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Option: Linguistics

**EFL Students' Attitudes Towards the Potential of AI Writing Assisting Tools in
Enhancing their Academic Writing: The Case of Master One and Master Two
Students at The Department of English-University Of 08 Mai 1945- Guelma**

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DEDICATION I

*In the Name of **Allah**, Most Gracious, the Most Merciful*

*All the Praise is Due to Allah Alone the Sustained of All the Work, With A Deep Sense of
Gratitude*

*I dedicate this work to the two most important people in my life “my mother and my father”
for their love, care, prayers, support, and sacrifices. May Allah bless and protect them for
me. Special feeling of gratitude to my beloved sister for her endless support. To all my friends
who supported me throughout this journey with words of encouragement. My love for you all
can never be quantified. May Allah bless you.*

Wail,

DEDICATION II

*In the Name of **Allah**, the Most Gracious, the Most Merciful.*

First and last, it was all about me.

I dedicate this work to my one and only inspiration that without her I wouldn't go any further, my beloved mother, thank you for your unconditional love and care. Special thanks to my father for his support, prayers, sacrifices, and everything they have done for me.

To my niece, best friend, and daughter Yara. My younger brother Salim, my champion, the most special person in my life, thank you forever for all that you both have done.

For my heroes, Abdou & Tarek my brothers, my wings, the only gorgeous sister, their families, Sana my bestie and Samiha the kind-hearted, Soujoud my little pure angel, Mayassin my little shining star, Chahine the family prince, Afnan and Takwa my little cutest bunnies, my love and gratitude for you is literally beyond words.

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May Allah bless you all.

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Abstract

The current study investigates English as a foreign language (EFL) students' attitudes toward the potential of Artificial Intelligence (AI) writing-assisting tools in enhancing their academic writing. Thus, the present research assumes that EFL students perceive AI writing assisting tools' potential on their academic writing level either negatively or positively. A hybrid approach descriptive-exploratory was used, where a survey questionnaire was adopted as a data-gathering tool to test this hypothesis and achieve the research objectives. It was distributed to (231) students out of (321) population of both Master one and Master two students of English at the Department of Letter and Languages, university of 08 May 1945-Guelma. The findings revealed that when the majority used the AI-powered writing assisting tools, favorable outcomes were yielded in improving their written products, and they positively reacted to these tools' potential to enhance their academic writing. While also exhibited limitations and drawbacks in maintaining ethical and accurate pieces of writing, affecting their creativity and self-dependence, which made students show some negative concerns about these tools' potential. As a result, it has been suggested to use the AI writing assisting tools simultaneously during the writing process following certain guidelines to preserve the creativity and originality of the writing. Furthermore, some recommendations were proposed to streamline the usage of AI writing-assisting tools in the process of teaching and learning.

Keywords: AI writing-assisting tools, academic writing, EFL.

LIST OF ABBREVIATIONS

AI: Artificial Intelligence

AIED: Artificial Intelligence in Education

APA: American Psychological Association

CALL: Computer-Assisted Language Learning

EFL: English as A Foreign Language

ICALL: Intelligent Computer-Assisted Language Learning

ICT: Information and Communication Technology

IT: Information Technology

LLM: Language Learning Model

NLP: Natural Language Processing

Q: Question

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French Summary

Arabic Summary

General Introduction

Recent advancements in technology, particularly in artificial intelligence (AI), have significantly revolutionized almost all areas of life, including education, a field that has been developed and adapted to accommodate the needs of a society that is constantly changing. As technology progresses and permeates various aspects of daily life, it's unsurprising that AI writing assisting tools in (EFL) classrooms are growing quickly and becoming crucial in the learning and writing processes. These AI writing-assisting tools mainly ChatGPT provide huge aid in multiple aspects of writing such as: generating various types of writing including essays, and poems, enriching vocabulary, and checking coherence, and organization, thereby facilitating the process of enhancing academic writing. For that matter, the purpose of the current study is to shed light on the potential of AI writing assisting tools in empowering EFL student's academic writing.

Statement of the Problem

Despite the fact that the use of technology and Artificial Intelligence tools are increasingly popular, their potential impact is not yet fully explored to enhance English as a Foreign Language (EFL) students' academic writing. This research aims to investigate the students' attitudes toward the potential of AI writing assisting tools in enhancing their academic writing performance, and also as an aid to achieve considerable academic accomplishments. The study examines the way they perceive these tools and whether it is negative or positive. The research findings raise awareness of the benefits and drawbacks of AI writing assisting tools, the appropriate implementation of AI writing tools, and how to effectively utilize such programs by EFL students to take their academic writing level to the next level.

Aims of the Study

This study aims to examine EFL students' attitudes toward the potential of using Artificial intelligence tools and specifically AI writing assisting tools throughout EFL students while writing. It also attempts to investigate the effectiveness of AI writing-assisting tools usage and different aspects of academic writing that possibly can be enhanced on the one hand. On the other hand, it also seeks to reveal where these tools could fall short. Also suggests recommendations for teachers and educators on how to effectively use Artificial Intelligence writing assisting tools effectively in writing instruction.

Research Questions

The current study addresses the following questions:

- What are the EFL students' perceptions towards the potential of using AI writing assisting tools in leveling their academic writing?
- How does the use of AI writing assisting tools affect students' writing abilities?
- Does the AI writing assisting tools have a positive or negative impact on students' academic writing?

Research Hypotheses

This study hypothesized that integrating AI writing assisting tools has a major impact on students' writing skills and academic performance. Hence, it is also hypothesized that:

- H0: EFL students may have a negative attitude towards the potential of AI writing assisting tools in enhancing their academic writing.

- H1: EFL students may have a positive attitude towards the potential of AI writing assisting tools in enhancing their academic writing.

Research Methodology and Design

Methodology

To examine and test the previously mentioned hypotheses, a quantitative approach was implemented with EFL students from the Department of Letter and Languages, University of 08 May 1945, to gather data on their perceptions about the effectiveness and potential of using AI writing-assisting tools in enhancing academic writing.

Data Collection Tool

The study handles one type of data collection, a survey questionnaire conducted with Master One & Master Two students of English at Guelma University to gather data concerning their perceptions about the effectiveness of using AI tools in assisting EFL students in empowering their academic writing. A questionnaire was the right option for this academic study due to its efficiency, cost-effectiveness, and adaptability, allowing data collection from large samples quickly and economically in short durations. They offer standardization ensuring that all respondents are asked the same questions in the same order and also objectivity, to reduce biases and facilitate reliable and consistent data collection. Questionnaires also encourage honesty through anonymity which may encourage more honest responses, especially on sensitive topics. Reduce social desirability bias, without an interviewer present, respondents might be less likely to give socially desirable answers and more likely to provide truthful responses. Support quantitative analysis with easily quantifiable responses. In this case, a digital questionnaire was the right choice to come with automatic data entry and validation,

reducing the likelihood of errors and making data management more straightforward. Its flexibility in format and broad geographical reach, combined with easier data management and minimal ethical risks, make it a preferred choice for gathering and analyzing data in this academic research.

Population Sampling

The survey questionnaire was distributed to a sample that was made (231) students from a whole population (321) students total of both Master One and Master Two students of English who belong to the Department of Letter and Languages, University of 08 May 1945-Guelma. The decision to target the selected sample is that students at this academic level are more experienced in terms of writing than the other levels, and focusing on improving their writing skills. because in this level EFL students start to write research, essays, and dissertations.

Structure of the Dissertation

The research is divided into three chapters, two theoretical and one practical. The former focused on tackling the literature review of the two variables of the research topic, and the latter is fully analytical.

The first chapter explores the concept of technology, artificial intelligence, and its types generally, then it specifically focuses on AI writing assisting tools, definition, types, techniques, and their role in education and foreign language learning in general rather than types of AI writing assisting tools mainly, at the end mentioning ChatGPT as an illustration, highlighting its role as an AI writing assisting tool, its advantages, limitation, and drawbacks.

The second section, focuses on defining writing skills generally then the process of academic writing specifically, discussing its dimensions, importance in foreign language learning, components, characteristics, and approaches to teaching academic writing, lastly, it examines the challenges that academic writing could face, the potential solutions to overcome these challenges, and guiding principles in assessing students' academic writing.

The final chapter is a purely analytical section, where it presents the findings of the data gathered from the administrative questionnaire, which explores the EFL students' attitudes concerning the potential of AI wiring assisting tools in empowering their academic writing. To finalize it at the end, with a compilation of implications and recommendations for future further studies as well as limitations.

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Introduction

With the advancing pace of using technology in the 21st century, it has become a big part of our daily lives, owing to its fundamental services that we have become unable to dispense with. As a result, AI as a part of the technology revolution, has evolved from being science fiction to becoming a big part of reality and everyone's daily lives. This powerful combination of technology and AI has created a significant gain in all aspects of life mainly education. AI writing assisting tools are commonly considered the most used AI tools in EFL classes, while learners rely on them when writing their academic assignments. Therefore, this chapter will shed light on Artificial Intelligence generally, and its use in the education context specifically, tackling its types, definition, operation process, applications, tools, and the most used one in language learning and academic writing. To end this chapter, ChatGPT writing assisting tools' major benefits, advantages, limitations, and drawbacks will be discussed.

1.1. Theoretical Background of Technology in Education

Over the past few decades, technology has gone from being treated as an isolated innovation to becoming a central part of all fields, mainly education, by integrating various ed-tech tools in classroom lessons.

According to Selwyn (2012, p. 1), one of the most significant features of the last thirty years is undoubtedly the ongoing development of more powerful digital technology, making education an essential component of the changing contemporary world. It is hard not to recognize the connections between education, the economy, and society, whether discussed in terms of the information era, network society, or the knowledge economy. Consequently, the guiding principles of most recent educational reform and change have been straightforward: first, that a workforce with information skills is necessary for upgrading the economy; and

second, that education and learning are how a workforce with information skills can develop. As Castells (2006, p. 3) put it, "We know that technology does not determine society: it is society". This means building a developed society requires well-educated individuals using ed-tech teaching and learning facilitating tools, which will lead to the construction of a strong economy.

The debates in education on whether or not digital technology learning and use should be an integral component of education have long since been settled. These controversies peaked in the 1980s and 1990s. It is now widely authorized that digital technology utilization is crucial for providing many aspects of lifelong learning, including incorporating computers into classrooms at schools, colleges, and universities. Therefore, they offer online courses and impart knowledge to students (Selwyn, 2012, pp. 1–6).

Additionally, he noted that the late nineteenth century witnessed the emergence of the "new" technologies of the steamship, the telegram, and the telephone. The era was defined as the "shrinking world" throughout these times, which was less divided and more connected than in earlier times, with technological advancements leading to the "end of geography", "death of distance", and "time-space collapse". This ICT integration has greatly impacted the requirement for digital skills among teachers and students.

ICT stands for "Information and Communication Technology", it identifies technological advancements that facilitate communication-based information access, which, though it mostly concentrates on communication technologies, is related to information technology (IT). This includes wireless networks, computers, cell phones, and other communication devices, connected to the Internet. In this digital age, using ICT in the classroom is an important way to help students learn and apply significant skills. Thus, ICT

gives more opportunities for teachers to improve training programs and teaching quality through innovative methods to reach teaching objectives effectively (Ratheeswari, 2018).

Furthermore, he affirmed that ICT refers to all related communication information, for learning purposes handled by computer and internet connections, which helps to keep progress with the latest upgrades of the world, with the help of different technologies. As a result, integrating such technologies into the educational spectrum will effectively improve teaching and training quality.

To promote the significance of ICTs in improving teaching and learning in the future, the use of these technologies that are exemplified by the incorporation of the internet and innovative tools, such as Artificial Intelligence, computers, mobile applications, and interactive multimedia, will increasingly affect this field.

1.2. E-Learning

Like other recently developed technologies, e-learning has been the target of many investigators' and researchers' predictions, where it enjoyed a large growth in learning and training, as expected. The growth in eLearning has been fueled by the growth in the importance of lifelong learning in parallel with the increased spread and usage of the internet and technology in daily life, to meet the needs to maintain development in the face of exploding information on the internet.

E-learning as a term, is broad and covers all that is related to the word "educational technology" which refers to the ethical research and practice of developing, utilizing, and managing suitable technological methods and techniques to facilitate learning and enhance teaching performance (Yang, 2020).

Many definitions of eLearning are about highlighting the 'location' of the learning: e.g., the use of internet technologies to create, strengthen, deliver, and improve learning, anytime and anywhere (Mason & Rennie, 2006).

According to Markus (2008), e-learning is a process that is generated through interaction with network-based services, tutoring support, and digitally powered content. E-learning, also known as computer-assisted learning, is any technologically mediated learning that occurs in a face-to-face classroom or remotely. It portrays a change from traditional methods of teaching, learning, and even administration, to personalized, flexible, specific, accurate, automatic, self-organized, and collaborative learning based on a community of experts, teachers, and learners familiar with ICT.

Similarly, Jethro, Adewumi, & Thomas (2012) called eLearning: Web-based learning, online learning, computer-assisted learning, or Internet-based learning. Typically, two commonly used e-learning modes have existed since the first appearance of the term eLearning until the present day: distance learning and computer-assisted learning. Remote learning uses IT (Information Technology) to deliver courses to learners in distant locations from the central site of the educational institution. Computer-assisted learning (also known as computer-based learning and computer-based training) involves using computers to deliver separate multimedia packages to learners and teachers.

Another mode they discussed, was multimedia (multiple types of media), such as audio, video, texts, graphics, and animations, to produce learners' attention-grabbing content that they can access via computer. Blended learning, is quite a new term in education, but as a concept, it is familiar to most academics.

They affirmed that it is also an approach that combines e-learning technology with traditional methods of teaching, learning, and lesson making, for example, a lecture designed by a teacher or demonstration from a textbook but supplemented by an online tutorial by the tutor for students through a virtual class (online class). Departments, administrators, and learners see that multimedia e-learning collaborates to enhance both teaching and learning. E-learners indicate that the increased rates of innovative content creation and utilization, result in better knowledge improvement, skill enhancement, and academic achievement. With a variety of media alternatives available, multimedia e-learning gives students the freedom to choose what fits their learning style the best.

E-learning in the education sector should endeavor to take into consideration the demands and concerns of all stakeholder groups to fully realize the potential of e-learning to enhance teaching and learning performance and overcome the obstacles that could hinder the attainment of the curriculum objectives, as the recent COVID pandemic provides just a specific example of the necessity and significance of blending traditional methods with the integration of e-learning in academic programs.

1.3.1. Definition of Artificial Intelligence

The term AI was first used by John McCarthy in 1955. He defined it as “making a machine behave in ways that would seem intelligent if a human were so behaving” and it refers to using computers to decode human intelligence; yet, artificial intelligence is not limited to techniques that can be observed by biological methods.

The word AI includes the two words “Artificial” and “Intelligence” (Ahmet, 2018). The word “Artificial” refers to what is not real, or simulated, but not completely false regarding

being a fake, while “Intelligence” is something that can replace genuine items because the former has better and prototype qualities in a certain context.

AI is defined by Coppin, B. (2004) as “the study of systems that act in a way that would be considered intelligent to any observer, and techniques used to solve relatively simple or complex problems internal to more complex systems”. Moreover, Artificial Intelligence is the study of intelligent behavior in humans, animals, and machines to engineer such behavior into an artifact, such as computers and computer-related technologies. AI includes machines that can automatically adjust to new situations, deal with them, solve related problems, answer questions, design plans, and accomplish other tasks that necessitate a certain level of human-like intelligence.

Further; Artificial Intelligence (AI), is the capacity of a machine or robot under computer control to carry out tasks typically related to intelligent experts. As a term, it is commonly applied to the project of developing systems empowered with humans mimicking intelligent characteristics, such as the ability to think, discover meaning, hypothesize, or learn from past experiences (Copeland, 2024). Artificial intelligence (AI) upgrades devices that work and react similarly to human brain "intelligence", such as computer systems (online platforms) and machines (robots) (Karsenti, 2019).

In simple words, Artificial intelligence is adding, exploring, analyzing, and developing human and animal intelligence into machines to solve simple or complex issues in a way that appears to anyone smart and human-like through different methods and techniques, such as reasoning, self-knowledge, understanding, emotional awareness, preparation, sense, and creativity.

1.3.2. Types of Artificial Intelligence

Naveen Joshi (2024), with more than 20 years of experience as a professional in customizing open-source products for cost optimizations of large-scale IT deployment, works in AI, Big Data, IoT (Internet of Things), and Blockchain. Also, an influencer with half a million followers. He classified AI according to the extent to which an AI system can mimic human abilities, thoughts, and attitudes. Under such a system, a more evolved type of AI is an AI that can perform more human-like functions with closer levels of proficiency, while a less developed type is an AI that has limited replication.

There are two ways in which AI is generally classified, based on his criteria. The first classification is based on categorizing AI and AI-enabled machines based on their likeness to the human mind, their ability to “think”, and perhaps even it seems that the AI “feels” like humans, as previously mentioned. Accordingly, four types of AI or AI-based systems fit under this classification:

1.3.2.1. Reactive Machines

These are the oldest known AI systems, with minimal capability to mimic how the human mind reacts to various inputs. There is no memory-based functionality on these machine types. This explains why these machines cannot " learn, " or use past experiences to guide present actions. Only a limited range of data sources could program these devices to react automatically.

1.3.2.2. Limited Memory

In addition to having the capacities of purely reactive machines, they are also capable of learning and making decisions from past experiences and data and making decisions. Technically all applications that we know and currently exist fit under this category of AI. All

modern-day AI systems, programs, and tools, are trained by large volumes of training data that are stored in their memory to create a reference model that can be used to solve future problems when needed, such as those using deep learning. In particular, to identify an image, the AI scans an image using thousands of pictures saved in its memory. When such an AI scans it, it labels new images more accurately based on its “learning experience” using the saved training images as a guiding reference to recognize the contents of the presented image.

Limited-memory AI drives almost all present-day AI applications, from chatbots and virtual assistants to self-driving vehicles.

1.3.2.3. Theory of Mind

While the previously mentioned two types of AI are available, discovered, and used extensively, the next two types of AI exist, at this stage, either as an idea or a work in progress. Theory of mind AI is the current and next generation of AI systems that researchers are currently working on developing. By identifying the needs, feelings, beliefs, and mental processes of the entities the theory of mind-level AI interacts with, it will be possible to understand them more fully. As the leading AI researchers are interested in developing the artificial emotional intelligence industry which is still emerging, other branches will require the upgrading of AI to achieve the theory of mind level of AI. This is due to the fact that for an AI system to genuinely "understand" humans, it must consider each human as a unique individual whose mind is influenced by a variety of circumstances, and consequently shaped distinctly to precise and accurate results.

1.3.2.4. Self-aware

This is the final stage of AI development, which exists as a theory or a concept that is currently still under investigation. Self-aware AI, which means self-explanatory, is an AI that has

evolved to be equivalent to acting exactly like the human brain in that it has an evolved level of self-awareness. Creating this type of AI will always be the major objective of all AI research, but it is still decades, if not centuries away from being fully fulfilled. This type of AI will not only be able to understand and stimulate emotions in those it interacts with, but it will also have its own emotions, needs, beliefs, and potential desires just like a human being. This is the type of AI that technology doomsayers are wary of. Although the growing development of self-aware AI can arguably increasingly boost our progress as a civilization, it can also potentially lead to unexpected catastrophes. This is considering that once self-aware AI is capable of having ideas like self-preservation, may directly or indirectly lead to the end of humanity, as it can easily outsmart the intellect of any human being and plot complicated plans to take over humanity.

The alternate system of classification that is more generally used in tech parlance is the classification of the technology; accordingly, there are other three types which are:

1.3.2.5. Artificial Narrow Intelligence (ANI)

Artificial narrow intelligence represents AI systems that can only perform a certain specific task using human-like capabilities autonomously. These machines cannot do more than what they are programmed to do, for this reason, this AI type has a very narrow or limited range of capacities i.e., there's an AI that can beat the world word spelling champion, but that is the only thing it does.

1.3.2.6. Artificial General Intelligence (AGI)

This AI type can reach and then pass the level of human intelligence (Gottfredson, 1997, p. 13), by replicating our multi-functional capabilities, meaning it can think, plan, have task-solving ability, reason, comprehend complex ideas, learn quickly, and learn from experience.

1.3.2.7. Artificial Superintelligence (ASI)

An ASI has a machine intellect that is much cleverer than the best human brain can be in practically every field, including scientific creativity, general wisdom, and social skills (Bostrom, 1998, p. 1).

At this point, it is clear that all in all, there are technically seven types of AI that fit into two categories.

1.3.3. AI Techniques

Machine learning, natural language processing, computer vision, and robotics are techniques used by AI (Russell & Norvig, 2020), to develop systems able to mimic human intelligence:

1.3.3.1 Machine Learning

Allows systems to enhance their task performance by learning from data.

1.3.3.2. Natural Language Processing

eases the interaction between computers and human language.

1.3.3.4. Computer Vision

Enables machines to analyze and comprehend visual information.

1.3.3.3. Robotics

Facilitates the development of machines that can carry out tasks in the physical world.

1.3.4. AI in Education (AIED)

Even though it is one of the newest areas of study, Artificial Intelligence as a term has roots that date back decades. The emergence and realization of true intelligence in machines were only possible starting with the development of digital computers in the 1940s. AI has

significantly spread in almost every industry, including medicine, business, and education it is not making any exceptions through its expansion. According to the 2018 Horizon report, experts anticipated that the use of AI in education will grow to reach 43% from 2018 through 2022 where applying AI in education has been a research subject matter for the past 25 years, which is why it is called the digital era. The fact that education and its future are linked with its success in implementing AI, is undeniable.

As explained by Duan, Zong, Wang, Li, and Ji (2024), the utilization of artificial intelligence (AI) in teaching is growing, bringing significant changes to education. Also, it significantly enhances the learning experience through personalized learning paths, intelligent tutoring systems, and virtual laboratories for students. Therefore, what gives AI usage priority in tutoring systems, is that it can provide customized learning materials based on the learning speed and students' skills to attract them and lead them to engage more in classes. Consequently, improving the efficiency of teaching and learning outcomes. Moreover, it gives teachers access to track student progress and modify their teaching methods as needed, due to the incorporation of AI in educational assessment and feedback systems. The full implementation of AI in education still faces obstacles with the distribution of resources, ethics, and technology. The usage of AI in education is unavoidable, and it assists instructors in meeting objectives and overcoming all the hurdles that both learners and administration have been facing.

Overall, Artificial Intelligence utilization in education has had a major impact, on improving teaching quality, smarter content, and customized/personalized learning, as well as bringing time-saving automated programs, accuracy, and efficiency to education administration. Thus, driving innovation into the whole system.

1.3.5. Role of Artificial Intelligence in Education

AI's utility is now extended to almost every industry, and nowadays, it is reshaping the education industry as well. With the high demand for more customized and individualized content for teachers and learners, AI tools are used in education to make this happen, where teachers can spend more time teaching and learners can spend less time on task solving.

AI technologies are reshaping the traditional classroom model by establishing a global learning environment that exceeds geographical borders. They are being used to tackle and solve several long-standing issues and provide differentiated instruction that meets students' needs including their distinct individual differences.

AI has had an immense role in education, which has been increasingly boosted during the COVID-19 pandemic. According to Chassignol et al (2018), Artificial intelligence integration and acceptance in education have been embedded in administration, teaching, and learning. AI has many roles, such as accessing, providing, and improving teacher-student communication. Through its many applications and tools, AI provides tutoring with tools, such as chatbots, to maximize the outside-the-classroom help to the students on the one hand, and minimize administration tasks by providing automatic solutions to most of them on the other hand (Ahmad et al., 2021). In the same vein, it has changed the education mode by introducing personalization and customization, where educating students depends on their level, learning style, speed of learning, and the goals to be obtained from the course. In contrast to the traditional style, the student's performance is analyzed continuously to assess the weaknesses and offer classes of interest and improvement.

AI-powered education (AIEd) provides more flexible, inclusive, engaging, customized, and individualized learning opportunities, helping teachers create more advanced learning

environments that would otherwise assist students in gaining the knowledge and skills employers seek (Luckin et al., 2016).

To summarize the main roles of AI in education are the automation of administrative and academic tasks, the creation of smart content for teachers, personalization, and customization in learning, and day-night content accessibility. In other words, AI has downsized the burden of being all-time swamped teachers, they can teach inside and from the comfort of their houses to overcome the weaknesses and frustrations of students, by answering repetitive and commonly asked questions in seconds rather than long delays, anytime from anywhere.

Eventually, it is significant to highlight that the integration of AI in education doesn't replace the traditional system of teachers, learners, and administrators. It is all about empowering and upgrading them to meet the advanced world flow, which will help them cope with the growing students' needs and demands to match them all with international advancement.

1.3.6. AI-Language Learning Tools

There has been a remarkable advancement in the quality of student-computer engagement since they shifted from using CALL (Computer-Assisted Language Learning) to ICALL (Intelligent CALL) which is a new framework for where, and how to use AI language learning tools. New advancements (natural language processing, deep learning, and data processing) have been notably strengthened and upgraded through AI tools integration in language learning, and foreign language learning specifically (Kannan & Munday, 2018). The ICALL structure is a set of rules and principles for how to make and use AI language learning systems (Hassani et al., 2016).

ICALL's main principle is to include AI and machine learning algorithms in education to support language learning (Pokrivcakova, 2019). These algorithms can generate original language content, translate and correct grammar automatically, and provide customized feedback (Choi, 2014). Another ICALL principle is natural language processing (NLP) techniques that analyze and understand language data, extracting language patterns and features from speech and text to help language-learning algorithms and AI language-learning tools work better in generating the language (Lu, 2018).

Overall, ICALL assists students to effectively learning the language efficiently and enjoyably by giving instructions and guidelines for developing and implementing AI language learning tools (Bibauw et al., 2019).

Undoubtedly, learning a foreign language is about mastering the four main components of language. In addition to listening, speaking, and reading, there is the writing skill, which witnessed a big interest and was well encountered through being empowered using several AI writing assisting tools, during and after the COVID-19 pandemic, as the need for using alternatives of the traditional classes raised, a switch to online classes took a place in parallel with developing AI powered tools to cover all the needs of students to effectively, maintain their learning objectives, during the period of social distancing. As a result, the persuasion of their academic career will require the use of AI-powered writing assisting tools.

1.3.7. Types of AI-Powered Writing Assisting Tools

There are several AI language learning tools, each with its own purposes and features. Here are the major types of AI writing assisting tools:

1.3.7.1. Machine translation tools (MTs)

Machine translation is the automatic process of translating either spoken or written texts, from one particular language to another. MTs (machine translators) translate written texts automatically using an extensive complex and vast linguistic database (Schmidt & Strasser, 2022, p. 170). They use a variety of AI algorithms to automatically convert text or speech from one language to another over time. These tools are typically used to translate short phrases, sentences, and passages quickly, and lately uploading large documents has become possible. They are often found in mobile apps or online platforms. Popular machine translation tools for instance include Google Translate and Bing Translator (Ducar & Schocket, 2018).

1.3.7.2. Digital Writing Assistant tools (DWAs)

DWAs are defined as software packages that can be accessed through browsers or other technology devices that can use AI to assist with writing. DWAs include complex grammar and spell checkers but they are also tools that can achieve full sentence transposition and paraphrasing of texts to provide macrostructural feedback (Roe, Renandya, & Jacobs, 2023, p. 3). One of the most commonly used AI-powered DWA is Grammarly for improving writing and providing better suggestions for written products (Grammarly, 2022). O'Neill and Russell (2019) state that Grammarly can assist students in reaching grammatical preciseness by providing them with the appropriate input, which can boost their self-confidence, and autonomy and encourage them to self-rely more to complete their writing tasks. Alongside grammar, Grammarly can eventually enhance stylistic expressions, target punctuation, and lexical errors, while providing alternatives to improve text fluency (Barrot, 2020).

1.3.7.3. Chatbots/Virtual Chat Agents

In a broad sense, chatbots intend to imitate the conversational behavior of humans (ChatGPT and Elsa for example), with the ability to access a vast compilation of linguistic databases that already exist on the web. They're becoming more and more intelligent. Educational technology companies have started to develop their chatbots and agents, to cope with the different needs of students, teachers, and administrators, providing customized answers to their different inquiries, such as guiding, evaluating, and grading (Lisovets, 2017).

1.3.7.4. Automated Paraphrasing Tools (APTs)

The final category in AI writing assisting tools is automated paraphrasing tools. In general, paraphrasing is taking a source text and passing it into a paraphrasing tool on any online platform to reproduce another similar or close-in-meaning text. The complexity level of the text varies, so the tool tries to generate equivalent text by replacing each word, phrase, and sentence with its synonyms. As claimed by Rogerson & McCarthy (2017), this can result in an incoherent “word salad”, although it can preserve the general ideas of the primary text, it still aims to outsmart the plagiarism detection that compares texts, which allows any user to present the source content as an original piece of work of his, (QuillBot for instance).

1.4 ChatGPT

Recently, artificial intelligence witnessed advanced growth, specifically in natural language processing (NLP) where computer algorithms are used to analyze, understand, and generate humanized language responses to different types of questions and inquiries, ChatGPT is considered one of the most revolutionized innovations in the field of interactive AI tools (Harry, 2023).

ChatGPT, which stands for " Chat Generative Pre-Trained Transformer " is an AI language model that permits people to interact with computers, also it is a term that all the natural language models developed by an open AI fit under, Because of its capacity to generate unique and original outcomes, it is considered as generative AI either (Sabzalieva & Valentini, 2023). Thus, it is an artificial intelligence tool that uses natural language processing to dive into Internet data to provide written responses to the users' prompts or questions (page 5).

Large text datasets are used to train these models so they can be able to predict words in sentences and produce human-like output that is appropriate and convincing in response to statements or questions. Regarding ChatGPT, the system has received 570 GB of data, approximately 300 billion words, and about 175 billion parameters (Hughes, 2024).

1.4.1. Overview About ChatGPT

Open AI was cofounded by Elon Musk, Sam Altman (CEO), Greg Brockman (Chairman and President), John Schulman, Wojciech Zaremba, and Ilya Sutskever in December 2015, where they similarly shared the idea, that it is high time to bring AI fully into action to show its potential to make positive change in everyone's life not only for those in the technology domain (Brown, 2023), Even after Musk left the company in 2018, the other cofounders remained committed to achieve OpenAI's target goals.

According to Bernard Marr (2024), the writer of more than 20 best-selling and award-winning books, coaches many of the world's best-known organizations. He affirmed that the evolution of ChatGPT has been characterized by ongoing progress, with each release version that was built and improved upon earlier versions, with a larger database and an extended number of parameters, from GPT-1 the model that was first introduced in June 2018 with only 5GB pre-trained data, GPT-2, which was released in February 2019 with more than 40 GB

database, both we initially launched with limited database and capacities to smartly analyze, understand and response to the various inquiries due to the lack of the offered data and limited memory based parameters,

The huge May-June 2020 leap of launching the GPT-3, This model trained on a remarkable number of parameters which is about 175 billion, and massively larger data which is about 45TB, helped to upgrade sophisticated text-generation abilities resulting in widespread adoption across diverse applications, including composing emails, writing articles, generating poetry, and even generate programming code, additionally, it showed proficiency in answering factual inquiries and facilitating language translation, as people began to interact directly with the LLM in this manner, the potential impact of this technology became increasingly evident (Marr, 2024).

On November 30, 2022, OpenAI released GPT-3.5 (Harry, 2023). GPT-3.5, a cutting-edge fast, and more accurate language processing AI model developed by OpenAI as all the previously launched versions of GPTs, adopted human-like text generation capabilities and finds application across various domains such as language translation, language modeling, and text generation for chatbots. Using 175 billion parameters, it ranks among the largest and most potent language-processing AI models that ever existed, GPT-3.5, can provide AI users with diverse worded inquiries, questions, requests for custom-written content on specifically chosen topics, and numerous other forms of worded prompts (Hughes, 2024).

In the same vein, another GPT-3.5 series model derivative version has been launched, it's known as the InstructGPT (Ouyang et al., 2022). InstructGPT represents state-of-the-art software designed to surpass the other previous versions in perceiving and executing precise instructions, making it crucial across diverse fields (Kumari, 2023).

Kumari added that OpenAI has strongly sharpened this program by boosting it with both reinforcement learning and human input, guaranteeing its outputs will mirror human intentions. It comes in three distinct sizes, each with varying levels of intricacy and refinement: 1.3 billion parameters, 6 billion parameters, and 175 billion parameters, these options empower users to select the model size that aligns most effectively with their particular requirements.

All the previously highlighted versions of ChatGPT were free and accessible to users, all they had to do was create an account, or download the app that is currently available for both Android and iOS phones, sign up, and benefit from all its free various services.

1.4.2. ChatGPT-4 (The Premium Version)

The 2023 OpenAI technical report, announced that OpenAI offers Playground and APIs (Application Programming Interface) to facilitate users to utilize GPT4 advanced models, as with the advent of GPT-4, a significant milestone in OpenAI's continued advancing deep learning through scaling, there's a notable enhancement in the model's capacity, which make it a large multimodal model, demonstrates a superior ability to interpret and execute even more qualified current details on specific topics and instructions compared to the previous versions based on GPT-3 models, due to its large database that it is not published yet, but about 8 times more than GPT3/GPT3.5 one. What's noteworthy after this, is that GPT-4 isn't a free version, its pricing is swinging between 20\$-25\$, and it is changeable through seasons.

A small sidenote that should be highlighted is that it is necessary that ChatGPT is a term which all the versions of GPT fit under as the conversational, chat, dialogue AI tool, but to be more professional, it is more accurate to specifically mention which OpenAI-developed version you are using/using.

GPT-4 introduces a groundbreaking capability to generate text from visual prompts such as photographs and diagrams. However, this feature is exclusively accessible through the API and is not currently available for GPT subscribers using OpenAI's previously mentioned versions. Common use cases for GPT-4's multimodal features include writing captions for social media images, drafting alt text (alternative to text) for blog post images, and generating HTML and CSS codes to program a whole app or a website without having any idea about programming, solve complex tasks faster, evaluate multiple exams at once, draft longer passages, analyze more complicated data and statistics, and support for 26 languages, OpenAI provides a chart demonstrate that GPT-4 across various languages, its effectiveness not only with English but also with less commonly spoken languages like Welsh (McGregor, 2023).

1.4.3. ChatGPT As a Writing Assisting Tool

ChatGPT has the potential to revolutionize education in many aspects. It can assist students in overcoming difficult concepts by offering simple, precise, and concise explanations, help teachers provide personalized feedback to each student, and save time and effort by its ability to grade students' assignments and tests or deliver automated feedback to students (Lund & Wang, 2023). Beyond these uses, ChatGPT can aid in developing innovative projects and resources, for example, it can create interactive games and activities that can make students more engaging and offer tutors personalized guidance and feedback as students advance in their studies (Kalla et al., 2023).

ChatGPT has a unique capability to perform highly sophisticated tasks, such as composing articles, stories, poems, or essays (Lucy & Bamman, 2021). ChatGPT outperforms in providing summaries or expansions of text, adapting content to present alternative perspectives through paraphrasing, and proficiently generating and debugging original computer code

(Tate et al., 2023). Other ways that ChatGPT can improve academia in both writing and research, are added by Lund and Wang (2023):

1.4.3.1. Literature Review Assistance

ChatGPT can help researchers and writers find relevant literature by generating summaries of articles or providing lists of pertinent papers based on specific topics or keywords. Lately, it can also add in-text citations and the proper references to avoid plagiarism.

1.4.3.2. Text Generation

ChatGPT can produce text in a particular style or tone, aiding researchers in drafting versions of research papers, grant proposals, and other written materials, which can enrich their vocabulary in certain fields they study.

1.4.3.3. Data Analysis

ChatGPT can assist in analyzing large volumes of text data, such as social media posts or news articles, by offering insights to identify patterns and make related comments and interpretations of the results.

1.4.3.4. Language Translation

ChatGPT can perform machine translation, enabling researchers to access and understand materials in various languages, this clarifies points that have been sophisticated and close the meaning to make it easy to learn and grasp.

1.4.3.5. Automated Summarization

ChatGPT can automatically summarize scientific papers, reports, or other documents, making it easier for researchers to keep up with the latest developments in their field, saving them time and effort.

1.4.3.6. Question Answering

ChatGPT can be fine-tuned to answer domain-specific questions, providing scholars with a powerful tool to quickly and efficiently find answers.

1.4.3.7. Effective Paraphrasing

ChatGPT can effectively paraphrase the text, helping researchers rephrase the content more clearly or concisely while preserving the original meaning.

1.4.4. Advantages of ChatGPT in Academia

ChatGPT's remarkable capabilities within all the domains and mainly the educational sphere are diverse. This power is capable of revolutionizing many existing educational methodologies. Among the advantages perceived by proponents are the following:

1.4.4.1. Language Learning

GPT's potential lies in creating chatbots and virtual language tutors, aiding students in practicing their language abilities. These chatbots mimic real-life conversations, offering students immediate feedback on their grammar, pronunciation, and vocabulary usage (Williamson et al., 2023).

1.4.4.2. Writing Assistance

GPT can aid students in enhancing their writing skills by analyzing their writing style and suggesting enhancement. It offers feedback on grammar, punctuation, and spelling errors, and contributes to the improvement of students' writing proficiency (Williamson et al., 2023).

1.4.4.3. Instant Feedback

According to Ray (2023), ChatGPT can promptly provide responses and feedback on student work. This immediate feedback is crucial as it enables students to swiftly identify and rectify their errors, thereby enhancing their learning process.

1.4.4.4. Language Translation

ChatGPT's utility extends to translating educational materials into multiple languages, hence it makes it more accessible to a broader audience. Wu et al. (2016) conducted a study illustrating that a generative model like ChatGPT, trained on a dataset that includes bilingual sentence pairs, could successfully translate between languages. The model demonstrated exceptional proficiency by achieving up-to-date results across various translation standards. Remarkably, the study underscored the model's ability to comprehend sentence meanings in one language and produce close to precise translations in another language.

1.4.4.5. Personalized Tutoring

ChatGPT's potential extends to offering personalized tutoring and feedback based on student's learning needs and levels. Yi et al. (2020) conducted a study highlighting that a conversational agent developed upon a generative AI model like ChatGPT could deliver personalized math tutoring to students, leading to enhanced learning outcomes. Furthermore, the research demonstrated the conversational agent's capacity to provide explanations customized to students' misunderstandings and adapt to meet their comprehension levels.

1.4.4.6. Automated Essay Grading

ChatGPT can be trained to assess student essays, offering educators additional time to concentrate on other teaching aspects. A study indicated that a generative model like ChatGPT, trained on a dataset that contains human-graded essays, could effectively grade high school students' essays, exhibiting a correlation with human-assigned grades. The research

demonstrated that this model's proficiency in spotting the key elements of well-crafted essays and delivering feedback is similar to the way humans grade (Kim, Park, & Lee, 2019).

1.4.5. ChatGPT Limitations

A key ethical concern with ChatGPT is bias in its training data. Because the model learns from extensive text datasets, it can reproduce any biases present in that data, leading to unfair and inaccurate outcomes, particularly for marginalized groups, it's essential to train the model with diverse and representative datasets to minimize bias and promote fairness (Vasylyuk, 2023).

Pathak (2023), stated many limitations of Chatgpt, the model may face obstacles in contextual understanding due to its large database which makes it somehow impossible to be aware and consider the broad context targeted by the user, Chatgpt's capacity to maintain conversation flow is minimal for the same reason, lack of ethical reasoning, as a model it could create content that's unclear morally or doesn't follow ethical rules, so it might not be suitable to be used and not be under the supervision of adults, and its incapability of generating visual content using the previously mentioned free versions.

He went further and added that ChatGPT may struggle to accurately address the user's intended need to ask the question, consequently, it produces responses that sound close, these replies may not fully capture the specific context or intention behind the query which makes it challenging to maintain coherence (p.26). ChatGPT faces challenges in consistently recognizing and addressing inappropriate, harmful, or offensive input, that's why there's a risk that ChatGPT may generate content that violates established ethical guidelines or doesn't align with user expectations, also due to its limited emotional intelligence, ChatGPT may exhibit deficiencies in the generation of responses that demonstrate empathy, humor, sarcasm, and

address the emotional details in the user's query, So, the model may struggle to deliver appropriate responses that align with the user's emotional requirements or expectations(p.28).

Ray (2023) clarified that ChatGPT competence is broad, covering various subjects, yet it may lack the depth of understanding each domain-specific jargon which makes its utility limited in specialized fields or contexts that require a high degree of accuracy and precision (p.148).

Conclusion

The integration of technology, AI, and specifically AI writing assisting tools in EFL classes, is undeniably a new trend for the educational system that aims at coping with the entire world advancement in general and meeting the students' and teachers' expectations about how should nowadays educational programs switch from the traditional methods to up-to-date modern techniques. This shift can result in the widespread adoption of AI writing-assisting tools by students to fulfill their requirements to complete their writing tasks. Hence, this chapter emphasized the ways ChatGPT could assist them in their different writing products with its extensive multifunctional capacity in, answering, formulating, generating, paraphrasing, summarizing, analyzing, understanding, evaluating, and writing the various types of writing, which EFL students need to improve their academic writing performance with the major previously tackled element in this chapter theoretically.

CHAPTER TWO: ACADEMIC WRITING

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Introduction

Writing has long been established as a powerful means of communication in professional and educational settings. In higher education settings, particularly in learning and teaching EFL, students are required to have advanced communicative skills, which involve the ability to write critically and argumentatively. It also involves students adopting a more formal complex style of writing known as academic writing. Students across all disciplines including EFL learners must develop adequate academic writing skills as it allows them to organize and interpret knowledge in a more structured manner.

The present chapter is devoted to providing a theoretical overview of academic writing. It starts with related definitions of academic writing and explores its process, components, and characteristics. Also, this chapter highlights the importance and dimensions of writing skills. Besides, it attempts to investigate EFL student's challenges in academic writing and suggests potential solutions. In addition, we shed light on approaches to teaching writing in EFL classrooms and finally, it ends with guiding principles for assessing students' writing.

2.1. Nature of Writing

Writing involves composing written messages coherently using words and sentences, ensuring that readers can understand the content (Ekarista, 2018). Writing requires more knowledge and careful thought than other language abilities since it produces words, phrases, and paragraphs with proper grammatical structure. Written language differs from spoken language in several ways. People generally understand writing as a means of communicating with others using language signs and symbols, as well as a technique for putting thoughts and opinions into written form.

2.1.1. Definition of Writing

Writing is one of the useful English skills that English as a Foreign Language (EFL) students in Indonesia should be proficient in for written communication and academic writing purposes, such as letters, essays, papers, articles, journals, project reports, theses, etc., according to Toba et al. (2019). Students should master writing to succeed in schools and universities (Permata and Hamzah).

According to Liunokas (2020), writing is a crucial part of written communication. If we are not proficient writers, we will not be able to articulate our thoughts or opinions on paper. Additionally, text that defines a term. All essays, in a sense, are reflections of your thoughts and feelings about a particular subject. Essays are an attempt to share those ideas and emotions with other people.

Besides, writing is a productive and expressive activity. Writing is a skill that demands constant practice to acquire and it does not come naturally. For those students who aspire to become proficient writers, additional practice is necessary to grasp both the craft and intent of writing. Writing is a difficult skill that requires practice, education, and patience to master (Agus Prananda, 2016).

Moreover, writing is difficult for those learning English as a second language (ESL) since they lack the necessary writing abilities (Fung and Mei, 2015). Furthermore, students also need to focus on formal writing elements, including proper handwriting, spelling, and punctuation, as well as appropriate language and vocabulary choices. Thus, according to Fitriani et al. (2019), good writing should have certain elements such as proper grammar, strong sentence structures, accurate spelling, punctuation, and cogent thoughts.

2.2. Academic writing

2.2.1. Defining Academic Writing

Academic writing is a formal writing style that researchers, teachers, and universities use. It differs from standard writing in certain areas, including structures that have specific qualities, which are; academic vocabulary, sophisticated phrases, and logically advanced arguments while keeping the intended audience in mind. In academic writing, it is imperative to utilize precise and unambiguous language to facilitate reader comprehension and prevent any potential bias or ambiguity (Pratiwi, 2016; Fadhel, 2019).

Al Fadda (2012) defines academic writing, as "...a mental and cognitive activity since it is a product of the mind" (p. 124). According to Abu-Ghararah and Hamzah (1998, p. 87), academic writing is defined as "the expression of the ideas and the logical organization and arrangement of the written sentences within a paragraph and paragraphs within the units of discourse".

Academic writing has a unique set of guidelines, and one of the best ways to succeed in this discipline is through practice. There should be a formal arrangement for the rules. It must have a relationship to the writer and their piece of work (Rass, 2015). Academic writing has a distinct writing style. Hogue (2007) states that academic writing should integrate expert research and studies that should not be written in the same way as other types of writing. Additionally, he claimed that academic language should be favored over other writing styles. Formal and courteous language is required. Students in college or university could be considered to have this style.

More specifically, academic writing, according to Morley-Warmer (2009), is a formal approach to writing a well-structured work that makes use of formal terminology, syntax, and sentence structure. Additionally, writers use scholarly literature references to back up their claims. In the end, as stated by Mutimani (2016) it is a serious and professional method of communicating with academic colleagues and university teaching personnel. According to all these definitions, students can comprehend the purpose and characteristics of academics. (p. 20).

2.2.2. writing process

2.2.2.1. Brainstorming.

Writing a paragraph starts with brainstorming. This method of gathering ideas serves as both an organizer of thought and a source of ideas. It is part of the prewriting exercises. According to Oshima and Hogue (2006), writers will produce better works if they dedicate more time to pre-writing activities. Brainstorming techniques include lists, spontaneous writing, and thought mapping (Zemach & Rumisek, 2005). Through brainstorming, writers can collect, arrange, and categorize any potential paragraph ideas.

2.2.2.2. Planning.

Once the writer has completed brainstorming, the next step is planning. Writing is the process by which authors organize their thoughts and put them into notes. Planning follows brainstorming to choose pertinent ideas for expansion into a paragraph (Zemach & Rumisek, 2005). The thoughts generated during brainstorming can be organized and categorized with the help of planning. Planning aids writers in creating a cohesive paragraph that provides readers

with an overview of the paragraph's primary subject (Cumming, 2006). Logically arranging the thoughts and creating connections between them is beneficial.

2.2.2.3. Drafting.

Drafting is the third phase of composing a paragraph. It is the stage of writing where authors put their thoughts down on paper with an emphasis on content rather than form (Hussen, 2015). Students should come up with additional ideas for the paragraph while writing the first draft (Cumming, 2006). Writing a strong paragraph in the initial draft is difficult. Every writing project starts with a draft. Drafts are the first versions of paragraphs that writers can edit to include more ideas or even remove ones that are not important. The content is the focus of the drafting process, saving students from having to edit the paragraph, grammar, and vocabulary usage.

2.2.2.4. Revising.

Revision comes in at step four when composing a paragraph. According to Cumming (2006), rewriting is thought of as the core of the writing process since it allows ideas to develop become clear, and clarify meanings. When students revise, they assess how well they have constructed and organized concepts. Students examine idea sequences and their presentation in detail at this level. They need to use reasoning to ascertain the paragraph's development.

2.2.2.4. Editing.

Editing is the stage where students review and correct the paragraph in its final form. It can be understood as the act of improving a piece of writing's capitalization, grammar, punctuation, sentence structure, and choice of words (Hussen, 2015). This stage involves

learners focusing on the specific details inside the text. At this level, the development of ideas is not the focus. It's finished after the revision process.

2.2.3. Dimensions of Academic Writing

According to Bahar (2014, p. 214), the process, text, form, and ethical sections—which are listed below—can be used to examine all aspects of academic writing.

2.2.3.1. Process Dimension

The stages for reporting and publishing on a chosen subject are included in the process dimension. The processes of making decisions and drafting content based on the target audience, formulating a plan of action based on research subject analysis, obtaining information sources, and organizing analysis, synthesis, evaluation, and comments based on sources accessed are all addressed in this question.

2.2.3.2. Text Dimension

The ability to write well, from spelling and grammar to word choice, sentence organization, and paragraph flow, is called the text dimension. The ability to write academic texts requires a certain level of basic functional writing skills before one can claim to have a good basis in the field. Academic writings must adhere to academic stylistic standards and carefully combine language and writing norms, sequences of actions, subject- or objective-type discourse, and a thorough understanding of the specialized vocabulary. Bowker (2007, p. 5) emphasizes the importance of strong writing skills regardless of the subject matter, to ensure clear comprehension for the reader.

2.2.3.3. Form Dimension

In addition to language and stylistic elements, the form dimension also includes visual criteria. The fundamental components of this form dimension include the logical organization of material, the citation style used in the text and bibliography, and the fundamental guidelines followed by the journals where the article will be published (type, font, line spacing, margins, article template, etc.). The most commonly followed set of standard criteria is the American Psychological Association (APA) rulebook. Murray and Moore (2006, p. 7) stress the need for a structured and formal presentation and sequencing of information to create an academic work.

2.2.3.4. Ethical Dimension

According to Aydın (2015), the ethical dimension is defined as a set of moral guidelines that researchers must adhere to when gathering data, synthesizing it, evaluating it, interpreting the findings, and publishing the findings in the process of finding a solution. When objectivity is called into question, when professional respectability, credibility, and duty are not upheld, when unethical behavior compromises integrity, and when attempts are made to gain advantages over other researchers, these are all considered ethical transgressions. "A report published in the Turkish Academy of Sciences lists the following categories of ethical violations that occur in academic research: duplication, slicing, failure to identify the sponsoring organization, removal of active contributors' names, author order changes or additions, and secrecy" (Kozak, 2014, p. 192–198).

2.2.4. Importance of Writing in Foreign Language Learning

Academic writing is significantly important, before highlighting its importance in EFL learning, it is necessary to point out its importance in one's first language. Writing is considered

a measurement and indicator of one's literacy. If a person can write and read, he is considered literate, as Harmer (2007) stated: « We judge people as literate, in other words, if they can read and write in certain situations and for certain purposes, some of which are more prestigious than others » (p. 323). The ability to write is crucial in one's education since educational systems all over the world depend on written tests and performance to evaluate learners' academic progress and achievements. Also, individuals need to be able to express themselves, ideas, and thoughts on paper. In short, it could be said that writing is a measurement of EFL students' linguistic proficiency and could contribute to enhancing their academic achievements.

According to Suleiman (2000): « writing is a central element of language, any reading and language art programs must consider the multidimensional nature of writing in instructional practices, assessment procedures, and language development » (p. 155, as cited in Hosseini, Taghizadeh, Abedin, & Naseri, 2013). As discussed earlier, writing is regarded as a productive skill that is used to measure EFL learners' linguistic development through the output they produce. In another revelation that highlights the importance of writing, Currier (2008) went as far as describing the process of writing as a piece of art (as cited in Hosseini, et al, 2013). He claimed that the ability to write well can have a profound impact on people's lives. It is an art that requires competency and practice of basic writing skills to produce proficient works. This aspect could be reflected in authors' lives and careers. Their ability to produce outstanding pieces of writing that reflect their creativity, intellect, and language proficiency is an admired aspect that is valued in different societies and social communities around the world.

In addition, writing is primarily used for communication, the latter is with common agreement one of the most important functions that take place in people's everyday lives and also what the majority, if not all EFL learners seek to achieve as a main goal behind learning a

foreign language, specifically English; that is the ability to communicate with foreigners in the target language (Herazo, Jerez, & Arellano, 2009). Therefore, this skill plays a major role in enhancing EFL students' communication skills and performance. Hence, it could be observed that the acquisition of this skill is a key component to facilitating the development of students' overall language proficiency and their ability to successfully and adequately perform in academic settings.

2.2.5. Components of Academic Writing

Based on the overview conducted to examine the skill of academic writing, it could be observed that academic writing is a particular type of writing in general. This skill is different from the general writing skill in terms of the language style and form used. Markovic (2022) asserted that students learn how to write complicated phrases, paragraphs, thesis statements, topic sentences, and even essays as part of their academic program. Thus, academic writing in particular offers opportunities to practice formal English, including vocabulary and syntax, as well as the ability to express personal viewpoints in a formal language on paper. This statement shows the difference between academic and general writing, as it also demonstrates the main components of academic writing, which include Grammar, punctuation, spelling, cohesion, and coherence.

Grammar in its general form is the set of rules and structures that govern any language system. However, in academic writing, this element involves a particular verb tense system, the application of modal verbs to convey degrees of conviction and assurance, as well as different arrangements and groupings of written material to emphasize the direction of the student's argument (Lynch & Anderson, 2013). Therefore, using proper Grammar in Academic Writing gives students a focused summary of the essential English grammatical concepts that

they need to understand to express themselves clearly and appropriately on paper (Lynch & Anderson, 2013). It could be further explained that academic writing requires more formality and structure in its grammar, which gives the writing a sense of confidence and assurance that is conveyed to the reader to reflect the writer's linguistic competence and proficiency. This includes the use of different types of clauses to pack information in a smooth and elaborated manner, the choice of formal and academic relative connectors to elegantly join the clauses, the embrace of a particular style of paragraphing that shows the conformity of the language style used, the focus on objectivity in writing, and others.

According to Markovic (2022), punctuation plays a major role in determining the quality of an academic research paper. She also elaborated on the use of the punctuation marks, along with their signs. They include Full stop (.): used to end one sentence, Comma (,): used in a sentence to separate words or thoughts, Exclamation mark (!) : used to express some strong emotions or an order, Apostrophe ('): used to form the possessive of singular nouns, Colon (:): used to represent longer pause or to introduce direct speech, Semicolon (;): used to denote a longer break than a comma, Hyphen (-): used in compound words, i.e. rock-forming minerals, Quotation ("): used to start and end a direct quote, Question mark (?): used to denote a question, Brackets (): used to separate information that isn't essential to the meaning of the rest of the sentence, Braces ({}): a type of brackets used mostly in mathematics to denote numerical sets of numbers• Parenthesis (): a type of brackets in American English used to indicate something which is additional, separate, or less important, Dash (): a horizontal line that shows a pause or break in meaning, or that represents missing words or letters, Ellipsis (...): three dots used to indicate that something is not mentioned because it is irrelevant. Furthermore, Markovic (2022) also added that particular punctuation marks should not be used in academic writing to maintain the quality of the work presented, they include exclamation marks, question marks,

and ellipsis. Therefore, students should respect those rules and maintain the formality of the language used in their academic papers and academic forms.

In terms of spelling, this language component forms a central importance in academic writing. According to Bakshi (2014), correct spellings help to create links between letters and sounds, and subsequently between words and sentences. Thus, this language feature helps establish a tone to the writing paper and facilitates the meaning transfer from the writer to the reader. Moreover, correct spelling of English words is necessary for maintaining the texts' accuracy and preserving the meaning that is intended to be delivered to the reader. However, it is revealed through research that students often neglect this aspect in favor of Grammar learning (Lee, 2002, as cited in Albalawi, 2015). They believe that the structure of sentences is more important than the spelling of individual words. Therefore, it is recommended that teachers in academic settings should focus on correcting their students' spelling and improving their performance in this area to enhance their academic writing achievements. Albalawi (2015) suggested the use of dictation as an effective strategy to help students reduce their spelling errors. Ha also stated that this activity is appropriate for all learners from different age groups and linguistic backgrounds.

Furthermore, cohesion and coherence are also considered vital components of writing in general and academic writing in particular. The term cohesion describes the relationships between meanings that are present in the text and are manifested through its hierarchical structure, it happens when some textual elements' interpretations are dependent upon others (Hasan, 1976, as cited in Poudel, 2018). Thus, this term involves the meaning created by the adjoining words and sentences together in paragraphs. It could also be explained by the harmony created by the sequence of sentences and their ability to express an overall meaning in the form of paragraphs. The term coherence, on the other hand, is defined as the ability of a

text to make sense of its situational or cultural context (Taboada, 2004, as cited in Poudel, 2018). Therefore, this term is more concerned with the meaning that the written text presents to the academic and cultural context in which it is situated. Hence, in the case of EFL learners in Algeria, students should respect the cultural norms of the Algerian society in their writing and consider it as a vital element in the construction of their essays and papers in general.

2.2.6. Characteristics of Writing Skill

According to Ur (1996, as cited in Chowdhury, 2015), several features characterize the component of writing in the EFL/ESL learning process: it is permanent, explicit, densities, detachment, slowing of production, standard, and acquired.

2.2.6.1. Permanent

it means that writing is a stable form that does not change. It is a form of discourse that is fixed but we can read it in any condition we want to.

2.2.6.2. Explicit

it means that writing includes clarity about the context and meaning. However, the writer should pay attention to the arrangement and use of words so that they are delivered to be interpreted by the reader in the same way they were intended by the writer.

2.2.6.3. Densities

the selection of words to be used in a piece of writing is careful and accurate, writers often tend to choose words that are interpreted effectively and avoid the use of repetition and redundancy.

2.2.6.3. Detachment

The writer should predict the expected reaction of readers when they read his writing. Since he is not directly interacting with them to see their reaction, he just needs to predict it.

2.2.6.4. Organization

organization of content, thoughts, and ideas is very important in writing. Writers should pay close attention to this step before submitting their work so their writing is well structured and organized in a way that does not make the reader lose his attention and focus during reading.

2.2.6.5. Slowing of production

the speed and reception of the product are slower in writing than in spoken form. Words are slowly processed at a pace that allows the reader to interpret the meaning.

2.2.6.6.Acquired

writing is a learned skill that can be acquired through exposure to the target language, instruction, and practice. It could also be improved through constant production and constructive feedback.

2.2.7. Challenges of Academic Writing

Considering that EFL learners are new users of the target language, it is normal to detect some problems or difficulties in their EL learning process. It is the teacher's responsibility to detect those problems and find solutions to prevent them from hindering learners' learning process and affecting its outcomes. The most common problems are listed as follows:

2.2.7.1. Vocabulary Problems

Vocabulary is one of the most frequently encountered difficulties that EFL learners often face, they usually have limited vocabulary (Adas & Bakir, 2013). This problem makes them fall into the pattern of repeating the same words over and over again, which makes their writing look redundant and repeated. There is another writing problem that is also associated with students' poor vocabulary which is language interference. According to Muliyana, Zuhri, and Yauri (2021), interference occurs when the learner uses his native tongue or second language in speaking or writing in his foreign language. Consequently, when learners do not find the exact word, they want to use in their writing to express their intended meaning, they resort to writing this missing word either in their mother or second language.

2.2.7.2. Grammar Mistakes

For the learners to be able to write, they need to have sufficient knowledge of language rules and structure (Rekibi, 2016). This aspect of language is normally found to be difficult for students to acquire. Seely (1998, as cited in Rekibi, 2016) states some of the common grammatical problems that students may encounter while attempting to write, among which: on the level of the sentence (students may have difficulty in placing and distinguishing between verb and noun), on the level of adverbs (they might have difficulty in placing adverbs and identifying their position), on the level of coordinating conjunctions (they can face difficulty with using the correct conjunctions. If they do not use it with two clauses or two phrases it can be a problem), on the level of word order (how words are arranged in a sentence, this problem is significant since it can change the meaning of a sentence completely). Therefore, grammar mistakes are often so significant that they could change the meaning of the written text or make it completely incomprehensible.

2.2.7.3. Punctuation and Spelling

Punctuation is highly important in elaborating or delivering the meaning of a written message. However, students encounter some difficulties with this aspect of written performance when proofreading their piece of writing (Arwal, 2019). It is often observed that students do not know the correct spelling of vocabulary items in English, and also pay little attention to their punctuation which reflects how little they regard this writing aspect. Casanave and Hubbard (1992) noted that surface language errors—such as those involving spelling and punctuation—distinguish native speakers from non-native speakers, and this is evident even with advanced EFL writers (as cited in Robertson & Nunn, 2009). Thus, it could be stated that punctuation and spelling could have a long-lasting impact on students despite the advancement of their linguistic proficiency if they were not attended to and treated at the early stages of the EFL learning and writing process.

Moreover, Robertson and Nunn (2009) attributed that the main cause for this type of error or mistake is teachers' lack of interest and attention to teaching these minor but significant writing aspects. Therefore, teachers should pay more attention and dedicate more time to instructing learners on the appropriate punctuation and spelling of English words.

2.2.8.1. Potential Solutions for Overcoming Difficulties in Academic Writing

Writing is not an easy task as it seems to be. It is a challenging endeavor that requires a significant amount of cognitive effort. In an article published by Asmare (2009), many factors were presented as the main causes behind EFL students' difficulties in writing; they include the challenging nature of writing, students' low motivation, teachers' feedback, and insufficient classroom time which results in few practice opportunities. According to Nuan (1991), writing is the hardest skill to master because it involves so many different components, including

mechanics, content format, grammar, and vocabulary (as cited in Asmare, 2009). Therefore, it often demands more than students can provide continuously to develop their writing performance. Moreover, Asmare (2009) also illustrated that students' motivation and interest in learning effective writing play a major role in determining the successful outcomes of this process. Students with high motivation are more eager and focused on developing their writing performance. Therefore, it is vital to consider the aspect of increasing students' motivation in the classroom before or during their writing assignments.

Additionally, teachers' feedback proved to provide learners with the opportunity to reflect on their written production and understand their strengths as well as identify the gaps in their writing performance that require improvements (Obilor, 2019). If learners' errors were not detected and identified, they would not know their language use is incorrect and would instead assume they are correct in their written production. Feedback could therefore point to these errors so learners could identify which areas of their language learning process they need to work harder on to improve their progress. Thus, to sum up, feedback is an integral part of the language learning process, especially written feedback that enables students to identify their errors and work on correcting them to improve their writing performance.

2.2.8.2. Potential Solution to Overcome Writing Challenges

One of the first and most effective solutions that are recommended for the improvement of EFL students' academic writing is teachers' corrective feedback. Feedback is vital in improving students' writing skills (Ferris, 2003). Teachers help their learners in their writing performance by guiding them to the correct use of language forms after showing them where they have made mistakes. It provides them with information about the appropriate use of

language which could be stored in their long-term memory to be used in the future and to avoid making the same errors again.

Furthermore, feedback has also been shown to be a positive factor in improving communication between learners and their teachers (Anson, 1997; Huxham, 2007). By discussing students' errors and having meaningful conversations that aim at improving students' writing performance, students could feel comfortable and express their thoughts and opinions to their teacher which helps in improving communication between the two. Scholars often encourage teachers to use a friendly conversational tone that provides particular rather than vague comments that target students' errors (Willingham, 1990). The conversational tone is effective in gentling the sharp edges of the feedback which some students could feel sensitive about. The tone could make them feel that the teacher is not criticizing them, rather he is just trying to give them advice to improve their performance. It could also engage students in having conversations about their errors and how they can improve them.

In addition, feedback is known to have a motivational effect on students' performance which pushes them to make efforts to improve (Ressor, 2002). When delivered in an appropriate form, feedback could have an inspiring effect on students that makes them want to correct their errors and improve their performance in writing whether to impress their instructor or to satisfy their ego, proving to themselves that they could do better and have successful learning outcomes through effort. More importantly, accurate assessment is also considered an essential strategy in the development of students' academic writing. If teachers did not follow a systematic method in evaluating their students' writing performance, they would not be able to accurately identify their errors and difficulties. Therefore, they would not be able to help their students overcome these difficulties and improve their academic writing performance.

2.3. Approaches to Teaching Writing in EFL Classroom

There are three well-known approaches: the product approach, the process approach, and the genre approach.

2.3.1. Product Approach

Product writing is an approach to teaching writing that emphasizes students' final products. According to Silva (1990, pp. 11–17), the product approach emphasizes form and syntax, i.e., it concentrates on linguistic knowledge through cohesive links and style. This approach sees language as a process of habit development, whereby students respond to a stimulus presented by their teacher. Its primary focus is on the mastery of linguistic features.

2.3.2. Process Approach

The process approach emerged in the late 1960s and views writing as a creative and systematic activity. This contrasts with the product approach, which focuses on quickly creating a final draft. It emphasizes the writing process rather than the finished product. The teacher only needs to receive the final product for editing without being involved in the writing process itself; he is not required to assign the student a topic to write on. According to Tribble (1966, p. 160), the process approach fosters creativity and improves writing because it requires students to go through several steps to produce a piece of writing. This encourages students to use their own cognitive abilities and begin writing in 15 unique ways rather than copying an example.

2.3.3. Genre Approach

Due to limitations in the product and process approaches, the genre approach emerged. The genre approach, according to Hayland (2003), is an "abstract, socially recognized way of using language" (p. 21). That is to say, the genre approach views writing as a social and cultural activity. Moreover, according to Swales (1990), a genre approach to writing is "a class communicative event, the number that shares some set of communicative purposes" (p. 58). The writer's goal is often influenced by certain rules, as stated by this definition.

2.4. Guiding Principles in Assessing Students' Writing

In their article about teaching and assessing writing skills, Munoz, Gaviria and Palacio (2012) provided some guiding principles that EFL teachers could follow in conducting their students' performance evaluation. These principles include four major tasks which start with designing assessment and evaluation tasks, reacting to students' writing styles, grading students' writings, and coming to an agreement on the score. Each of these steps was thoroughly elaborated by Munoz, et al (2012) and explained by providing examples through which teachers could obtain a clear understanding of the dynamics of each step.

For instance, the first step of designing assessment tasks requires teachers to set an objective behind the writing process that students are going to undertake in their class. Moreover, they also need to take into consideration the purpose of writing which would determine the genre of writing that students are going to follow, such as an essay, an article, an email, or others (Munoz, et al, 2012). In other words, writing should be prefaced by a context that explains to learners to aim behind their writing and the message they are required to deliver to the reader (the teacher). The second step is to respond to learners' writing production by

providing feedback concerning their performance through unified symbols and signals. Munoz, et al (2012) presented these symbols as follows:













Convention	Type of Error	Examples of errors	
	Spelling	Mechanics	<i>Francisco is a <u>bussines</u> man</i>
	Case - capital or small letter		<i>I 'm going to <u>argentina</u> next month</i>
	Punctuation		<i>The students completed their <u>work</u>. <u>they</u> went to the cafeteria</i>
	New Paragraph		<i>Ideas need to be separated into a new paragraph</i>
	Word choice	Vocabulary	<i>He's trying to make <u>friendship</u> with the new students</i>
	Word order (words, phrases, sentences)	Grammar	<i>The <u>old big</u> house.</i>
	Insert word		<i>She <u>is very</u> special person.</i>
	Omit word		<i>Britain exchanges products with <u>the</u> different countries.</i>
	Verb tense		<i>Students <u>will learning</u> English. I went to school yesterday. I <u>eat</u> lunch. After lunch, I played with my friends</i>
	Agreement		<i>The <u>people</u> in my class who <u>is</u> studying English do a lot of extra reading <u>Mary and her sister</u> wants to go to the mall</i>
	Fragment sentence		<i>Even though he had the better arguments and was by far the more powerful speaker...</i>
	Coherence		Coherence & cohesion

Figure 2.1: Writing Conventions and Examples (Munoz, et al, 2012, p. 12)

Thus, it could be observed that every remark and type of feedback that could be provided by the teacher to correct his students' writing performance has a symbol that signifies the type of error that is made. These symbols form the writing conventions that are used by teachers collectively to represent their feedback efficiently and effectively. These conventions could also be said to save time for teachers since they are often required to correct several copies, especially in large size classrooms. Therefore, using a short symbol instead of a long

sentence to identify learners' errors could be considered an efficient method for providing written feedback to a large number of students.

Additionally, Munoz, et al (2012) also provided some recommendations on how to score students' writing after being corrected. They advised that teachers should put a set of criteria that they could follow in grading all their students' writings to be as much as objective as possible and avoid being biased these criteria could include cohesion and coherence, grammar and vocabulary, orthography, and task accomplishment. Following this set of criteria ensures that all students' writings are scored based on the same criteria that should be available in their production. The last element after scoring students' performance is to be satisfied with this grade and in agreement with the feedback that is provided to both correct students' performance and assess their writing ability.

Conclusion

To resume everything that has been said so far, it could be said that writing is a vital language skill in the EFL learning process. It is the means through which learners are evaluated in terms of both their linguistic competence and educational performance. Therefore, it should obtain a significant amount of attention from both teachers and students to develop this skill and enhance its outcomes. Therefore, teachers must pay more focus to developing the aspects of writing in their student's performance and provide them with the necessary feedback to enhance their performance. The next chapter provides the practical side of the dissertation conducted in terms of elaborating the research methodology that has been followed to carry out this study.

**CHAPTER THREE: CHAPTER THREE: EFL STUDENTS' ATTITUDES
TOWARDS THE POTENTIAL OF AI WRITING ASSISTING TOOLS IN
ENHANCING THEIR ACADEMIC WRITING**

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Introduction

Chapters one and two were exclusively devoted to conveying a theoretical understanding of AI writing assisting tools and academic writing. Whereas this chapter is devoted to the practical part of the study. It seeks to reveal EFL students' views and attitudes towards the impact of AI writing-assisting tools on their academic writing. It's now possible to explore learners' views regarding the relationship between these two variables. This part includes the questionnaire and the analysis of data that has been gathered through that questionnaire, which were distributed to first and second-master students in the Department of English at Guelma University. Moreover, it interprets and analyses the obtained results to confirm or reject the research hypothesis. Finally, it tackles the pedagogical implications and limitations of the study, while also offering some suggestions and certain points for further research

3. Student's Questionnaire

3.1. Population and Sample of the Study

The current research included 231 EFL students out of 321 students who are first and second-year master's students at the Department of English, Faculty of Letters and Languages, University of 8 Mai 1945. This study is enrolled during the academic year of 2023-2024. Thus, the participants were randomly selected to complete the questionnaire. The reason for specifically choosing this sample is because they generally have an advanced level of academic writing combined with their familiarity with AI writing tools. These factors make them ready to provide valuable insights and useful thoughts about the effectiveness of AI writing tools in enhancing EFL students' academic writing skills.

3.2 Description of Student's Questionnaire

The questionnaire is based on the elements discussed in the theoretical part and covers both chapters one and two. It carries 31 questions divided into four sections, and each section targets a different dimension. As can be clearly noticed, the question types swing from general to specific, taking into consideration the same order of the chapters. It consists of multiple-choice, checkboxes, and scale items type of questions, in addition to open-ended queries, in order to allow respondents to freely add, explain, and justify their answers, depending on their own perspective.

3.2.1 Section One: General Information (Q1 to Q2)

This section aims to gather general information about the students from the target sample. It includes three questions, two of which are closed questions concerning their gender and whether they opt to study English to master the language or not. The third open-ended question is about how many years they have been studying English during their academic career.

3.2.2 Section Two: AI Writing Assisting Tools (Q3 to Q9)

This section questions the students' knowledge about AI as a term in general, then defines it according to their own perspective, and then moves to more specific questions to focus on addressing certain points to see whether they are familiar with AI writing assisting tools and use them to complete their academic assignments or not, then illustrate the most commonly used tool they use, which is significant to carry on the study. Furthermore, it investigates the potential of those tools, and what exactly they are usually used for while writing.

3.2.3 Section Three: Academic Writing (Q10 to Q19)

The third section of the questionnaire is dedicated to examining EFL students' perception of the potential of writing skills, how often they usually write, how they consider academic writing easy, difficult, or neither difficult nor easy, which academic writing feature they find most difficult, which one of them focuses more on when they are required to complete tasks using academic writing, which writing components they need to improve the most, how they typically approach the writing process, from whom they usually seek feedback on their academic writing, and how important they think academic writing skills are for their academic success.

3.2.4 Section Four: Students' Perceptions Towards the Effectiveness of Using AI Writing Assisting Tools in Improving Academic Writing (Q20 To Q26)

The fourth and last section of the questionnaire is dedicated to focusing on both AI writing assisting tools and EFL students' attitudes toward their potential to empower their academic writing. It begins with questioning participants' perceptions about the effectiveness of AI writing assisting tools in boosting their academic writing level, whether those tools can really help to improve it, whether teachers usually encourage them to use AI writing assisting tools in their writing assignments, and whether relying on AI assisting tools can replace human writing production. They were asked about their opinion on whether AI writing assisting tools can affect EFL students' creativity and originality in writing. Further, it seeks to find out whether they agree or disagree on two major options that could change the future of education, which are: do they agree on the integration of AI writing assisting tools in education and heavily rely on their utilization to finish their assignments using academic writing. Last but not least,

in the last question, which is number 27, respondents were invited to offer advice to students who rely on AI writing assisting tools, to complete their writing tasks.

3.3. Administration of Students Questionnaire

The questionnaire was administered at the Department of Letters and English Language, 8 Mai 1945 University, Guelma, to Master One and Master Two students. The process took about 16 days from the 8th to the 23rd of May 2024. The official version of the questionnaire is designed and edited using Google Forms. To reach both master one and master two students' samples, the link was published on Facebook groups, shared in both email groups, or sent to their personal emails, group chats, and even via Messenger, to collect the necessary data. Thus, it was challenging to reach the required number, however, a sufficient number of answers were obtained in the end.

3.4. Data Analysis and Interpretation of the Students' Questionnaire

Section One

Q.1 For how long have you been studying English?

Table 3.1

Period of Studying English

Years	Number of Students	Percentage
11	106	45.89%
12	109	47.18%
More	16	6.93%
Total	231	100%

Table 3.1 categorizes the students' time spent learning English into three categories. 11 years, 12 years, and more. On the one hand, 106 students (45.89%) have studied English for 11 years, this category must represent first-year master students who have a successful academic performance. On the other hand, 109 students have studied English for 12 years (47.18%), the same as the first case reason, but this portion includes second-year master students. Yet, the remaining 16 students in the whole sample, studied English for more than 12 years, which may indicate the possible various reasons, they might be studying English as an additional qualification, aiming for a second diploma, for professional development, taking a gap year as a break, or failing due to facing academic difficulties, resulting in a prolonged study period.

Q.2 Was majoring in English at University your first choice?

- Yes
- No

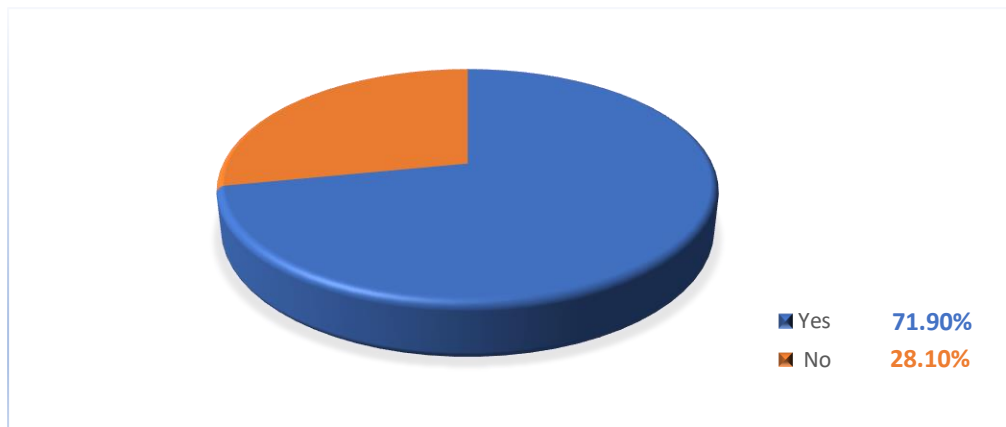


Figure 3.1: Students' choice to study English

This question aims to determine whether majoring in English was the students' initial preference or if they considered majoring in other fields before choosing English. One hundred thirty-one who represent the highest percentage of the sample (62.7%) agreed that studying English was their first choice as shown in the table and figure above. This indicates that most of the students had the intention of studying English from the beginning. Whereas (37.3%) of the whole population claimed that it wasn't their primary choice when they applied to the university. This might be related to their lack of interest in learning a foreign language, their lack of knowledge about it, or they are interested in studying a whole different branch.

Section Two

Q.3 Have you ever heard of artificial intelligence before?

- Yes
- No

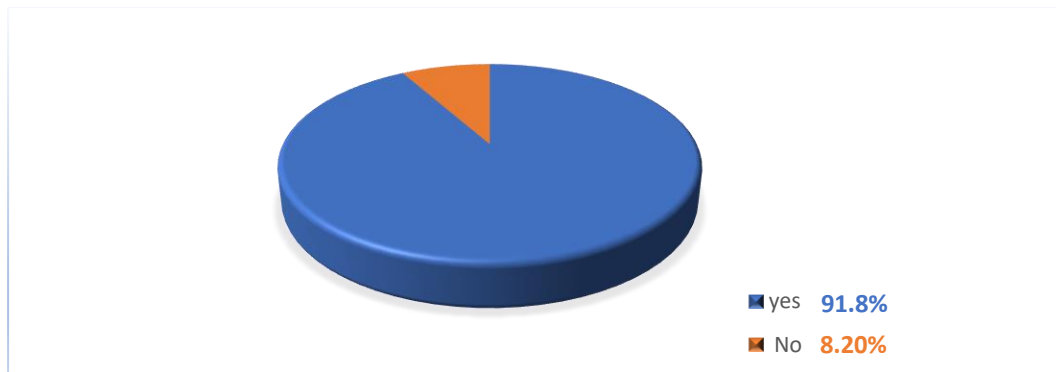


Figure 3.2: Students' Awareness of Artificial Intelligence

As indicated in Figure 3.3 above, 91.8 % of the respondents opted for yes, meaning they were familiar with Artificial Intelligence before; 8.8% admitted that they had never heard of it. This means that almost all students have a high level of awareness among the majority of surveyed students, while a smaller portion lack previous knowledge of the concept, which implies that the majority of students previously used Artificial Intelligence tools.

In question number four, students who said yes were asked to define the term Artificial Intelligence from their perspective. This question aimed to explore students' perspectives on Artificial Intelligence, among 212 (91.8%) students who are familiar with Artificial Intelligence as a term, 56 students (27.83%) defined the concept, and the rest of the students did not answer. The definitions of artificial intelligence (AI) provided by the respondents cover a range of perspectives and understandings, the majority defines AI as machines, smart programs, robots, and computer systems that are developed to mimic human intelligence, behaviors, thinking, and problem-solving abilities and fulfill human inquiries

online. Others viewed it as a technology that could replace humans in certain contexts to facilitate tasks to maximize results with minimal effort. On the one hand, they argued that although they are smart programs, they still require at least minimal human intervention to guide them and reach more accurate results accordingly, while on the other hand, other respondents believed that AI programs are smart enough so they can perform any needed task without any human interference. These diverse definitions illustrate the multifaceted nature of AI and the varied ways in which students perceive and understand its capabilities and applications.

Q.4 Are you familiar with AI writing assisting tools?

- Yes
- No

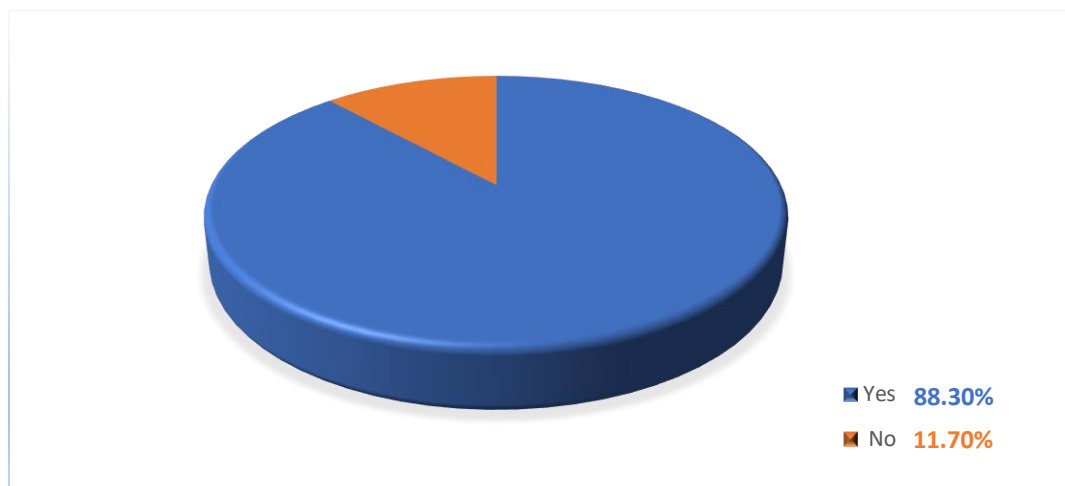


Figure 3.3: Students' Familiarity with AI Writing Assisting Tools

Figure 3.4 above demonstrates that a considerable number of students (83.3%) are familiar with AI writing assisting tools, while only 17 students (11.7%) are not. These results indicate that the vast majority of students have had exposure to or experience with AI-based writing assistance tools. This high percentage demonstrates the widespread use of AI writing-

assisting tools in educational contexts or perhaps even in the students' daily lives. In contrast, the minority reported that they were not familiar with AI-powered writing assisting tools which imply that they lack awareness or experience with these technologies. This could be due to limited exposure to technology, educational resources, personal preferences, or lack of means. This indicates that a significant number of students are already familiar with the AI writing assisting tools recognize their importance and will provide trustworthy answers to other related queries.

Q.5 As an EFL student, academic writing is an essential part of your studies, do you ever use any writing tools to assist you in your academic writing assignments?

- Yes
- No

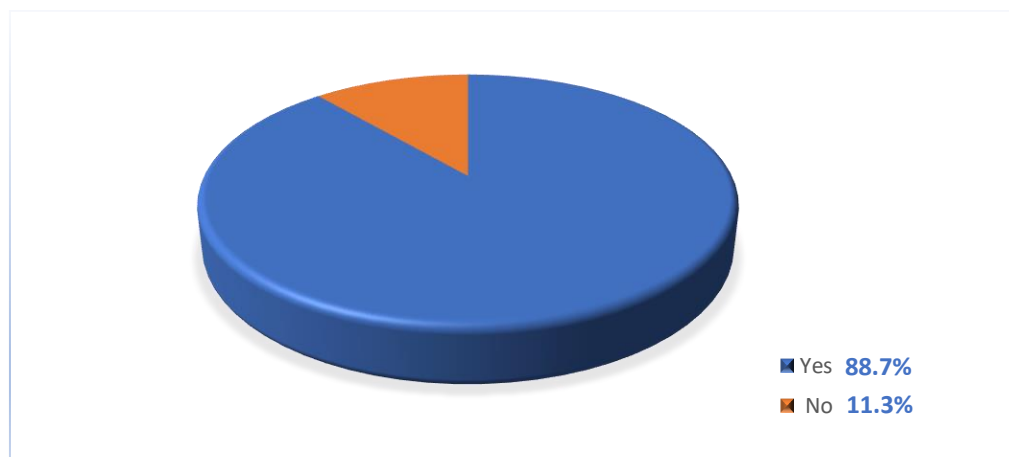


Figure 3.4: EFL Students' Use of Writing Tools for Academic Assignments

The results obtained from Q6 (Figure 3.5) indicate that 88.7% of participants use AI writing-assisting tools. This implies that the usage of AI writing assisting tools is already widely spread among the majority of EFL learners. This high percentage underscores the importance and benefits offered by AI writing tools in enhancing their academic writing skills, improving the quality of their assignments, and as a result, increasing their overall academic

performance. However, the remaining percentage of students opted for “no”, meaning that they have never used AI-powered assisting tools to complete their writing assignments. This may denote their lack of awareness of the effectiveness of the tools, a lack of confidence in the tool’s efficacy, or even doubting their writing abilities and performance using external assistance.

All in all, this denotes that there is a noteworthy number of modern and up-to-date students who tend to utilize AI writing assisting tools in writing assessments to cope with modern education trends. It is educators’ and institutions’ responsibility to acknowledge the diversity of student preferences and needs regarding writing support and to provide resources and guidance to ensure that all students have the opportunity and accessibility to use AI writing assisting tools to empower their writing products.

Q.6 What tools do you use so often (it’s significant to mention the tool)?

Table 3.2

AI Writing Assisting Tool/Tools EFL Students Frequently Use.

Options	Number of mentions	Percentage
ChatGPT	168	63.64%
QuillBot	20	7.58%
Grammarly	12	4.55%
Perplexity	7	2.65%
Gemini	6	2.27%
Other tools	13	4.92%
Do not specify any tool	32	12.12%
Do not use any AI writing assisting tool	6	2.27%
Total	264	100%

In question number 7, students were asked to mention the tool they frequently use to complete their written tasks. Thus, a variety of tools were identified, the results shown above in Table 3.2 highlight that the predominant AI writing assisting tool is ChatGPT, which covers 63.64% (168 mentions) of all the tools mentioned, QuillBot follows as the next prominent but significantly less mentioned tool, with approximately 7.58% of the 264 mentions. Grammarly and Perplexity came as secondary tools, the first earned around 4.55% of the mentions, and the latter gathered 2.65% of the mentions, this indicates their value but also shows their lower preference, compared with ChatGPT. Gemini last, with only 2.27%, mentions the least popular tool among EFL students. Other tools collectively get approximately 4.92% of mentions: Copilot, Snapchat AI, Bard, Tome, perplexity, bypass, Textero, and Jenni, which means that a

subset of the surveyed students utilize a diversity of AI-powered assisting tools. However, it is worth mentioning that no tool mentioned constitutes a considerable number of mentions (12.12%). They seem to have their own reason for not stating a specific tool, perhaps they wanted to keep the tools they use private, or simply belong to the category that never used AI writing assisting tools. A small portion of the total respondents (2.27%) declared that they don't use any AI writing assisting tool. The two last categories imply a mixed range of attitudes toward the usage and potential of AI writing-assisting tools among the surveyed EFL learners.

The data underscore the dominance of ChatGPT as the most mentioned tool, portraying its importance and significance among EFL students. Additionally shows its popularity and widespread adoption which indicates its effectiveness in assisting students with various writing tasks generally and enhancing their academic writing specifically. QuillBot, Grammarly, and Perplexity maintain a considerable presence and prove their efficiency in assisting EFL students with their written products, but are still less utilized in comparison with ChatGPT, proving its predominance among the rest AI writing assisting tools.

Q.7 How often do you use artificial intelligence tools?

- Always
- Frequently
- Occasionally
- Rarely
- Never

Table 3.3

Frequency of AI Tools Usage Among Students

Options	Number of Students	percentage
Always	20	9.4%
Frequently	83	39.2%
Occasionally	81	38.2%
Rarely	24	11.3%
Never	4	1.9%
Total	212	100%

Table 3.3 above shows the results of investigating how often students use artificial intelligence in the academic context and their daily lives as purposefully not specified. As it is clear, frequently and occasionally have almost similar percentages (36.8% and 38.2%), indicating that AI tools usage is becoming an integral part of every student's academic routine. Always, which makes up 9.4% of students using AI tools, signifying the high adoption rate of Artificial Intelligence in their lives, this category might be interested in technology specifically as they use AI more often. With a total of 77.4% of students who use AI tools always, frequently, or occasionally, it highlights the importance and significance of Artificial Intelligence integration in their academic and general lives. In contrast with a smaller group of 24 students (11.3%) who opted for rarely, another 4 (1.9%) chose that they never come to use AI tools either way, which might be due to a lack of interest in technology, a lack of awareness, limited access or the possibility of their preference for the traditional methods.

Side remarque: the total of students decreased from 231 to 212 in some answers, because 19 have never heard of AI so logically they can not answer the queries related to AI and AI writing assisting tools.

The high engagement rates are a sign for educational system institutions to start raising awareness of the potential of the integration of AI tools into the curriculum, by offering a suitable guide to train students to use them in the right way and context and overcome the obstacles that could hinder the right decisions to equally give students the chance to benefit from these smart resources.

Q.8 Was using AI writing assisting tools beneficial?

- Yes
- No

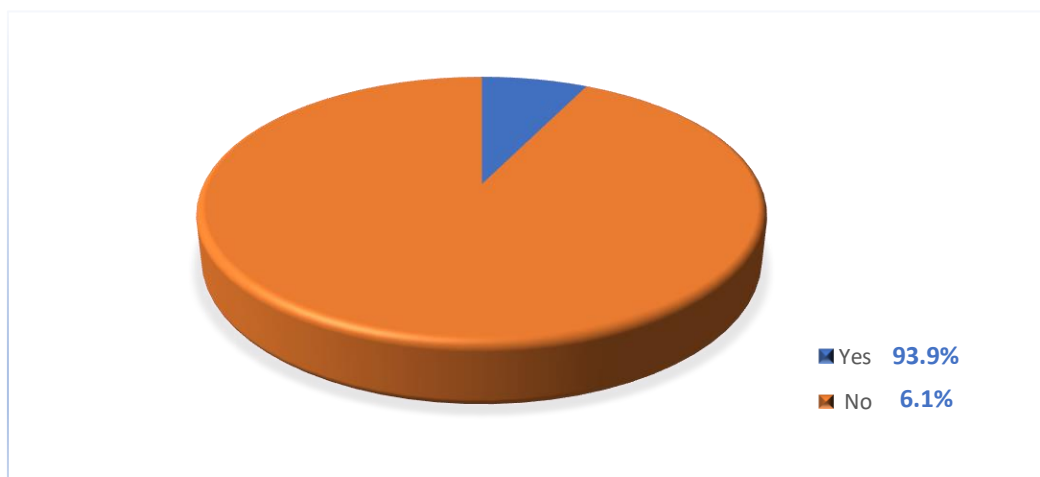


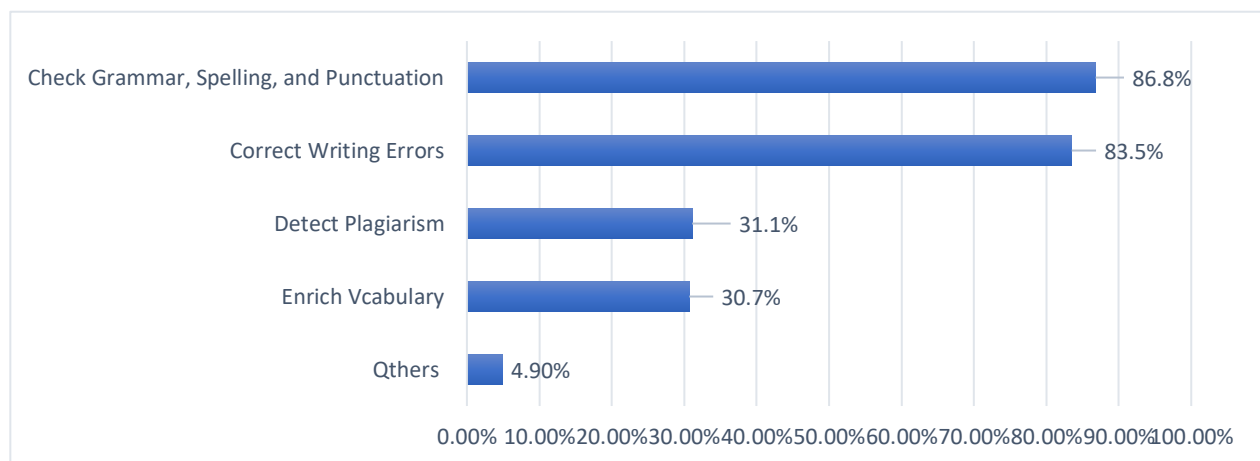
Figure 3.5: Usefulness of AI Writing Assisting Tools

Question 9 aims to discover whether or not AI writing assisting tools are beneficial for EFL students. Figure 3.6 results show that an overwhelming majority of 93.9% of 199 out of 212 students, approved of its usefulness. This high-level stresses the important role AI-powered

writing assisting tools play in completing the students' written works, which indicates that these tools are effectively fulfilling students' needs to enhance their writing and academic performance. 6.1% opted for the opposite: they don't find AI writing assisting tools effective, they might not be aware enough of their potential, or they still prefer relying on traditional personal methods.

Q.9 What do you use the AI writing assisting tools for?

- Check Grammar, Spelling, and Punctuation
- Correct Writing Errors
- Detect Plagiarism
- Enrich Vocabulary
- Other? Specify



Graph 3.1: Students' Reasons for Using AI Writing Assisting Tools.

In question 11, students were asked to specify the reason for using AI writing assisting tools. Graph 3.1 illustrates that Primarily, 86.8% opted for using the tools for checking grammar, spelling, and punctuation. Likewise, 83.5% of students opted to utilize AI writing assisting tools to correct their writing errors. Additionally, 31.1% of students reported that the reason that led them to use AI writing assisting tools was to check whether or not their writing

products were free from plagiarism. Conversely, 30.7% of the surveyed students reported that using AI writing assisting tools enriches their vocabulary. There was another option for students who used them for various reasons, they were about 4.9%, and a space was left for them to identify their reasons. They claimed that they usually use AI writing assisting tools to plan, translate, paraphrase, generate outlines, and ask for suggestions and new ideas for their writing assignments.

If these findings indicate something, it would highlight the predominant usage of AI writing assisting tools for fundamental writing improvements, making sure that the writing products are errorless, underscoring the AI writing assisting tools' critical role in avoiding any accuracy issue that could face them while carrying out any task, and helping to overcome the students concern about preserving the originality and academic integrity of their works. All of these data guaranteed that the AI writing assisting tools are multifaceted in supporting students' writing performance in both basic and advanced ways.

Section Three

Q.10 In your opinion, is writing the most crucial ability for EFL learners?

- Yes
- No

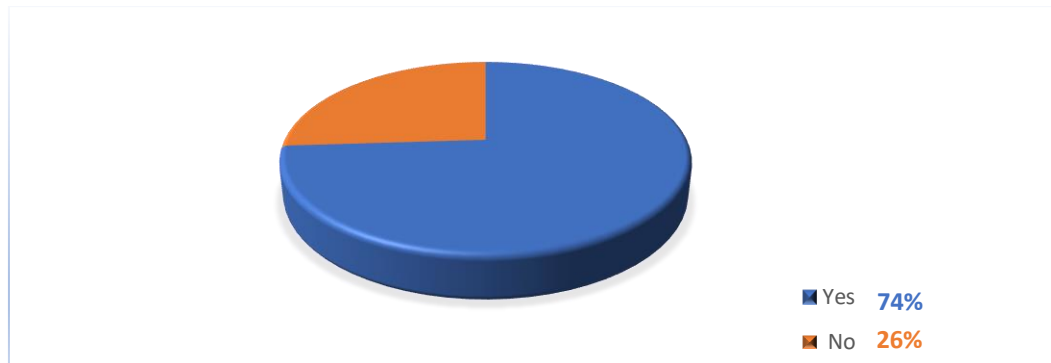


Figure 3.6: EFL Learners' Opinions on Writing Skills Importance

This question seeks to assess whether students believe writing is the most crucial skill compared to others like speaking, listening, and reading. According to the results presented in Figure 3.7, a large proportion of the participants (74%) perceive writing as the most crucial skill. This implies that EFL students view writing as essential for academic success because it gives them more time to think carefully and provides the opportunity to organize and revise their thoughts before putting them on paper. However, a small portion (26%) claimed that writing is not the most significant skill in their eyes. This implies that they may have different priorities such as valuing speaking or listening skills more. They might be more comfortable expressing themselves verbally, which can be advantageous in certain situations, such as presentations or discussions.

Q.11 How often do you write in English?

- Always
- Sometimes
- Often
- Rarely
- Never

Table 3.4

Frequency of Writing in English

Options	Number of Students	percentage
Always	39	16.9%
Often	124	53.7%
Sometimes	53	22.9%
Rarely	13	5.7
Never	2	0.8
Total	231	100%

When students were questioned about how often they write in English, more than half (53.7%) of the students revealed that they often write in English, possibly due to coursework or communicating with friends. While some (22.9%) claimed that they write sometimes this group might write in English only when required by a particular situation such as a test or an email. (16.9%) declare that they always write in English. These students are likely highly interested in the language, possess strong writing skills, and frequently engage with English. A

smaller portion of the students (5.6%) state that they rarely write in English. The remaining two students (2.9%) expressed that they never write in English. These students might face significant challenges due to minimal exposure and limited proficiency in the language. They might face barriers such as a lack of support, resources, and motivation which hinder their regular practice (results shown in Table 3.4).

Q.12 How do you feel about academic writing?

- Easy
- Neither easy nor difficult
- Difficult

Table 3.5

EFL Learners' Opinions on Academic Writing

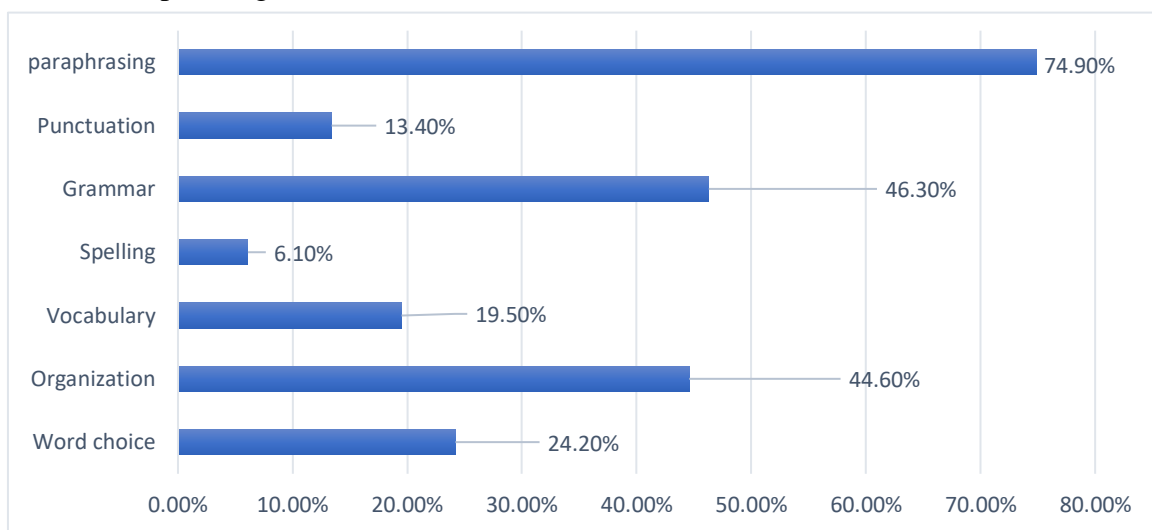
Options	Number of Students	Percentage
Easy	32	13.9%
Neither easy nor difficult	116	50.2%
Difficult	83	35.9%
Total	231	100%

According to the results obtained from question 13 and highlighted in Table 3.5 show that half of the students feel that academic writing is neither easy nor hard (50.2%), indicating that they probably have balanced experience with academic writing where they might face challenges, but still succeed to handle the difficulties. 35.9% perceive academic writing as difficult, they might not have received adequate instruction in academic writing during their previous education, as they are non-native English speakers and might struggle with the

nuances of academic language, writing can be a source of stress, and these students might doubt their abilities due to the complexity of academic writing demands of structure, and adherence to academic conventions can be overwhelming. 13.9% find it easy, these students likely have strong writing skills and confidence in their abilities, they might have had more practice and positive reinforcement in writing during high school or through writing as a hobby, so by the time they possess a natural talent for writing, and finding it easier to organize their thoughts and express them clearly.

Q.13 Which academic writing feature do you find most difficult (you may tick multiple choices)?

- Punctuation
- Grammar
- Spelling
- Vocabulary
- Organization
- Word choice
- Paraphrasing



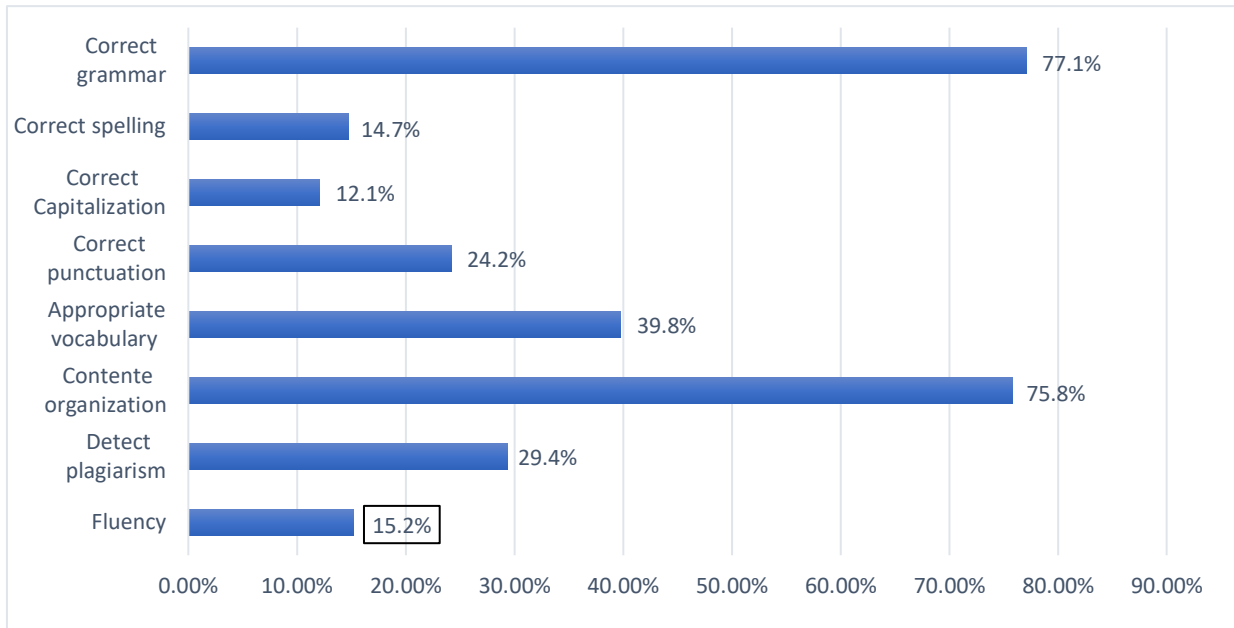
Graph 3.2: Most Difficult Features in Academic Writing

As indicated in the above graph 3.2 students seem to have numerous difficulties in common. Paraphrasing is by far the most challenging aspect of academic writing as argued by the vast majority of the students (74.9%). Grammar (46.3%) and organization (44.6%) are found to be almost equally as difficult for students. Additionally, nearly a quarter of the students find word choice (24.2%) problematic. This is followed by minor challenges with vocabulary (19.5%), while smaller percentages struggle with punctuation (13.4%) and spelling (6.1%).

To sum up, these results, show that students find paraphrasing, grammar, and organization the most challenging aspects of academic writing, with additional difficulties in word choice and vocabulary. Yet, with regular practice, seeking feedback, and using resources like writing guides and grammar tools, they can improve all these skills.

Q. 14 Which of these do you focus more on when you complete academic writing tasks (you may tick multiple choices)?

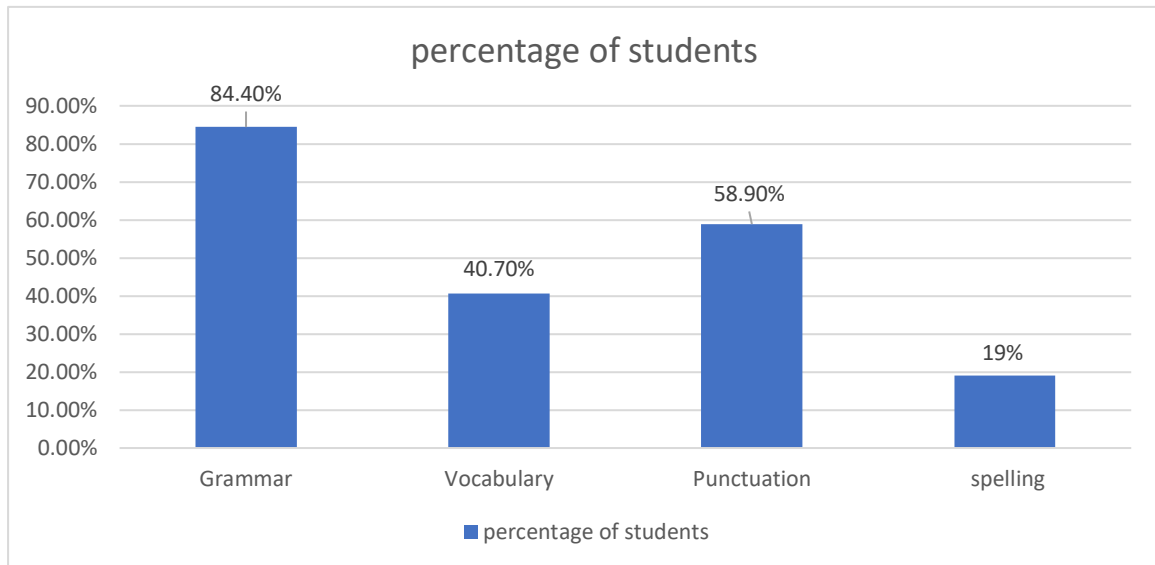
- Correct grammar
- Correct spelling
- Correct capitalization
- Correct punctuation
- Appropriate vocabulary
- Content and organization
- Detect plagiarism
- Fluency



Graph 3.3: Focus Areas in Academic Writing Tasks

When we asked students about their focus areas in academic writing, the majority of the students indicated that they primarily concentrate on maintaining correct grammar content (77.1%) and content/organization (75.8%), showing they value clarity and structure the most. While, less than half of the students (39.8%) focus on using appropriate vocabulary, which indicates that word choice is important but not the primary priority. Additionally, about one-third (29.4%) of the students focus on avoiding plagiarism, which means that they are trying hard to create their own original work that adheres to academic standards. Only (24.2%) of the students prioritize correct punctuation in their academic writing tasks which might suggest that students either feel they have a good handle on it already or they undervalue its role. Moreover, fluency and correct spelling are ranked quite low by students in their academic writing with only 15.2% focusing on fluency and 14.7% on correct spelling. Finally, with just 12.1% of students focusing on correct capitalization, this aspect of writing seems to be the least prioritized. This implies that students might think that mistakes in capitalization are not a big deal compared to other errors, or they may feel pretty confident in their ability to get capitalization right without putting much effort into it.

Q.15 According to you, which writing components need to be improved the most (you may tick more than one choice)?



Graph 3.4: Writing Components Identified for Improvement

According to the Graph results above the majority (84.4%) of students claimed that grammar is the most significant component that needs improvement. This can be interpreted as their awareness of their struggle with constructing sentences, using verbs correctly, and the other grammar rules. More than half of the students (58.9 %) identified punctuation as the component that needs the most improvement. This means they are aware of their punctuation errors and recognize the importance of proper punctuation for clear and organized writing. However, (40.7%) indicated that they need to improve their vocabulary. This implies that students are interested in expanding their vocabulary knowledge to express themselves more effectively. The rest (19%) of respondents feel the need to improve their spelling skills. This smaller portion might indicate that students are generally confident in their spelling abilities or that they perceive it as less challenging due to the availability of spelling-check tools.

Q.16 How do you typically approach the writing process?

- Start writing immediately
- Plan an outline before writing
- Research first, then write

Table 3.6

Common Initial Steps in the Writing Process

Options	Number of Students	Percentage
Start writing immediately	25	10.8%
Plan an outline before writing	153	66.2%
Research first, then write	53	22.9
Total	231	100%

As mentioned in Table 3.6 above, the majority of the students (66.2%) confirmed that they plan an outline before starting writing. A significant portion (22.9%) claimed that they prefer to research and then write, however, the smaller group indicated that they start writing immediately without any research or plan. In summary, the results show that most students like to prepare and plan before writing, but they also recognize that starting to write immediately works well for some students too. This means that students approach the writing process in different ways.

In this question, students were asked to specify if they had another way of approaching the writing process. In response, participants offered a set of explanations concerning their unique approaches. Some students prefer to brainstorm and map out ideas before starting to write. Finding that helpful in organizing their thoughts better, they may use techniques such as

mind mapping or listing key points to create a visual representation of their ideas. Others choose to begin with a draft, focusing on getting their ideas down before editing them later. This approach lets them share their thoughts without worrying about following rules or using proper grammar. Moreover, few students prioritize peer collaboration as their preferred approach to the writing process; they think it's helpful to talk about ideas together, providing and receiving constructive feedback from their peers. They believe this teamwork makes their writing better and helps them learn from each other.

Q.17 Do you seek support from your teacher when completing your academic writing assignments?

- Yes
- No

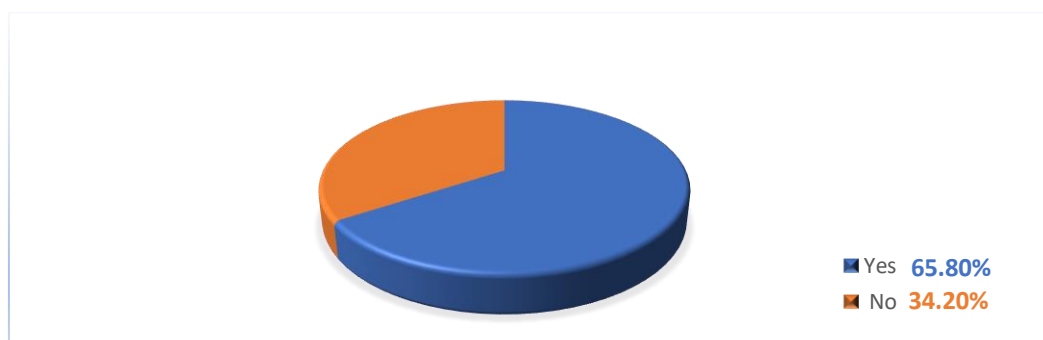


Figure 3.7: Seeking Teacher Support for Academic Writing Assignments

As shown in Figure 3.8 above, the majority of the students (65.8%) seek support from their teacher when completing their academic writing assignments. These students feel comfortable getting help from their teachers which indicates a good connection between them. However, a minority of students (34.2%) admit that they avoid requesting guidance from their teacher. This might mean they prefer doing things independently or feel they don't need help.

Q.18 From whom do you usually seek feedback on your academic writing?

- From instructors/ Professors
- From peers/ friends
- From online resources
- From writing centers/ tutors
- Others? Mention them, please.

Table 3.7

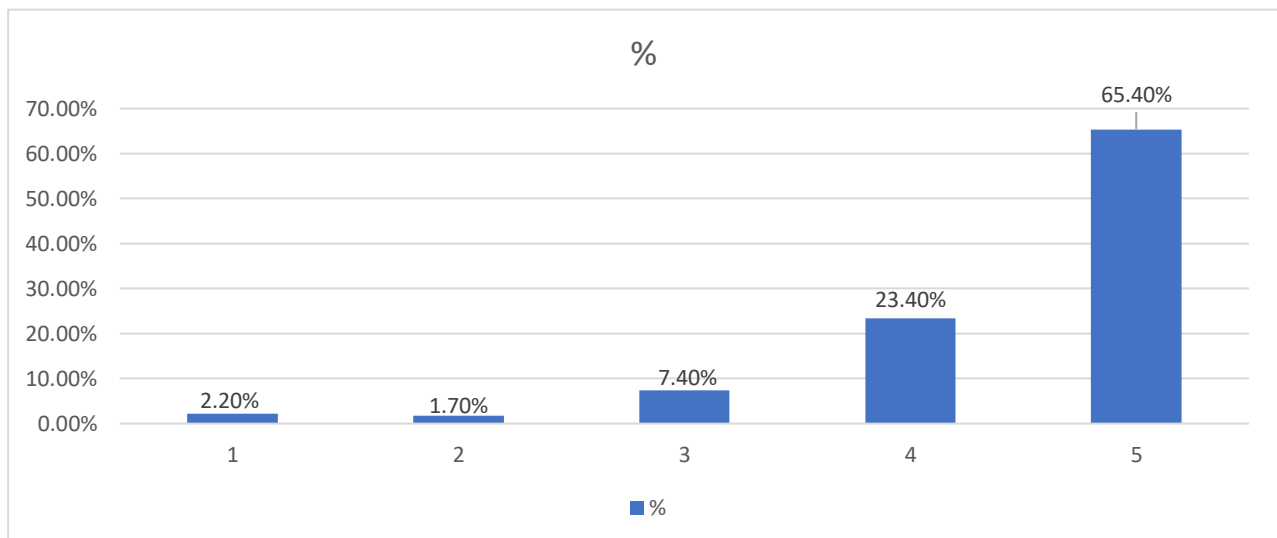
Common Feedback Sources for Academic Writing

Options	Number of Students	Percentage
From instructors/professors	49	21.2%
From peers/ friends	2	11.7%
From online resources	148	64.1%
From writing centers/ tutors	7	3%
Total	231	100%

According to the findings displayed in Table 3.7, most learners (64.1%) prefer to get feedback on their academic writing from online resources due to the accessibility, convenience, and variety of tools and information available online. While a significant percentage (21,2%) indicated they usually ask instructors and professors for feedback because they believe their teacher can help them improve their writing. (11.7%) of the respondents prefer to seek feedback from their friends while working on their writing projects. This choice might highlight the

importance of collaborative learning such as workshops or peer review activities. However, some students (2.2%) prioritize using writing centers or tutors, this low percentage could be due to limited availability. Overall, the findings show that students choose different sources for writing feedback based on what is convenient, trustworthy, collaborative, and available. To better support students, it's important to address these different needs and make all feedback options more known and accessible.

Q. 19 On a scale of 1 to 5, how important do you think academic writing skills are for your academic success?



Graph 3.5: Importance of Degree of Academic Writing Skills for Academic Success

Concerning the importance of academic writing for EFL students in their academic success. (65%) of students consider academic writing to be very important (rated 5); (23.4%) of them claim that it is only important (rated 4). A small percentage of students (7.4%) rated the importance of academic writing skills at 3. However, about 3.9% of students collectively scaled 1 and 2, consider academic writing unimportant for their success. According to these results, the vast majority of students believe that academic writing skills are crucial for academic success, which means that there is awareness among students about the value of academic writing. This recognition means students see academic writing as essential for

developing critical thinking, organizing ideas clearly, and presenting arguments effectively, it indicates that they realize the benefits of good writing skills, like getting better grades and improving their communication overall. This awareness motivates them to work on their writing, knowing it will help them succeed in their studies and future jobs.

Section Four

Q.20 Do you consider AI writing assisting tools, effective in empowering your academic writing?

- Yes
- No

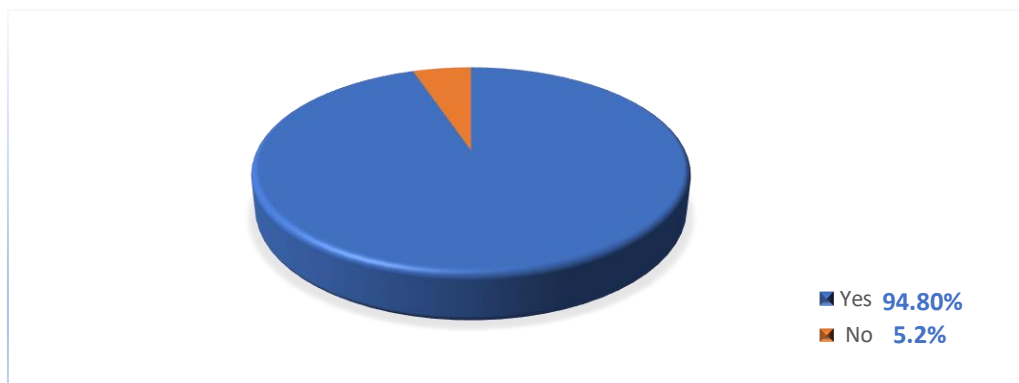


Figure 3.8: Student Perceptions on the Effectiveness of AI Tools in Empowering Their Academic Writing.

As depicted in the preceding Figure 3.9, the overwhelming majority of participants, specifically 94.8% consider AI writing assisting tools effective in empowering their academic writing. This implies that most students find these tools helpful for enhancing their writing and providing good feedback, as well as making writing easier and faster. While the rest (5.2%) don't find these tools effective, this could be due to a lack of familiarity with using them or

they prefer to write on their own, relying on traditional methods like pen and paper without using AI assistance.

After question 21 students were asked to justify their responses to whether AI writing tools are effective in enhancing their academic writing. They stated that such tools improve grammar, save time, aid in learning, and help organize essays. However, some students argued that reliance on AI writing tools could hinder their writing skill development. Some others indicate that AI writing tools are most effective when used with human review and critical thinking. Furthermore, while some students acknowledged the benefits of AI writing tools in improving grammar, time-saving, and aiding learning, others expressed concerns that overreliance on these tools might impede the development of their writing skills. Others worry that relying too heavily on AI tools could lead to a dependency on automated corrections rather than learning from mistakes. Additionally, several participants emphasized the importance of utilizing AI writing tools combined with human review and critical thinking to achieve maximum efficiency. They argued that while these tools can be useful for initial assistance, human judgment, and creativity are still essential for producing excellent academic writing. This balanced perspective highlights the need for a thoughtful approach to integrating AI writing tools into the writing process, ensuring they complement rather than replace traditional writing skills.

Q.21 Do your teachers encourage you to use AI writing assisting tools in your writing assignments?

- Yes
- No

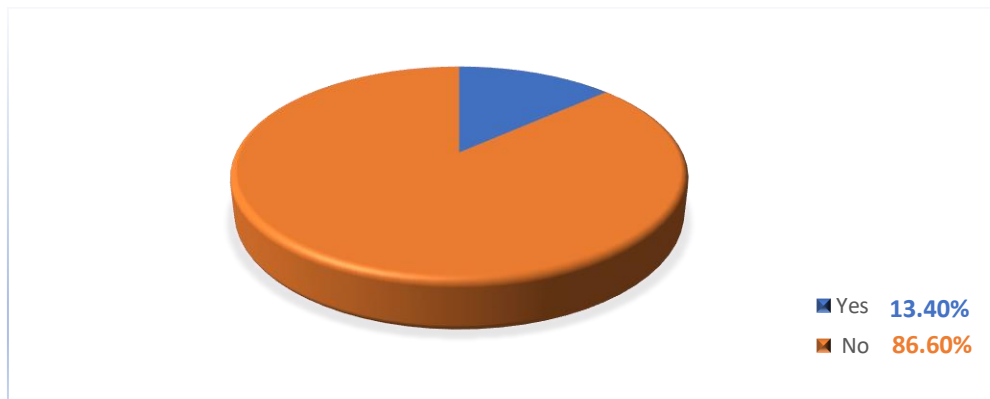


Figure 3.9: Teacher Encouragement for Using AI Writing Assisting Tools in Assignments

According to the survey results, it's clear that the majority of students (86.6%) report that their teachers do not encourage the use of AI writing assisting tools in writing assignments. This suggests that teachers worry that if they encourage AI writing tools, students might cheat or miss out on learning important skills. This fear leaves them uncertain about how to effectively incorporate these tools into their teaching practices. While the remaining (13.4%) of participants indicate that their teacher supports them in utilizing these tools. This implies that some teachers value the integration of technology in the learning process and believe that AI writing tools can enhance students' writing abilities if they use them carefully.

Q.22 Do you think relying on AI assisting tools can replace human writing production?

- Yes
- No

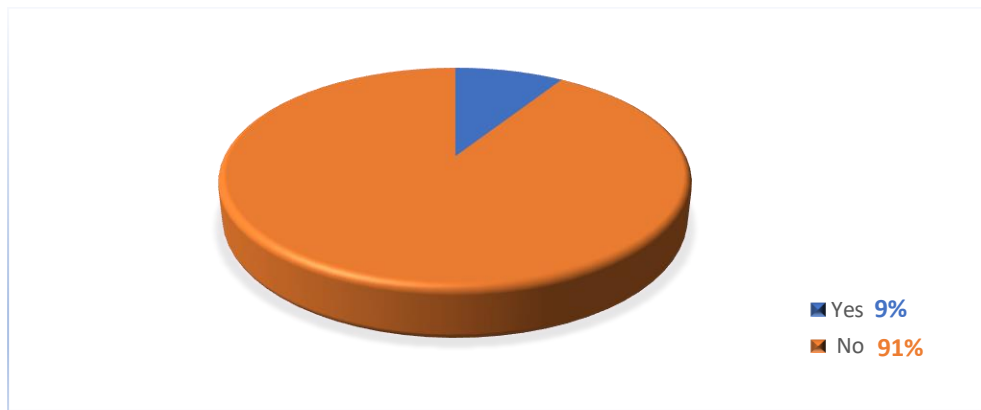


Figure 3.10: Student Perceptions on AI Tools Replacing Human Writing Production

The results of this question (Figure 3.11), which asked whether AI writing assisting tools can replace human writing production reveal that the majority of students (91%) (193 students) believe that human writing productions are irreplaceable. A minority of the students on the other side, think that AI tools could replace human writers. They argued that the rapid advancement of technology could close the gap between human and machine abilities, which results in enhancing AI efficiency, in simple words, because of the continuous and fast-paced improvements in AI and machine learning technologies, the differences in capabilities between humans and AI in terms of writing may diminish, these technological advancements will not only bridge the gap in abilities but also make AI tools more efficient, it implies that the quality and effectiveness of AI-generated writing could potentially match or even surpass that of human writers.

Few students, among the minority, acknowledge that although AI could smartly maintain complex and creative tasks, it still requires human guiding input. However, this still indicates the students' strong affirmation of human writing's unbeatable capabilities, and they asserted that they could never be close to being replaced by an AI tool when they were asked to justify their answers. Emphasizing the uniqueness, originality, nuance, and contextuality of the rich human written content that AI impossibly could replicate. This writing involves

emotional intelligence and cultural background that AI lacks. Ethical and authentic concerns about AI-generated content make human writing abilities indispensable.

Q.23 Do you think AI writing assisting tools can affect EFL students' creativity and originality in writing?

- Yes
- No

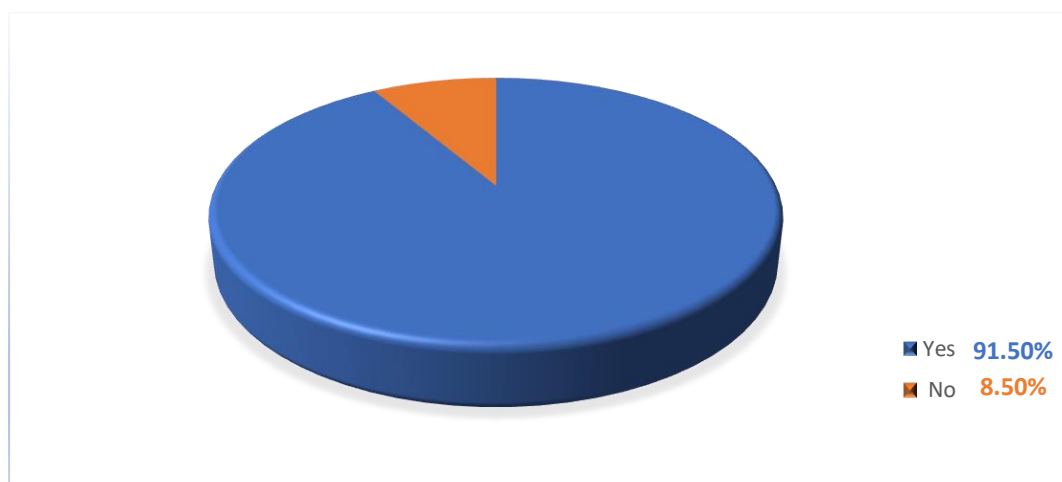


Figure 3.11: Students' Thoughts on the Impact of AI Writing Assisting Tools on EFL Students' Creativity and Originality in Writing

In the data gathered in Figure 3.12 above, concerning students' perceptions of the impact of AI writing assisting tools on EFL students' creativity and originality, a significant majority, around 91.5% meaning 194 students of the whole 212 population surveyed, agreed that the AI writing assisting tools can affect the creativity and originality of their writings. They might feel that relying on AI writing assisting tools could increasingly reduce their ability to think and produce any type of writing independently, which could hinder their growth as original, authentic writers.

In contrast, the rest of the 18 students claim that those tools do not have any impact on their written works. They either don't use the AI writing assisting tools, which is why they believe that they do not find them influential, or they are highly confident about their writings and think that their personal creativity and originality are unaffected.

To sum up, these results show a strong agreement among the students regarding the impact of AI writing assisting tools on EFL (English as a Foreign Language) students' creativity and originality in writing.

Q.24 Do you agree with heavily relying on AI writing assisting tools for EFL students to complete their writing tasks?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Table 3.8

Students' Agreement on Heavily Relying on AI Writing Assistants for EFL Students' Writing Task

Options	Number of Students	Percentage
Strongly disagree	35	16.5%
Disagree	112	52.8%
Neutral	21	9.9%
Agree	23	10.8%
Strongly agree	21	9.5%
Total	212	100%

Table 3.8 demonstrates students' attitudes toward heavily relying on AI writing-assisting tools for their written tasks. It shows that the majority generally disagree or strongly disagree (69.3% combined for "Strongly disagree" and "Disagree") with heavily relying on AI tools to complete their assignments. This highlights their preference for regular usage and the right implementations of AI writing assisting tools, where there is substantial concern about the potential negative impacts on students' writing abilities and independence. A quite smaller option represents the students who prefer to remain neutral(9.9%), they might count a balanced degree of their benefits and drawbacks, or might not have a clear vision about the topic. The rest of the minority of students generally agree (10.8%) or strongly agree (9.9%) to support heavy reliance on AI writing assisting tools, this denotes that they either value the potential these tools have for their writing performance, or they get used to using them extensively to

save much more time and efforts than while not using them, more explicitly, the heavy reliance on these tools made them incapable of being autonomous, self-dependent, creative, or even making effort to complete any type of writing tasks independently.

Q.25 Do you agree with integrating AI writing assisting tools in education?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Table 3.9

Opinions on Integrating AI Writing Assisting Tools in Education

Options	Number of Students	Percentage
Strongly disagree	6	2.8%
Disagree	9	4.2%
Neutral	27	12.7%
Agree	119	56.1%
Strongly agree	51	24.1%
Total	212	100%

As indicated in the previous Table 3.9: more than half (56.1%) of the participants agreed with the integration of AI writing assisting tools in education. (24.1%) Strongly agree as well. While some of them (12.7%) chose to be neutral, however, only a few respondents (7%) showed disagreement with the statement. This strong approval indicates that students

generally perceive these tools as beneficial for enhancing their learning and writing processes, seeing them as tools that can make writing easier and ultimately lead to better academic success.

Q.26 Any piece of advice for EFL learners concerning the use of AI-assisting tools in academic writing?

Concerning the use of AI tools in academic writing, participants offered a set of advice based on their experiences and insights. Some students advised EFL learners to use AI-assisting tools for enhancing academic writing by explaining difficult expressions, suggesting alternatives, and offering instant grammar feedback and corrections. They emphasized the importance of not depending entirely on these tools as AI can sometimes provide incorrect information. It is crucial to double-check AI-generated content and ensure originality. The students also highlighted the importance of using AI as an aid to understand feedback and improve writing skills, rather than becoming dependent on it. Finally, they warned against over-reliance on AI, because the complete reliance on them leads to creating a noncreative lazy impatient human brain that wants to skip things and avoid completing long tasks.

3.5. Summary of Results and Findings from Students' Questionnaire

A questionnaire data collection tool was administered to investigate EFL students' attitudes towards the impacts of AI writing assisting tools on their academic writing level, and specifically to go and examine their perceptions towards its amplification in their academic life and see whether it is positive or negative.

The first section of this questionnaire was devoted to gathering general data about students' gender, how many years they have been studying English during their learning experience, and whether or not they were aiming at majoring in English in the first place when they chose to

study it at the university. Accordingly, the results have revealed that the vast majority of first-master and second-master students are girls. Moreover, it was revealed that the surveyed students have studied English for about eleven to twelve years, with only a small portion having studied it for more. The majority also claimed that it was their objective to major in English (table 3.3).

The second section focuses on Artificial Intelligence generally and AI writing assisting tools specifically. Thus, its findings show that most students are already familiar with Artificial Intelligence and almost all of them defined it correctly or gave close to the right descriptions. Most importantly they mentioned the one key characteristic of AI, which is Artificial intelligence is a digitally computer-controlled machine, robot, system, program, or tool that is trained to mimic human reasoning, behavior, intelligence, and way of responding to solving a certain problem or cover a specific gap. As they are EFL learners, they are usually required to write if not always, and academic writing is an essential part since they are studying a foreign language, the majority again affirmed that they were exposed to the AI writing assisting tools before and used them to complete their written assignments. As a clarification, they mention several AI writing assisting tools they usually utilize during the process of writing, ChatGPT on top of the list, QuillBot, Grammarly and so many others. Furthermore, it has been uncovered that more than 80% of respondents use AI-powered assisting tools either occasionally, sometimes, or always to aid them in their written tasks, which is a bald proof of their effectiveness. The lasting portion opted for either not familiar or not using AI writing assisting tools completely for unexposed reasons. Consequently, with a piece of evidence, students clarified that AI writing assisting tools are overwhelmingly beneficial, and they use them to empower their writing performance by highlighting their usefulness in practical writing tasks such as grammar and spell checks, correcting errors, and plagiarism detection. There was minimal use stated for translation, idea suggestions, or generating presentation outlines.

Section three, aimed at examining EFL students' perceptions of academic writing's importance for their academic success, covering many aspects, including frequency, difficulty, steps, etc. Thereby, it has been inferred that EFL students believe that academic writing is the most crucial skill for them, emphasizing its importance for their academic success in how often they are required to complete written tasks more than any type of other coursework. In this regard, it's noteworthy that there is always a minority that might not agree with the importance of academic writing, they might prioritize other skills or tasks that require using their favorite skills, such as speaking, listening, or reading. In the same vein, regarding how often students write in English, almost three-quarters use it either often or always. This might be due to their love of writing; they use it both in homework assignments and even in their daily lives to communicate with friends. Half of the remaining quarter write sometimes mainly for school tasks, tests, or emails, and a smaller portion, rarely write or never, pointing to challenges such as limited exposure and proficiency or lack of interest in academic success. Another area that was revealed, is the writing degree of difficulty and challenges they usually face while writing, half of the students find writing neither easy nor difficult, and 13.9% find writing in English, while the rest perceive it as difficult, reflecting the variation in writing proficiency among EFL students. Hence, it has been exposed that the majority of EFL students pointed to paraphrasing as the most challenging aspect, grammar and organization were significantly considered a hurdle, some struggled with word choice, and fewer picked vocabulary, spelling, and punctuation.

As a result, students identified writing components that mostly needed improvement, a significant portion reflected on grammar first, then vocabulary and spelling were also areas that needed attention, and punctuation was not really a major concern. Regarding the way they approach the writing process, the majority prefer to make a clear structure of a research plan before writing, some students opt for additional steps that should be secondary such as

researching first or writing immediately. Moreover, it has been confirmed that indeed students at this advanced level still tend to seek teachers' support for their written assignments as a sign of either students still relying on teachers' guidance or their good relationships. Despite that, on the next query findings, when seeking feedback on their academic writing, students head to online resources, most likely due to their accessibility, convenience, effort, and time-saving, but a good portion still insists on preferring teachers' feedback. Peer reviews, writing centers, and AI tools have been chosen. In this regard, in the last question of the section, more than 65% of students rated the importance of academic writing skills for their academic success, on a scale from 1 to 5 as very important, and almost 25% rated it as important (4) or moderately important (3). This section successfully revealed that EFL learners generally recognize how crucial writing skills are and their importance to maintaining academic success in collaboration with AI writing assisting tools to face and overcome the hurdles they might face during the writing process.

The fourth and final section is concerned with students' attitudes toward the effectiveness of academic writing in empowering their academic writing. Thus, many substantial findings and data about the study were discovered through this section. It has been deduced that almost all students are aware of the effectiveness of AI writing assisting tools and their potential to empower their academic writing and this can be seen through their illustrated answers. However, students reported that their teachers do not encourage or support their decisions to use those tools both inside and outside the classroom, raising the possibility that the teachers are either concerned about cheating or the probability of losing their essential writing skills despite their potential. In the same context, a significant majority of students believe that AI writing tools cannot replace human writing production, emphasizing the irreplaceable nature of human creativity, originality, and the nuance that AI lacks, reducing their ability to think independently and produce original work. The minority who opt to

disagree, either do not use these tools or believe their creativity and originality are unaffected. As a result, most students either disagree or strongly disagree with the heavy reliance on these tools, preferring regular usage and seeking teachers' orientation for the right AI writing-assisting tools integration and utilization.

As a recapitulation of the previous analysis of the students' questionnaire, the results have yielded profound insights into the examination of their attitudes and perspectives concerning AI writing assisting tools potential in empowering their academic writing, a noteworthy result gained. It was uncovered that the majority of students are familiar with and aware of the potential of AI writing assisting tools and their benefits in boosting their academic writing performance, mainly ChatGPT. Surprisingly, despite their advantages, they still have some concerns about the over-reliance outcomes in potentially hindering creativity, human writing originality, credibility, and skill development. Most students prefer a balanced use of AI tools while integrating them into education, which is a piece of evidence of the student's level of awareness of the necessity of rationally using AI writing assisting tools under supervision and guidance, ensuring they complement rather than replace human effort to benefit from their integration, the right ethical way. The emphasis remains on using AI to enhance, not overshadow, the unique capabilities of human writing, support, and feedback.

3.6. Pedagogical Implications and Recommendations

Upon the profound and detailed analysis of the gathered statistics, the findings carry noteworthy pedagogical implications and recommendations, for EFL students, teachers, and future research regarding the potential of AI writing assisting tools in enhancing academic writing. These implications mainly seek to improve the practical aspects of the study and deepen the understanding of integrating AI writing-assisting tools in education.

Given the complexity of academic writing, EFL students often face challenges in completing their writing assignments. AI writing tools like ChatGPT, QuillBot, and Grammarly provide immediate aid and feedback on various writing aspects, including grammar, spelling, punctuation, and conciseness. These tools can help students get inspiration for their writing, summarize ideas, identify and correct errors, and enhance their writing quality. However, it is crucial to encourage students to use these tools as supplementary aids, not as primary sources. Educators should emphasize critical engagement with AI suggestions, promoting a deeper understanding of language use and writing conventions. Furthermore, these tools represent a multifaceted opportunity to enhance learning outcomes. This study reveals a predominantly positive attitude among students towards these tools, recognizing their potential to significantly empower academic writing. To avoid certain drawbacks that students ultimately could fall into without being conscious of their results, AI writing tools should be systematically integrated into the EFL writing curricula. This integration can be achieved through planned workshops or dedicated modules that familiarize students with various AI applications, and the right way to use them. By embedding these tools within the curriculum, students can learn to use them effectively from an early stage, ensuring they maximize the benefits while minimizing potential drawbacks such as over-reliance and other unethical practices that could negatively affect their creativity, violate their writing originality, credibility, authenticity...etc. That is why students must be taught to critically evaluate AI-generated content, ensuring it aligns with their intended meaning and academic standards. On the other hand, to maintain the previously mentioned recommendation, teachers themselves need to stay updated and also need to be trained to include the AI writing assisting tools in their teaching practices, so they can focus on the functionalities of these tools and their pedagogical applications, also they should be well equipped to successfully guide students on how to use AI tools to complement their writing process, fostering a balanced approach that encourages

both independent critical thinking alongside technological assistance, and yet encouraged to critically engage with AI writing tools, so they become capable not only to accept and use AI writing assisting tools but to evaluate their role, how and where they should be used based on context, their understanding, and what they need exactly to do, which allow students to analyze the input from AI tools then decide either accept and integrate the tools or reject their utilization accordingly. By teaching students how to control their dependence on AI writing assisting tools to complete their assignments, falling into the autonomy trap will be avoided. Although it seems bright to be autonomous and self-dependent, not by using AI writing assisting tools rather than their selves, that is why it is suggested to always start by drafting initial versions of their essays without AI assistance and then use AI tools for revisions, which can help maintain and develop their independent writing skills and effectively benefit from them.

Moreover, AI writing assisting tools could be very helpful in maintaining collaborative learning environments. As a result, group work could help to overly analyze and criticize AI writing-assisting tools incomes to enhance student-student relationships and expose them to different perspectives and points of view that could open their eyes to broader horizons concerning the way they perceive and implement AI writing-assisting tools in their writings. Additionally, AI writing assisting tools not only support students in completing their academic products but also could support teachers in easing the evaluation and assessment process, because regular, ongoing assessment and feedback are critical steps in understanding the impact of AI tools on student writing. Here AI writing assisting tools could also support teachers in the assessment process. By providing automated feedback on the various writing errors, these tools can help evaluate a large number of written tasks quickly. This allows teachers to devote more time to a deeper-level aspect such as content or organization. Teachers should be aware of the advantages of using AI tools for assessment purposes, ensuring they can efficiently manage their workload while providing high-quality feedback to students,

enabling them to continuously evaluate how these tools are affecting students' writing skills, and adjusting instructional strategies accordingly.

Feedback sessions can help identify areas where students might be over-relying on AI and provide targeted interventions to address these issues and effectively solve them. Simultaneously, educational institutions should encourage ongoing research concerning the use of AI writing tools. Students and faculty can be involved in studies to explore new application areas of AI tools in writing, thereby promoting a culture of innovation. Sharing successful practices and findings within the academic community can lead to more effective use of these technologies across different contexts.

Further pedagogical recommendations and suggestions for future researchers can be taken into consideration, for those who are interested in exploring the same field of investigation.

- Conduct experimental studies to explore the impact of AI writing tools on different aspects of EFL students' writing skills. This examination will offer additional insights and a deeper understanding of the topic under investigation.
- Investigate the effectiveness of AI writing tools, which offer more advanced features to save time and effort compared to traditional methods.
- Shift the focus towards examining the perceptions using AI writing assisting tools.
- Explore the effectiveness of AI writing tools in assisting teachers with the assessment process.
- Investigate the use of AI writing tools in the dissertation writing process for EFL Master's students.

- Examine other widely used AI writing tools besides ChatGPT, QuillBot, and Grammarly that are widely available to provide a comprehensive understanding of their potential benefits, drawbacks, and limitations.

3.7. Limitations of the Study

This study encountered several limitations due to ethical, contextual, and practical issues that hindered its proper completion.

Firstly, distributing the survey online was difficult because the target population was hardly reached, unlike in the university, where everyone was there, and to get enough responses, the survey had to be sent out multiple times privately, which took a while. Secondly, giving out the survey during exams made it hard for students to focus on it because students were preoccupied with exam preparation, as they likely had limited time and attention to spare for completing a questionnaire, which affected the quality of responses obtained. Thirdly, there were not many previous old studies or reliable accessible resources on the topic being researched which narrowed the scope of the current study. Also, since the topic was new and not extensively tackled, it was hard to find information that was related to the aspects under investigation.

3.8. Conclusion

It is safe to conclude that the analysis of the data gathered from the students' questionnaire has revealed that the participants noted the importance of AI writing assisting tools for learners to master and improve their academic writing. Moreover, they revealed that they are aware of the increasing use of these tools, which were created to assist them in this process. The integration of AI writing tools in EFL education offers significant opportunities

for enhancing students' writing skills and supporting teachers in the instructional process, as a result, students are positively perceiving the idea of using AI writing assisting tools in their written tasks. By thoughtfully incorporating these tools into the curriculum, providing adequate training and support, and maintaining a balanced approach, educational institutions can leverage the potential of AI to improve academic writing outcomes while preserving the unique capabilities of human creativity and critical thinking.

GENERAL CONCLUSION

This research aims to explore AI writing assistant tools' potential to improve EFL students' academic writing skills. It also attempts to investigate EFL students' attitudes toward the usage of these tools to enhance their academic writing performance. Through delving into the research variables both theoretically and practically in order to answer the research questions and test the hypotheses. This study is divided into three main chapters. Two theoretical chapters of the study have concentrated on addressing the research questions and examining the hypotheses. The first chapter sheds light on Artificial Intelligence generally, and its use in the educational context, tackling its definitions, and types, then AI writing assisting tools definition, and types, and exemplifying ChatGPT as an illustration highlighting its role in empowering written products, also sheds light on its advantages and drawbacks. Meanwhile, the second chapter provided a theoretical overview of academic writing, its components, dimensions, characteristics, and approaches. Besides, it attempts to investigate EFL students' challenges in academic writing and suggests potential solutions.

The last chapter handled the practical part of the study, which aims to answer the research questions and validate the primary hypothesis that claims whether EFL students positively welcome the idea of integration of AI-powered assisting tools to enhance their academic writing, or not. To prove or disapprove of the hypothesis of this research and attain the objectives of the current research, a survey questionnaire was administered to both master one and master two students of English who belong to the Department of Letters and English Language at the University of 08 Mai 1945 Guelma, as a data gathering tool to investigate and explore their negative and positive opinions and attitudes concerning the topic questions. The

results obtained from analyzing the gathered data have remarkably contributed to answering the research questions and testifying the research hypothesis.

According to the data obtained from the students' questionnaire, the majority of students are familiar with AI writing assisting tools and aware of their potential and benefits in boosting their academic writing performance. It has been clear that EFL students held various perceptions regarding this topic. However, highlighting that besides the majority of students reacted positively through the way they perceived the integration of AI writing assisting tools decision in education to assist them, they are still aware and concerned about the possible negative impacts of over-reliance on these tools that could hinder creativity, originality, and skill development. Therefore, students prefer using AI writing assisting tools in a balanced way under supervision, ensuring that these tools complement human effort rather than replace it, they proposed to them merely as a supportive tool in the writing process. This led to the resolution of the research questions and the confirmation of the primary hypothesis.

According to the findings, it can be concluded that the majority of EFL students recognize the positive impact of AI writing assistant tools on their academic writing level. The results show that students greatly appreciate the efficiency of the rational usage of these tools after observing certain improvements in mastering the language in general and the writing skills specifically, as well as the quality of their written products before and after using AI writing assisting tools which boosted their confidence in completing related academic tasks. As a result, the two research hypotheses H0 and H1 that were initially provided in the current study have been both confirmed.

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(Appendix A)

Students' Questionnaire

Dear students,

This study is carried out to investigate EFL students' attitudes toward the potential of AI tools in empowering their academic writing, which is designed to gather data for the research work from first masters and second masters students who belong to the Department of English, University 08 Mai 1945-Guelma. You are kindly invited to answer this questionnaire by saying yes or no, putting a tick (✓) in the appropriate box, or giving complete answers by providing full explanations whenever needed. Would you please devote some of your valuable time to filling it out? Your responses are confidential and the information you provide will contribute a lot to the successful completion of this dissertation, so please feel free to answer honestly.

Thank you in advance for your cooperation and participation.

Aidi Wail Abdennour

Smail Lilia

Department of English

Faculty of Letters and Languages

University of 8 Mai 1945, Guelma

Section One: General Information

Q.1 For how long have you been learning English ... Years?

Q.2 Was majoring in English at University your first choice?

- Yes
- No

Section Two: AI Writing Assisting Tools

Q.3 Have you ever heard of artificial intelligence before?

- Yes
- No
- If yes, define it from your perspective

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Q.4 Are you familiar with AI writing assisting tools?

- Yes
- No

Q.5 As an EFL student, academic writing is an essential part of your studies, do you ever use any writing tools to assist you in your academic writing assignments?

- Yes
- No

Q.6 What tools do you use so often (it's significant to mention the tool)?

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Q.7 How often do you use artificial intelligence tools?

- Always
- Frequently
- Occasionally
- Rarely
- Never

Q.8 Was using AI writing assisting tools beneficial?

- Yes
- No

Q.9 What do you use AI writing assisting tools for?

- Correct writing errors
- Check Grammar, spelling, and punctuation
- Enrich Vocabulary
- Detect Plagiarism
- Others, please specify.

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Section Three: Academic Writing

Q.10 In your opinion, is writing the most crucial ability for EFL learners?

- Yes
- No

Q.11 How often do you write in English?

- Never
- Rarely
- Sometimes
- Often
- Always

Q.12 How do you feel about academic writing?

- Easy
- Neither easy nor difficult
- Difficult

Q.13 Which academic writing feature do you find most difficult (you may tick multiple choices)?

- Punctuation
- Grammar
- Spelling
- vocabulary
- Organization
- Word choice
- Paraphrasing

Q.14 Which of these do you focus more on when you complete academic writing tasks?

- Correct grammar
- Correct spelling
- Correct capitalization
- Correct punctuation
- Appropriate vocabulary
- Content and organization
- Detect plagiarism
- Fluency

Q.15 According to you, which writing components need to be improved the most (you may tick more than one choice)?

- Grammar
- Vocabulary
- Punctuation
- Spelling

Q.16 How do you typically approach the writing process?

- Start writing immediately
- Plan an outline before writing
- Research first, then write
- Another way, please specify.

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Q.17 Do you seek support from your teacher when completing your academic writing assignments?

- Yes
- No

Q.18 From whom do you usually seek feedback on your academic writing?

- From instructors/ Professors
- From peers/ friends
- From online resources
- From writing centers/ tutors
- Others? Mention them, please.

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Q.19 On a scale of 1 to 5, how important do you think academic writing skills are for your academic success?

- 1
- 2
- 3
- 4
- 5

Section Four: Students' Perceptions Towards the Effectiveness of Using AI Writing Assisting Tools in Improving Academic Writing

Q.20 Do you consider AI writing assisting tools, effective in empowering your academic writing?

- Yes
- No
- please, justify your Answer.

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Q.21 Do your teachers encourage you to use AI writing assisting tools in your writing assignments?

- Yes
- No

Q.22 Do you think relying on AI assisting tools can replace human writing production?

- Yes
- No

- If yes, in what ways?

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Q.23 Do you think AI writing assisting tools can affect EFL students' creativity and originality in writing?

- Yes
- No

Q.24 Do you still agree with heavily relying on AI writing assisting tools for EFL students to complete their writing tasks?

- Agree
- Strongly agree
- Neutral
- Disagree
- Strongly disagree

Q.25 Do you agree with integrating AI writing assisting tools in education?

- Agree
- Strongly agree
- Neutral
- Disagree
- Strongly disagree

Q.26 Any piece of advice for EFL learners concerning the use of AI-assisting tools in academic writing?

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Thank you all for your cooperation

French Summary

Résumé

La présente étude examine l'attitude des étudiants en anglais comme une langue étrangère, à l'égard du potentiel des outils d'aide à l'écriture de l'IA pour améliorer leur écriture académique. Ainsi, la présente recherche suppose que les étudiants d'Anglais comme une langue étrangère perçoivent le potentiel des outils d'aide à la rédaction de l'IA sur leur niveau d'écriture académique soit de manière négative, soit de manière positive. Une approche hybride descriptive-exploratoire a été utilisée, un questionnaire a été adopté comme outil de collecte de données pour tester cette hypothèse et atteindre les objectifs de la recherche. Il a été distribué à 231 étudiants sur une population de 321 étudiants en master 1 et en master 2 d'anglais au département des lettres et des langues de l'université du 8 mai 1945-Guelma. Les résultats ont révélé que lorsque la majorité des étudiants ont utilisé les outils d'aide à la rédaction alimentés par l'IA, ils ont obtenu des résultats favorables en améliorant leurs produits écrits, et ils ont réagi positivement au potentiel de ces outils pour améliorer leur rédaction académique. En revanche, ils ont également montré des limites et des inconvénients dans la rédaction de textes éthiques et précis, affectant leur créativité et leur autonomie, ce qui les a amenés à exprimer des inquiétudes négatives quant au potentiel de ces outils. Par conséquent, il a été suggéré d'utiliser les outils d'aide à la rédaction de l'IA simultanément au cours du processus de rédaction en suivant certaines lignes directrices afin de préserver la créativité et l'originalité des écrits. En outre, certaines recommandations ont été proposées pour rationaliser l'utilisation des outils d'aide à la rédaction de l'IA dans le processus d'enseignement et d'apprentissage.

Mots-clés : Outils d'aide à la rédaction par l'IA, rédaction académique, l'Anglais comme langue étrangère

Arabic Summary

الملخص

تبحث الدراسة الحالية في مواقف وسلوكيات طلاب اللغة الإنجليزية كلغة أجنبية من إمكانات أدوات الذكاء الاصطناعي المساعدة في الكتابة على تعزيز كتابتهم الأكاديمية. وبالتالي، تنص فرضية البحث الحالي أن طلاب اللغة الإنجليزية كلغة أجنبية ينظرون إلى إمكانات أدوات الذكاء الاصطناعي المساعدة في الكتابة على مستوى كتابتهم الأكاديمية نظرة إما سلبية أو إيجابية. تم استخدام نهج هجين بين النمطين الوصفي والاستكشافي وقد تم اعتماد استبيان استقصائي كأداة لجمع البيانات لاختبار هذه الفرضية وتحقيق أهداف البحث. قد تم توزيعه على (231) طالبًا من أصل (321) طالبًا من طلبة الماجستير في اللغة الإنجليزية من كل من مرحلتى الماجستير الأولى والثانية تخصص اللغة الإنجليزية، قسم الآداب واللغات بجامعة 08 ماي 1945-قائمة. وكشفت النتائج أنه عند استخدام الغالبية لأدوات المساعدة على الكتابة المدعومة بالذكاء الاصطناعي في تحسين منتجاتهم الكتابية، قد تفاعلوا بشكل إيجابي مع إمكانات هاته الأدوات في تحسين كتابتهم الأكاديمية. في حين أظهروا أيضًا وجود قيود وعيوب في الحفاظ على أخلاقيات ودقة الكتابة، مما أثر على إبداعهم واعتمادهم على أنفسهم، الأمر الذي جعل الطلاب يظهرون بعض المخاوف السلبية بشأن إمكانات هذه الأدوات. نتيجة لذلك، تم اقتراح استخدام أدوات الذكاء الاصطناعي المساعدة في الكتابة في وقت واحد أثناء عملية الكتابة باتباع إرشادات معينة للحفاظ على إبداع وأصالة الكتابات. علاوة على ذلك، تم اقتراح بعض التوصيات لتبسيط استخدام أدوات الذكاء الاصطناعي المساعدة في الكتابة في عملية التعليم والتعلم.

الكلمات الرئيسية: أدوات مساعدة الكتابة بالذكاء الاصطناعي، الكتابة الأكاديمية، اللغة الإنجليزية كلغة أجنبية.