing skill. Your responses will be confidential and anonymous. Thank you in advance, your contribution to this study is highly appreciated.

Instructions: Please tick (×) for the suitable answer(s) and give full ones where necessary.

Section 1: Demographic information

Q1. Choose your Level of study: L1 L2 L3 M1 M2

Section 2: Students knowledge and experience with the use of ChatGPT

Q2. Do you know about ChatGPT, an Artificial Intelligence powered tool?

Yes No

Q3. For what purposes do you usually use ChatGPT?

Generating ideas Writing assistance and improvement Other
 Answering questions Seeking information

Q4. How frequently do you use ChatGPT for writing tasks?

Always Sometimes Rarely Never

Q5. How comfortable are you with using ChatGPT for writing improvement?

Comfortable Uncomfortable Very comfortable Very uncomfortable
 Neutral

Q6. From where did you first hear about ChatGPT?

Social media Friends or family University Other(please specify).....

Section 3: Students perceptions of the use of ChatGPT for enhancing their writing skill

Q7. To what extent do you agree with this statement: “using ChatGPT has improved my writing performance”

Strongly agree Agree Neutral Disagree Strongly disagree

Q8. In which aspects of writing do you find ChatGPT most helpful at?

Grammar Vocabulary Style Coherence All of them

Q9. While using ChatGPT, have you encountered any new and interesting ideas that you hadn’t considered before when writing?

Yes No

Q10. Do you think using Artificial Intelligence tools such as ChatGPT when writing essays and research works can increase the risk of plagiarism?

Yes No, please explain

.....
Q11. How has your overall writing style changed due to the use of ChatGPT?

Positively Negatively No change

Q12. Do you feel more confident in your writing abilities when using ChatGPT?

Yes No

Q13. Have you noticed any improvements or difficulties in your writing since using ChatGPT? if yes, please describe.....

Q14. Do you think ChatGPT has affected your ability to think critically and independently when writing?

Yes No

Section 4: Teacher Support and Feedback on the Use ChatGPT

Q15. Have you shared any work generated with ChatGPT with your teachers? if yes, what was their feedback.

Q16. Do you feel supported by your teachers in using ChatGPT for developing your writing?

Yes No

Q17. Have your teachers discussed the importance of developing your own writing skills rather than relying too much on Artificial Intelligence tools like ChatGPT?

Yes No

Section 5: Recommendations and Future Use

Q18. Would you recommend ChatGPT to other EFL students for enhancing their writing skills?

Yes No

Q19. Do you think ChatGPT will change the way we communicate and interact with technology in the future?

Yes No

• Is there anything else you would like to share about your experience with ChatGPT for writing improvement?

.....
.....
.....

Thank you indeed for completing this questionnaire!

Appendix B

Students' Responses to the Following Question

- Is there anything else you would like to share about your experience with ChatGPT for writing improvement?

Student 1: “We should use it in a positive way.”

Student 2: “I think ChatGPT is effective and useful for developing writing skills, but it should be used wisely.”

Student 3: “ChatGPT is like a weapon, we should not rely on it too much, because it can make us forget the value of human curiosity in searching for answers and learning.”

Student 4: “ChatGPT may help in some situations, but not all, because it is still being improved. So, I prefer to use google or books instead of it.”

Student 5: “I like ChatGPT, because It helps us get more information, and I feel comfortable when I use it.”

Student 6: “It helps me improve my critical thinking.”

Student 7: “ChatGPT is great, but I advice people to use it to benefit themselves and avoid the negative side.”

Student 8: “I think ChatGPT should be used carefully.”

Student 9: “I think ChatGPT is a great tool, but it should be used properly.”

Student 10: “ChatGPT makes mistakes.”

Student 11: “The use of ChatGPT to write learning goals can be helpful because it gathers all the information we need.”

Student 12: “I think ChatGPT is a good tool for many purposes, it should be used correctly.”

Student 13: “Well, I might say that they should use it intelligently, which means they should not just copy and paste directly from ChatGPT. It is better to use it to generate ideas or find information.”

Student 14: “It gave me more information than I already knew.”

Student 15: “Actually, ChatGPT is a good application, because it helps us when we face difficulties especially when writing essays.”

Student 16: “ChatGPT is good for students to help them brainstorm ideas, so it is useful if they do not rely on it completely.”

Student 17: “I would tell students that yes, you can use ChatGPT for writing, but do not copy everything from it. Just know how to use it intelligently and do not rely on it too much.”

Student 18: “To improve writing skills, it is much better to use articles, journals and read books. These are the tools that improve writing and critical thinking.”

Student 19: “You should know how to ask it questions and what to extract from it.”

Student 20: “I would advise students to not always rely on online tools. It is better to use books, journals, articles, and other sources.”

• **Ten (10) participants gave no additional thoughts.**

Appendix C

Interview

Dear teachers,

We are grateful for taking the time to participate in this interview, which is a part of our research on the perceptions of EFL learners and teachers towards the use of ChatGPT as a tool to develop the writing skills. Your responses will be kept confidential and anonymous. Thank you in advance for your support in completing this work.

Q1. Are you familiar with ChatGPT?

Yes No

Q2. What are your first thoughts about students using ChatGPT to enhance their writing skills?

Q3. Have you noticed any of your students using ChatGPT for the writing tasks?

Yes No

Q4. What are your attitudes towards students relying on ChatGPT in their writing assignments?

Supportive Neutral Discouraging

Q5. How do you perceive the impact of ChatGPT on students' writing abilities, especially in terms of enhancing their vocabulary, grammar, coherence, and writing style?

Q6. What difficulties do you think students might encounter while using ChatGPT in their writing process?

Q7. Do you believe there are any benefits associated with students' use of ChatGPT in their writing practices? If any, please specify

Q8. How can you educate students to use Artificial Intelligence tools like ChatGPT responsibly and avoid plagiarism?

Q9. In what ways do you encourage or discourage students from using ChatGPT in their writing tasks?

Q10. How can you integrate ChatGPT into your teaching practice to improve students' writing skills?

Q11. How do you think students' writing style might be affected if they rely too much on ChatGPT?

Q12. What recommendations would you provide to students using ChatGPT for writing improvement?

Q13. Are there any concerns or cautions you would like to mention regarding students' reliance on ChatGPT in their writing process?

Thank you for participating in this interview.

Appendix D

Teachers' Responses to the Interview Questions

Teacher 1

R1. “Yes.”

R2. “My first thoughts are that ChatGPT can be a valuable tool for generating ideas, improving vocabulary and grammar. On the other hand, there’s a risk they would become overly reliant on it.”

R3. “Yes.”

R4. “Discouraging.”

R5. “ChatGPT can positively impact students’ writing abilities by giving them suggestions to improve their vocabulary, grammar, coherence, style. However, it’s essential for students to understand and learn from these suggestions rather than just accepting them passively.”

R6. “Students might struggle with over-reliance on the tool, which may lead to the lack of personal engagement with writing, as well as the risk of not developing their critical thinking skills.”

R7. “Yes there are benefits, such as offering various ways to structure sentences, it also helps them in generating new ideas.”

R8. “I would teach students to the importance of originality and I would suggest to use ChatGPT as a supplementary tool rather than a main source of writing.”

R9. “I encourage them to use it as a brainstorming and editing tool but not fully depending on it.”

R10. “Honestly, I would not integrate it.”

R11. “If they rely on it too much, their writing might become less personal and not authentic.”

R12. “I recommend using it for brainstorming and generating ideas as I said in the other question.”

R13. “I am concerned about the potential for over-reliance on ChatGPT, which can trigger the development of independent writing skills.”

Teacher 2

R1. “Yes.”

R2. “ChatGPT can be really helpful in improving the writing skills if it is well used.”

R3. “No”

R4. “Neutral”

R5. “Well, ChatGPT can be really helpful in enhancing students’ vocabulary, grammar, coherence, and writing style but I recommend organizing study days or training courses about how to be an active user instead of a passive one.”

R6. “They may become passive, i.e. they can write excellent home tasks but they won’t be able to produce as well as they did with the help of chat GPT in their exams or dissertations.”

R7. “Sure, they can enrich their vocabulary and improve the coherence and cohesion of their writings if again they use it in an active way not a passive one.”

R8. “By organizing study days, intensive training courses and integrating it as a lecture in methodology.”

R9. No answer.

R10. “By doing a task together in the classroom, choose a topic and ask chat GPT to write an essay about it and then ask the students to re write what they have got.”

R11. No answer.

R12. No answer.

R13. “The students may become passive if using chat GPT too much without any guidance.”

Teacher 3

R1. “Yes.”

R2. “It can be helpful to students as it fosters their abilities to perform well in writing essays and dissertations.”

R3. “No”

R4. “Supportive”

R5. “It is beneficial to them in all spheres of FLL.”

R6. “Being exposed to the risk of plagiarism is one of the issues students might face.”

R7. “One of its advantages is the development of communicative abilities that allow students to become good communicators.”

R8. “Train students to use it carefully and make sure they provide references for ideas that belong to others.”

R9. “See previous answer (8).”

R10. “It can be integrated in writing activities in which students learn how to use it on their own, but under the guidance of their teachers to avoid its misuse.”

R11. “If considered as one of the tools that foster students’ communicative abilities, improving their writing style, it is thus used along other tools. In this way, the students will not rely too much on it. It is up to the teacher to ensure this.”

R12. “Use it in a suitable way and for honest intentions to avoid plagiarism.”

R13. “It has many advantages to you, dear students, but be cautious, because it has disadvantages as well.”

Teacher 4

R1. “Yes.”

R2. “I personally believe that if the aim from using ChatGPT is to enhance the students’ writing skills then it is fine. However, it would be an issue if the students tried to copy rather than reflect on their level of writing and compare their style to that suggested by ChatGPT to identify their flaws.”

R3. “No.”

R4. “Discouraging.”

R5. “Relying on my humble experience, I see that students are becoming increasingly dependent on ChatGPT which negatively affects their PERSONAL and AUTHENTIC style of writing. Most students who use ChatGPT tend to be lazy writers and rely on this platform to do their work for them more than using as a support ONLY.”

R6. “The major difficulty would be lack of productivity. Students won’t be able to develop their own ideas, and, without this platform, they won’t even be able to generate or write correct sentences.”

R7. “If the students use ChatGPT for the good reason, then definitely there will be good benefits from its use. For example, students will be exposed to advanced vocabulary and advanced sentence structures. Additionally, they will be suggested a range of information and ideas that they will be able to use or develop in their tasks.”

R8. “By teaching them what plagiarism is, and the seriousness of its consequences. I believe that once the students understand the gravity of plagiarism, they will be more cautious of how to use ChatGPT and any other AI platform.”

R9. “I would recommend ChatGPT for students if it is a matter of comparing their styles of writing to that of AI to find out where their weaknesses and limitations are, work on them and improve them (in this case, ChatGPT serves as a GUIDE only!). I would definitely NOT recommend ChatGPT in case of a COMPLETE reliance on it and copying the exact content generated by this AI.”

R10. “I do not think I would include it.”

R11. “It will become less authentic, and different students’ pieces of writing would look the same as they would come from the same source.”

R12. “To keep ChatGPT’s use to the minimum, and rely more on traditional methods such as reading guide books on academic writing, also watch videos or download applications teaching how to write proper academic English.”

R13. “Students are more exposed to plagiarism with their (excessive) use of ChatGPT. Moreover, their works would not be trusted, hence, rejected by lecturers and academics. For this reason, I’d encourage students to stick to their own style. It’d be better for them to leave their works with mistakes (and learn from them once corrected by their tutors) rather than seeking fake perfection.”

Teacher 5

R1. “Yes.”

R2. “I think that it can be helpful as long as they know how to use it ethically and effectively.”

R3. “Yes.”

R4. “Discouraging.”

R5. “It depends. It can be used as an aid but at the same time students may end up relying too much on it.”

R6. “They may become lazy and complacent if they let the tool do the job for them.”

R7. “It can help students when they experience writer block by generating new ideas or suggesting new words and expressions.”

R8. “For now, I think that the only thing that we can do is avoid giving them home assignments and encourage them to use AI in the classroom under the supervision of their teachers.”

R9. “I don’t encourage students to use it in the first stage of writing their academic text. However, they can use it at the end to get feedback on what aspect of their writing they need to improve.”

R10. “I can teach them techniques to use it to evaluate their writing in the classroom.”

R11. “The texts are AI-generated not human-generated. They may end up having an AI style.”

R12. “I recommend they use it once they have taken all the necessary time and made all the needed effort to craft their personal text as the last step to evaluate their personal work.”

R13. “Do not idealize it and look at it as the only solution to all your writing problems.”

Teacher 6

R1. "Yes."

R2. "My first thoughts about ChatGPT is that it could be a super helpful tool."

R3. "Yes."

R4. "Neutral."

R5. ChatGPT can impact students' writing abilities in a positive way by providing instant feedback."

R6. "The difficulties that students may encounter when while using ChatGPT could be that the tool itself might provide lots of unnecessary information."

R7. "Yes, I think that there are benefits when students use ChatGPT appropriately such as helping them in enhancing their vocabulary and grammar mistakes."

R8. "I can teach them by informing them that these AI tools are useful to only help them when needed, and that it is important to create authentic writing works."

R9. "I would discourage them from using it always in their writing tasks."

R10. "I would not integrate it into my teaching practice."

R11. "I think if they use it in a mindful way they would improve their writing style."

R12. No response.

R13. "I would add that students should not rely on ChatGPT whenever they are doing their writing assignments instead they should use it as tool to help them with new ideas and information."