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Investigating the Usefulness of Artificial Intelligence Tools in
improving Students' Academic Writing
The Case Study of Master One University Students

A Dissertation Submitted in Partial Fulfillment for the Requirement of the Master Degree in
Didactics of Foreign Languages

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Dedication

I dedicate this work to:

*my beloved parents for their love and support, which have been the reasons for who I am
today.*

my siblings, Safa, Roukia, and Haroun, your presence has been my strength.

*my dear partner, Noudjoud, thank you for sharing in this challenging academic journey with
me and for being my strong support.*

*my best friend, Oumiama, your encouragement has made this experience truly exciting and
memorable.*

the memory of my grandmother, whose absence is deeply felt.

*my grandparents, uncles, and aunties, your support and love have been a constant source of
inspiration.*

*Lastly, I extend my heartfelt thanks to everyone who has helped me along the way to complete
this work. Your support has been invaluable in this achievement.*

Thank you

Meroua

Dedication

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Abstract

The mastery of writing skills in English as a foreign language presents a significant challenge for learners as they often encounter numerous obstacles and make various mistakes. This study investigates the potential of artificial intelligence tools to reduce these challenges and enhance academic writing skills. The primary goal is to examine the effectiveness of AI-based tools in enhancing the academic writing capabilities of English language learners. The study also seeks to gauge the perceptions of learners and educators regarding the usefulness of AI tools in the context. Within the context of this work, the research questions are as follows: 1/ What is the impact of AI-based tools on students' academic English writing skills? 2/ How can artificial intelligence be used to improve learners' academic writing? 3/ what specific areas of academic writing can artificial intelligence technologies effectively support? In response to these questions, a mixed-method approach was utilized involving a questionnaire administered to 30 master-one English students and interviews with 8 Written Expression teachers at the Department of Foreign Languages, Mila University Center. The study findings indicate that both students and teachers are aware of the potential benefits of using AI in academic writing. In addition, both students and teachers acknowledged the role of AI in reducing the time spent on revising drafts and providing insights into writing patterns that could be improved. The overall agreement among participants was that when used wisely, AI tools could significantly aid in the development of critical thinking and analytical skills essential for academic writing.

Key words: Artificial intelligence, academic Writing Skills, students' perceptions, teachers' perceptions, enhancement

List of Abbreviations

AW: Academic Writing

EFL: English as a Foreign Language

AI: Artificial Intelligence

LT: Logic Theorist

U.S: United States

G.P.S: General Problem Solver

HLAI: Human Level Artificial Intelligence

AGI: Artificial General Intelligence

ANI: Artificial Narrow Intelligence

ASI: Artificial Superintelligence

ToM: Theory of Mind

ITS: Intelligence Tutoring Systems

ML: Machine Learning

Apps: Applications

R1: an Expert System

MCC: Microelectronics and Computer Technology Corporation

SOAR: The Cycle of State, Operator, and Results

VR: Virtual Reality

EDU RPGs: Educational Role -Playing Games

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ملخص

Résumé

General Introduction

Introduction:

Learning English has made it possible to communicate with people all around the world. As a result, English learners are required to gain significant academic writing abilities in order to improve the effectiveness and relevance of their education.

Writing fluency is a crucial component of language competency as it helps in expressing ideas and thoughts clearly. It also plays a major part in advancing learners language learning, both in the classroom and in other spheres of life. Moreover, academic writing can be a problematic, effective and complex process (Rahimi & Zhang, 2018). The co-authors found that many students struggle to express their ideas in writing because they lack writing fluency, which negatively impacts their academic progress.

Due to the rapid development of technology, especially in the area of artificial intelligence, (AI) technology has been used in the various teaching and learning processes, especially in the academic writing. AI tools could improve the quality of a written product (Fitria, 2021). This will open up new opportunities for people all over the world to speak English fluently.

1. Statement of the Problem:

Strong academic writing is a difficult skill for many EFL learners to acquire, and they frequently encounter many obstacles in their quest of excellence. These obstacles could include learning how to succeed academically and professionally, organize and structure their thoughts, complete their assignments, such as research papers, essays and articles and the fact that traditional teaching methods don't always offer the support and direction they need.

However, with the positive views of artificial intelligence in education, AI technologies have the potential to be used to advance students' academic writing. This leads to raising the question of how best to leverage the benefits of artificial intelligence to offer students personalized feedback, direction and encouragement along their academic writing.

Examining this issue might highlight the possible advantages of using (AI) tools in the context of academic writing instruction for these learners, with the ultimate goal of enhancing their academic writing abilities and learning opportunities. By leveraging artificial intelligence, students can receive personalized feedback, direction, and encouragement throughout their academic journey.

2. Aims of the Study:

The aim of this study is to investigate the difficulties that EFL students currently have while writing for academic purposes as well as investigating the possible advantages of incorporating artificial intelligence technologies into academic writing instruction.

3. Research Questions:

The present study attempts to answer the following questions

Q1: What is the impact of AI-based tools on students' academic English writing skills?

Q2: How can artificial intelligence be used to improve the learners' academic writing?

Q3: What specific areas of academic writing can AI technologies effectively support?

4. Research Methodology:

The research is intended to investigate the usefulness of AI to improve students' academic writing. a mixed method will be used for data collection: a questionnaire will be designed and administered to master-one students at Mila University Center in order to delve

into their opinions and attitude towards academic writing and how the AI tools affect their academic writing. The second data tool is an interview with Written Expression teachers at the same institution to check their attitude about the idea of integrating AI tools in the process of teaching to improve learners' academic writing.

5. Sample and Population:

The population comprises Master One students as well as Written Expression teachers. The sample includes a chosen group of Master One students who were chosen randomly and 8 Written Expression teachers at Mila University Center. The sample was chosen on purpose because learners at this level are more exposed to essay writing, and they are going to conduct research and prepare a dissertation next year.

6. Structure of Dissertation:

The dissertation is divided into three chapters: theoretical and practical. The theoretical section includes a review of the literature on both variables. The practical section represents the study's fieldwork.

The first chapter provides a theoretical basis for information and technology development, as well as the relation between AI-based tools and writing skill improvement. The second chapter, on the other hand, is devoted to a theoretical examination of academic writing and the writing skills that a learner should have, in addition to the difficulties they face.

The third chapter is mostly concerned with the practical part. Its goal is to discuss and analyze the collected data, providing an interpretation of the results

Chapter One: Artificial Intelligence

Introduction:

Over the past few decades, technology has advanced at an unprecedented rate, leading to significant improvements in various aspects of our lives from the invention of the internet to the development of smartphones. Therefore, technology has transformed the way we communicate, work and interact with the world around us.

One of the most significant advancements in technology in the recent years is the rise of artificial intelligence. This rapid advancement has introduced artificial intelligence as a powerful tool in education. The implementation of AI in the learning and teaching processes has significantly enhanced their effectiveness. AI's integration into education has revolutionized traditional teaching methods, offering personalized learning experiences and innovative solutions to enhance student engagement and academic performance. The goal of this chapter is to provide the reader with background information and definition of artificial intelligence, its types and components, and the implementation of AI in education. The focus will subsequently shift to be narrow down to delve into AI tools used and the usefulness of these tools.

1. Definition of artificial intelligence:

McCarthy as cited in Zicari (2005, p.4) defined AI back in (1956) "AI involved machines that can perform tasks that are characteristic of human intelligence." Chassignol et al. provides two definitions of AI. They defined AI as a field and a theory. As a field of study, they define AI as a study area in computer science whose pursuits are aimed at solving different cognitive problems commonly associated with human intelligence, such as learning, problem solving, and pattern recognition. As a theory, Chassignol et al. defined AI as a theoretical framework guiding the development and use of computer systems with the

capabilities of human beings, more particularly, intelligence and the ability to perform tasks that require human intelligence, including visual perception, speech recognition, decision-making, and translation between languages.

“Artificial intelligence is a digital attempt to achieve human level intelligence using different computations machines.” (Kaur & Gill, 2020, p.22). AI is like trying to make computers think and learn like us humans. Kaur & Gill said it’s about using computers to copy the smart things we do, such as solving problems and understanding language.

2. The History of AI:

The history of artificial intelligence traces back to the early philosophical debates about the nature of intelligence and the possibility of creating artificial minds. (Russell & Norvig .2009) provide a comprehensive overview of the history in their book, *Artificial Intelligence: A Modern Approach*. They discuss the evolution of AI from its conceptual beginnings to the development of early AI systems and the emergence of modern AI technologies.

McCulloch and Pitts' 1943 work is considered the birth of AI, combining knowledge of neurons, logic, and computation theory. They proposed artificial neuron models that could compute any function and implement logic, using networks of these neurons. Then Hebb's (1949) work introduced Hebbian learning, a rule for modifying neuron connections, suggesting networks could learn.

In 1950, Turing, a computer pioneer, conducted the famous Turing test to explore whether a computer could think like a human. The test involved a computer, a human interrogator, and human respondent. The interrogator posed questions to both the computer and the respondent, aiming to guess which one was the computer. The human respondent assisted the interrogator, while the computer strived in a way that avoided dictation. (Copeland. B. J. 2023)

McCarthy, an influential figure in AI, earned his PhD in 1951 and later played a key role in establishing AI as a field at Dartmouth College. McCarthy, along with Minsky, Shannon, and Rochester, organized a seminal workshop in 1956 at Dartmouth, which brought together U.S researchers interested in automata theory, neural nets, and the study of intelligence, shaping the future of AI. Later, Allen Newell and Herbert Simon, researchers from Carnegie Tech, gained prominence for their reasoning programs, notably the Logic Theorist (LT) and later the General Problem Solver (GPS). The GPS, unlike LT, was designed to mimic human problem-solving methods and demonstrated a similarity in approach to how humans tackle problems, making it one of the first programs to embody the "thinking humanly" approach in AI.

(Russell & Norvig.2009) stated that the early AI researchers, like Simon, were overly optimistic, making predictions that were not always accurate. While some early successes, such as computers winning at chess and initial machine translation efforts, were achieved, these systems often failed when faced with broader or more complex problems. This failure was attributed to a lack of subject matter knowledge and the inherent complexity of many AI problems. The intractability of many AI problems became apparent as early AI programs struggled to scale up to larger, more complex problems. Initially, there was a belief that simply increasing computational power with faster hardware and larger memories would solve these issues. However, it became clear that many problems required more than just computational power to be effectively solved. Additionally, early experiments in machine evolution, such as genetic algorithms, failed to make significant progress due to the combinatorial explosion problem. This led to a decline in support for AI research in some areas.

In the early 1980s, AI saw significant commercial success with expert systems like R1, which saved companies millions of dollars, leading to widespread adoption in major

corporations. Despite initial growth, the AI industry faced a downturn known as the "AI Winter," characterized by failed ambitious projects, such as Japan's "Fifth Generation" and the U.S.'s MCC, leading to a decline in research and funding for AI.

In the mid-1980s, the back-propagation learning algorithm, first discovered in 1969, was reinvented by at least four different groups. Its application to various learning problems in computer science and psychology, along with its widespread dissemination, generated significant excitement in the field. Connectionist models of intelligent systems, based on neural networks, emerged as competitors to symbolic approaches. While early debates questioned the role of symbol manipulation in cognition, the current view sees connectionist and symbolic approaches as complementary. Modern neural network research has split into two fields: one focused on network architectures and algorithms, and the other on modeling the empirical properties of neurons.

Later researchers have begun revisiting the "whole agent" problem, as seen in the development of complete agent architectures like SOAR by Newell, Laird, and Rosenbloom. The Internet has become a major environment for intelligent agents, with AI systems being common in web applications and underlying technologies, like search engines and recommender systems. There was a growing realization that AI subfields may need reorganization to integrate their results into complete agent systems. This perspective has also brought AI closer to other fields, such as control theory and economics. Despite progress, some AI pioneers advocate for a shift towards Human-Level AI (HLAI) or Artificial General Intelligence (AGI), aiming for machines that think, learn, and create, rather than just improving specific applications. Ensuring that AI is friendly and ethical is also a key concern.

Recent work in AI, exemplified by Yarowsky's 1995 paper on word-sense disambiguation, and Hays and Efros' 2007 work on photograph completion, emphasizes the

importance of focusing on data rather than algorithms. This shift is driven by the availability of large datasets, such as trillions of words of English text and billions of images from the Web, as well as billions of base pairs of genomic sequences. Techniques like these have shown that using large annotated datasets can lead to significant improvements in accuracy, even with mediocre algorithms. This approach suggests that the longstanding "knowledge bottleneck" in AI, which involves encoding comprehensive knowledge can be achieved through learning from extensive datasets, instead of relying solely on hand-coded knowledge engineering. This shift has led to a surge of new AI applications, leading some to believe that the "AI Winter" may be coming to an end. (Russell and Norvig, 2009)

3. Types of Artificial Intelligence:

According to Kumar (2018) AI is categorized into seven types. This categorization is cited Skavic.F. (2019) in his work "The Implementation of Artificial Intelligence and Its Future Potential". This type includes: Artificial Narrow Intelligence, Artificial General Intelligence, Artificial Superintelligence, Reactive Machine, Limited Memory AI Systems, Theory of Mind, and Self-aware AI:

3.1 Artificial Narrow Intelligence (ANI):

Also known as weak AI focuses on specific, narrow tasks. Examples include Siri, AlphaGo, and autonomous vehicles. ANI operates autonomously within its field, often outperforming humans. It is not conscious or sentient. ANI processes data quickly and accurately, improving human life. IBM's Watson is a notable ANI used in healthcare. ANI reduces mundane tasks, like Sighthound (formerly Vitamin D) which detects cars and faces. Sighthound can identify age, sex, ethnicity, and mood from facial features. It also removes personally identifiable information automatically. ANI is essential for advancing society, despite its limitations.

3.2 Artificial General Intelligence (AGI):

Aims to create machines with human-like abilities to learn, perceive, understand, and function across various domains. AGI machines would eliminate human fatigue and error, possessing sentience, consciousness, and emotions. Current AI surpasses human processing but cannot replicate human abstract thinking and creativity. AGI would require reasoning, problem-solving, planning, learning, imagination, and creativity. Examples of AGI are limited to sci-fi movies. AGI machines would need to pass the Turing Test, indistinguishable from humans in textual correspondence.

3.3 Artificial Superintelligence (ASI):

As introduced by Skavic.F. (2019), Artificial Superintelligence (ASI) is an intelligence that is much smarter than the best human minds in every area, and it could be created in various ways. ASI is seen as the highest achievement in AI research, capable of imitating human intelligence across different fields and outperforming humans in memory, data processing, and decision-making. The idea of ASI development raises concerns about technological singularity, where machines exceed human abilities. (Ray Kurzweil, 2017) predicts a future where humans can enhance their intelligence by linking their neocortex to a synthetic one in the cloud. However, the current state of AI is still rudimentary, leaving much to the imagination for future progress.

3.4 Reactive Machines:

(Skavic.F, 2019) also introduces the reactive machine which is considered as a fundamental form of artificial intelligence that lacks the ability to store memories or use past experiences to make decisions. They operate based solely on current inputs, without an understanding of their environment, and are limited to performing specific tasks. Their behavior is consistent across different situations and they cannot adapt to new circumstances.

An example of a reactive machine is IBM Deep Blue, which famously defeated a human chess champion but is only able to play chess and lacks broader comprehension or learning capabilities.

3.5 Limited Memory AI Systems:

Limited memory systems in artificial intelligence play a crucial role by utilizing historical and pre-programmed data for making informed decisions, which is integral to many contemporary AI applications. Deep learning, a significant component of modern AI, involves feeding computers large amounts of data for learning purposes. For instance, image recognition AI improves its ability to identify objects in images through exposure to thousands of labeled images. In practical applications, limited memory AI systems, such as self-driving cars, learn safe driving practices by observing and understanding human driving behavior, enabling them to adapt to various driving conditions.

3.6 Theory of Mind (ToM):

According to Skavic.F, (2019), ToM is a concept crucial for future AI, enabling machines to understand human mental states like beliefs and intentions. It's essential for effective human-machine interactions and societal integration. Researchers have developed ToM-inspired AI like Google's ToMnet, capable of recognizing false beliefs. While examples like Kismet and Sophia exhibit elements of ToM by recognizing emotions and interacting with humans, they fall short of true ToM. Sophia, despite her human-like appearance and interactions, relies heavily on scripted responses and lacks true self-awareness. While these examples showcase current AI capabilities in humanoid form, true ToM and self-aware AI remain elusive goals.

3.7 Self-aware AI:

The final stage of AI evolution, is currently hypothetical and likely far into the future. Such a machine would function like a human, with a computing system akin to or more advanced than the human brain, possessing self-awareness. This AI would understand and evoke emotions, have its own needs, desires, and beliefs, potentially leading to self-interest and self-preservation at the expense of humans. Measuring such sentience is a contentious issue in the AI community, as current AI systems can be programmed to mimic consciousness without true self-awareness. Research on this topic, like Professor Bishop's 2018, has yielded inconclusive results regarding measurement methods. Achieving true self-aware AI remains the ultimate goal of AI research, but significant technological and ethical challenges lie ahead. (Skavic.F, 2019)

4. Components of Artificial Intelligence:

(Sadiku et al, 2022) in his book Artificial Intelligence in Education divided artificial intelligence into 9 components which are: Expert systems, Fuzzy logic, Neural networks, Machine learning, Deep learning, Natural language processors, Robots, Data mining, and Computer vision.

4.1. Expert systems:

Also known as "intelligent systems " or "knowledge-based systems". Expert systems are implementations of artificial intelligence, functions like a human expert. They have a knowledge base and rules to make smart decisions. These systems are widely used in industries and can provide expert advice to non-expert users.

4.2. Fuzzy logic:

Enables the creation of rules for machine responses that consider a range of possible conditions, rather than just binary outcomes. Fuzzy logic allows for the use of degrees of truth, ranging from 0 to 1.

4.3. Neural networks:

Also known as "Artificial neural networks". ANNs are machine learning systems that mimic the structure and function of the human brain. They consist of artificial neurons that take in multiple inputs and produce a single output. These networks learn and process information as data passes through multiple layers of interconnected artificial synapses.

4.4. Machine learning:

Machine learning is essentially the study of computer algorithms that improve automatically through experience. It is the field that focuses on how computer learn from data. This includes a broad range of algorithms and statistical models that make it possible for systems to find patterns, draw inferences, and learn to perform tasks without specific instructions.

4.5. Deep learning:

Deep learning has been a major breakthrough in artificial intelligence research, especially in machine learning. It uses artificial neural networks to process abstract features, making it useful for tasks like speech recognition and image processing. Deep learning can handle complex problems and extract meaningful patterns from data.

4.6. Natural Language Processors:

To make artificial intelligence useful to us, it needs to understand and communicate in our language. Natural language processors are the study of how computers interact with

human language. It involves analyzing texts computationally and using mathematical models to understand different aspects of language.

4.7. Robots:

Computer-based programmable machines equipped with physical manipulators and sensors, extensively utilize artificial intelligence. These sensors can collect data, monitor various factors, and even make important decisions.

4.8 Data Mining:

Data mining involves uncovering hidden patterns and extracting new knowledge from extensive databases. It encompasses various algorithmic tools, including statistics, regression models, neural networks, fuzzy sets, and evolutionary models.

4.9. Computer Vision:

Also known as "Machine vision", is a scientific field that enables machines to see and understand images. It focuses on developing techniques for computers to recognize and interpret the content of pictures. Computer vision performs tasks like object detection and recognition. The ultimate goal is to develop visual interpretive skills similar to humans.

5. Artificial Intelligence in Education:

Fitria (2021) in her article *Artificial Intelligence in Education / Using Tools for Teaching and Learning Process* suggested that AI has been widely applied to various educational platforms as follow:

5.1. Virtual Mentors:

AI, particularly in the form of virtual mentors, plays a pivotal role in modern educational technology platforms, notably those online. Acting as a virtual mentor, AI aids in

personalized learning by offering feedback on learning activities and practice questions, along with recommending material for further study. One such example is Blackboard, a widely used application in universities, where professors can share notes, homework, quizzes, and tests, facilitating student interaction and assessment. Inspired by traditional whiteboards, Blackboard AI serves as a central hub for disseminating information, fostering discussions, and generating new insights. This AI system continuously learns and updates information to cater to students' needs and constraints, aiding in problem-solving and comprehensive learning experiences. Fitria (2021).

5.2. Intelligent Tutoring Systems (ITS):

They are adaptive teaching systems that utilize artificial intelligence to tailor instruction to students' abilities. Examples include ITS for dimensional geometry and others. ITS provides personalized education and feedback, adjusting to each student's characteristics and advancing them through increasingly challenging levels. Studies have shown positive outcomes, with students of all ages benefiting from ITS in various subjects, including English grammar (Alhabbash et al, 2016). Overall, ITS stands as a powerful tool for enhancing learning experiences and simplifying complex subjects.

5.3. Educational Games:

Educational games blend learning with enjoyment, offering interactive experiences that educate players. Examples like Duolingo and Khan Academy Kids teach various subjects and skills in engaging ways. Duolingo, for instance, teaches over 30 languages, while Khan Academy Kids covers reading, math, and social-emotional development. Quick Brain focuses on improving calculation speed, and Puzzle Kids offers mini-games to enhance memory, concentration, and logic. These games are designed to be fun while honing essential skills. Gamification theory, incorporating AI, is crucial in designing such games as stated by

Yunanto (2017). AI enhances gameplay by providing adaptive and immersive elements, as seen in Smart Edu RPG's model, which uses Appreciative Learning to maintain player engagement. This approach demonstrates how AI can be integrated into educational games to create dynamic and effective learning experiences Fitria (2021).

5.4. Personalized Learning:

An AI-driven approach, offers tailored educational services similar to personal assistants, enhancing learning quality and effectiveness. Platforms, like Khan Academy, Duolingo, exemplify the application of Personalized Learning, customizing learning paths based on user needs and abilities. AI analyzes user data to recommend learning solutions, manage study schedules, and optimize learning processes. While AI in education facilitates personalized learning experiences by assessing student data and tailoring study plans, it's essential to remember that technology serves as a tool and cannot fully replace the role of a teacher, particularly in addressing affective and moral aspects of education. The integration of AI should prioritize enhancing learning outcomes while maintaining the humanistic values inherent in education.

5.5 Automatic Assessment:

AI's automatic assessment capabilities streamline quiz and test creation and correction processes for teachers and tutors, eliminating the need for manual question preparation and grading. Platforms, like canvas, offer features for creating quizzes and tests with ease, allowing teachers to share quiz links for online student participation and automatic result collection. This automation not only reduces administrative burdens but also enhances teacher efficiency by providing more time to focus on students' progress and teaching improvement. AI's ability to learn and provide personalized recommendations further

enhances its role in education, as seen in the evolution of English teaching systems to offer more effective instruction.

6. Benefits and Challenges of Artificial Intelligence in Education:

(Sadiku et al, 2022) in his book *Artificial Intelligence in Education* talks about Benefits and Challenges of Integrating AI in Education.

6.1 Benefits: AI tools are revolutionizing education, making global classrooms accessible to all. These tools enhance learning experiences, support students, educators, and administrators, and are widely used in education today. Key benefits include:

6.1.1 Flexible Learning: AI-based applications allow students to learn at their own pace and receive real-time feedback from teachers.

6.1.2 Virtual Mentors: AI platforms track students' progress, acting as virtual mentors.

6.1.3 Enhanced Engagement: Technologies like VR and gamification create interactive and personalized learning experiences.

6.1.4 Promoting Equality: AI can bridge educational gaps, providing equal opportunities for students.

6.1.5 Teacher Diversity: Educational platforms connect students with teachers from various countries, offering diverse perspectives.

6.1.6 Personalized Learning: AI-driven personalized learning transforms curricula and education as a whole.

6.1.7 Teacher Support: AI assists educators by handling administrative tasks and saving time.

6.1.8 Accessible Information: Artificial intelligence provides teachers with comprehensive information anytime.

6.1.9 Global Education: AI enables global classrooms, promoting cooperation and communication across borders.

6.1.10 Cost Efficiency: AI reduces learning costs and simplifies exam proctoring.

6.1.11 Efficiency Enhancement: AI streamlines repetitive tasks for teachers and schools, benefiting classroom interactions, coursework, and administrative processes.

6.1.12 Competitiveness: Educators recognize AI as a competitive advantage, equalizing education and distinguishing institutions that adopt it.

6.1.13 Inclusivity: AI designers must prioritize inclusivity, considering diverse capabilities and avoiding biases during the design process.

6.1.14 Automation: Automation, especially in grading, frees up teachers' time for more impactful activities.

6.2 Challenges:

6.2.1 Privacy Concerns: Students value privacy, especially regarding their learning styles and capabilities.

6.2.2 AI Limitations: While AI enhances education, it cannot teach emotions like empathy and compassion.

6.2.3 Unanswered Questions: The role and management of AI in higher education remain uncertain.

6.2.4 Trust Issues: Parents and administrators may be wary of AI's influence on student learning due to potential misuse.

6.2.5 Ethical Dilemma: Humans often face situations where they must choose between morality or conscience and preserving life. Another ethical dilemma in today's society is the tension between humanism and technological advancements.

6.2.6 Cost: Developing and implementing AI-based methods can be expensive and time-consuming, especially for public educational institutions. However, as AI technology becomes more widespread, costs are expected to decrease.

6.2.7 Lack of Personal Connection: Machines lack social skills and personal connections that humans naturally possess.

6.2.8 Student Experience: Students, particularly those without prior experience, may struggle to understand AI and machine learning (ML). Presenting AI concepts appropriately, especially in high school settings, is crucial.

6.2.9 AI Literacy: Promoting AI literacy is essential for the existing workforce. AI literacy encompasses understanding methods, application, and evaluation of AI. It equips graduates with problem-solving skills for the fourth industrial revolution.

7. AI Tools Used in Academic Writing

The integration of artificial intelligence (AI) in academic writing has not only changed the field but also significantly improved several aspects of the writing process. These technological advancements have led to enhanced efficiency and quality in academic work, simplifying various tasks for researchers and scholars. AI tools now play a crucial role in supporting academics as they delve into complex issues and ideas. From assisting with research and organizing concepts to providing grammar and style suggestions, these tools have become indispensable in modern academic writing. According to R. Golan et al (2023) those are the current AI tools that can be used in academic writing.

7.1. For literature Review:

7.1.1 Semantic Scholar: It offers access to scientific literature across various academic domain. Researchers can efficiently locate relevant papers and studies to support their own research or writing. Writers can also utilize this tool to discover new papers and authors and institutions focused on related subjects.

7.1.2 Penelope.ai: It analyses and understands large sets of text, like scientific papers or research articles, to help writers identify fundamental themes, concepts and trends in the literature.

7.1.3 Elicit: It helps scientific writers discover published manuscripts that might not be regularly indexed by existing databases, enabling the exploration of emerging research that can support their own writing.

7.2. For Writing:

7.2.1 Writefull: It enhances grammar, style and readability of written texts. It can help researchers submit more polished and professional writing.

7.2.2 Grammarly: developed in the twenty-first century , it is an automated writing evaluation program, it has been considered as a simple tool that assist students and academics by checking for spelling, grammar, and punctuation errors and providing related and useful feedback, including correction and recommendations to make the writing more readable, clear, precise, effective, mistake-free, and impactful, all while maintaining a high rate of accuracy and evaluation speed (Grammarly, 2017).

7.2.3 CoSchedule Headline Analyzer: It is a tool that specifically helps with creating manuscript. It can analyze inputted headlines and suggest modifications based on word

balance, length and structure. CoSchedule aids writers create headlines that are more engaging and effective.

7.2.4 Quill Bot: Is a tool that uses machine learning algorithms to simplify syntax complexity and increase clarity.

7.2.5 Wordtune: Zhao (2022). Defined Wordtune as an AI- powered writing assistant, which offers writers the ability to enhance their original phrases and sentences. By adjusting sentence structures or substituting words with synonyms.

7.2.6 ChatGPT: Is an OpenAI tool with a chatbot–user interface that helps improve writing by making it clearer and more refined. It can also be used to plan study design and statistical approaches.

7.3. Combined literature review and writing:

7.3.1 Cohere: It can be used by researchers and scientific authors to generate summaries, outlines and entire manuscript sections based on a given set of sources.

8. Advantages and Disadvantages of Using Tools of Artificial Intelligence:

The Article written by Bahamman (2023). Talks about Advantages and Disadvantages of Using AI Tools to Improve Academic Writing.

8.1 Advantages of Using AI Tools in Academic Writing:

8.1.1 Efficiency and Automation: AI tools can automate repetitive tasks, such as grammar checks, proofreading, and formatting. Researchers can save time by relying on AI for tasks like literature review and citation management.

8.1.2 Enhanced Language and Style: AI-powered writing tools can suggest improvements in grammar, style, and readability. Writers receive real-time feedback, leading to better-written content.

8.1.3 Plagiarism Detection: AI can identify potential instances of plagiarism, ensuring academic integrity. It helps writers avoid unintentional plagiarism by highlighting similarities with existing work.

8.1.4 Data Analysis and Insights: AI can analyze large datasets, extract relevant information, and provide insights. Researchers can make data-driven decisions and strengthen their arguments.

8.2 Disadvantages of Using AI Tools in Academic Writing:

8.2.1 Lack of Personalization: AI tools provide generic feedback, which may not address individual writing needs. Writers may miss personalized guidance from human mentors.

8.2.2 Risk of Overreliance: Relying solely on AI feedback may hinder writers' ability to develop critical thinking and writing skills independently. Writers should use AI as a supplement, not a replacement.

8.2.3 Bias and Fairness: AI algorithms can inherit biases present in training data.

Writers should be cautious about biased recommendations or skewed perspectives.

8.2.4 Interpretability Challenges: Understanding how AI arrives at specific suggestions can be challenging. Lack of transparency may lead to confusion or mistrust.

8.2.5 Ethical Concerns: AI-generated content may raise ethical questions, especially in research and scholarly work. Writers must ensure proper attribution and originality.

Conclusion

In conclusion, the integration of Artificial Intelligence in education represents a crucial shift towards creating more personalized and effective learning experiences. AI technologies not only streamline administrative tasks and enhance curriculum design but also play a crucial role in improving students' academic writing skills. By utilizing AI-powered tools, like grammar and plagiarism checkers, writing assistants, and feedback systems, students can receive instant feedback, tailored suggestions for improvement, and a deeper understanding of writing conventions. This personalized feedback loop fosters a culture of continuous improvement, equipping students with the necessary skills to enhance their academic writing and critical thinking abilities. As we continue to harness the power of AI in education, it is evident that these innovative tools offer valuable support in nurturing students' writing proficiency, allowing them to excel academically and thrive in the ever-evolving digital landscape of education.

Chapter two: Academic Writing

Introduction:

Academic writing serves as a foundational pillar in scholarly communication, providing a formal platform for the exchange of knowledge, ideas, and research findings within academic circles. It follows a structured and disciplined approach, emphasizing clarity, precision, evidence-based arguments, and adherence to established conventions and citation styles. Academic writing aims to contribute new insights, advance scholarly discussions, and demonstrate a deep understanding of the subject matter. This genre of writing is characterized by its objectivity, formality, and reliance on credible sources to support arguments. As a critical skill for students, researchers, and academics, academic writing plays a crucial role in shaping intellectual discourse, fostering critical thinking, and paving the way for the advancement of knowledge in diverse fields of study.

1. Definition of Writing:

According to Douglas and Frazier (2001, p.336). Writing is not merely a mental and cognitive process. Instead, they view it as a thinking process that involves various stages. Writers can plan, revise, and refine their work before it is released or published. In their perspective, writing is an active performance that results in a tangible written piece, subject to review and editing.

2. Definition of Academic Writing:

Academic writing is one way of writing and can be defined in many ways. One definition states that academic writing is writing that is “clear, concise, focused, structured and backed up by evidence. Its purpose is to aid the reader’s understanding” (University of Leeds, 2019).

Academic writing, utilized in educational settings like high schools and universities, stands distinct from creative and personal writing. While the latter forms embrace informal expressions, including slang and abbreviations, academic writing demands a formal tone, eschewing such casual language and insisting on complete, systematically organized sentences. English academic writing may diverge from that in your mother tongue, with unique conventions in vocabulary, grammar, and structuring of ideas that might appear awkward or redundant. It is important to recognize that these differences do not imply superiority or inferiority; they are simply variations in expression. (Alice. O, Ann H. 2007.)

3. The Writing Process:

In the field of education, writing is a crucial skill that empowers students to achieve their academic goals effectively. According to Langen (2009). The writing process is divided into four main stages: prewriting, writing the first draft, revising, editing and proofreading. These stages play a vital role in helping students develop and refine their written work to communicate their ideas clearly and persuasively.

3.1 Prewriting:

Prewriting is the first step of the writing process, encompassing all necessary tasks that must be completed before the final written product is produced. This stage includes techniques to assist in generating a topic for writing Hafidz, M. (2018). According to Zemach and Lisa (2005). Before commencing the actual writing, individuals decide on their topic and formulate a plan. This process, known as prewriting, is crucial as it allows students to gather and organize their ideas. Prewriting involves brainstorming, researching, and planning. This stage is important as it lays the foundation of the entire writing process.

3.2 Writing the First Draft:

The second step is drafting, or writing the first draft. In this stage, students gather the ideas they generated during the pre-writing stage and compile them into sentences and paragraphs. The focus is on getting ideas down on paper without worrying about grammar, spelling, or other technical aspects of writing. During this phase, students write their sentences sequentially. While drafting, writers may encounter difficulties. One strategy to overcome these challenges is to leave blank spaces and write "Do later" for sections needing further attention. Additionally, in the initial draft, spelling, grammar, and punctuation can be disregarded. The focus should be solely on expressing ideas and developing supporting arguments (Langan, 2009).

3.3 Revising:

After drafting, the next step is revision. During this phase, the focus is on rearranging sentences to ensure coherence and clarity. Students concentrate on refining grammar, and they have the flexibility to add, delete, or rearrange sentences as needed. The goal of revision is to create a cohesive connection between the main ideas and supporting details (Langan, 2009). According to Fulwiler (1988, p.167). Revision is a type of conceptual work in which students reread, rethink, and rewrite their ideas on paper until they match what they are thinking in their heads. Rethinking their approach, topic, argument, evidence organization, and conclusion, as well as experimenting with change, is what revising entails.

3.4 Editing and Proofreading:

According to Zemach and Lisa (2005). The final step in the writing process is editing and proofreading. During editing, the focus is on selecting the most relevant and engaging sentences to enhance the topic According to the University of Toronto (n.d).Editing and

proofreading are the final stages of writing. They involve carefully checking each sentence, with editing focusing on clarity and logic, and proofreading on grammar, punctuation, and spelling. After proofreading, your writing is ready for publication.

4. Types of Academic Writing:

Academic writing is a critical skill (Types of Academic Writing, 2022). Encompassing four main types: Descriptive, Analytical, Persuasive, and Critical Writing. Each type serves a unique purpose and employs specific language features.

4.1 Descriptive Writing: This type of writing focuses on conveying straightforward facts and details, addressing questions such as "what," "where," "when," and "who." It is often used to summarize articles or detail experimental outcomes.

4.2 Analytical Writing: Going beyond description, analytical writing organizes facts into patterns and examines their significance. It asks questions like "What does this mean?" and uses verbs such as "analyze" and "compare". To improve analytical writing, it is essential to plan thoroughly, structure your writing around specific analytical themes, and ensure clarity to guide the reader through your analysis.

4.3 Persuasive Writing: Building on analysis, persuasive writing adds your viewpoint, often found in essay discussions and conclusions. It is crucial to support your arguments with evidence from research or literature. Strategies for persuasive writing include researching other opinions and discussing ideas with others to gain new insights.

4.4 Critical Writing: This form of writing, common in research and advanced academic contexts, encompasses features of persuasive writing but adds the element of considering multiple points of view, including your own (Types of Academic Writing, 2022). In critical

writing, it is important to accurately summarize the work, evaluate the merits of the argument or interpretation, formulate opinions, and provide evidence to support your viewpoint.

5. Academic Writing Genres:

According to Sheldons (2019.p.4)." Genres are social actions used to achieve a particular purpose for a particular audience and context. The ability to understand used genres is part of becoming a member of a given community. Academic English has spoken genres including lectures, seminars, presentations..., as well as written genres such as essays, reports..."

The most common genres that students encounter in their academic journey are essays, research proposals, dissertations, articles. Each of these genres has its own characteristics and purposes that students need to understand in order to produce effectively with academic tasks.

5.1 Essay: An essay is a document that has a defined structure, an introduction, a body and a conclusion. According to Zemach and Lisa (2005). An essay is a written piece that focuses on a single topic with a central main idea. It usually consists of at least three paragraphs, but in academic writing, a common length is five paragraphs. It involves three main parts: the introduction, the main body, and the conclusion. The introduction introduces the topic with general ideas and includes a thesis statement, which is the main idea of the essay. The main body paragraphs support the thesis statement, and the conclusion summarizes the thesis and supporting ideas.

5.2 Research Proposal: A research proposal is a paper that describes the key aspects of a future study, along with the approach to be used to successfully and logically carry out the investigation. (Busha and Harter 1980) as cited by Tiwari (2023).

According to Tran (2022). A research proposal is a written outline that describes the objective, importance, and real-world application of a research project. Moreover, creating a research proposal is the first step in a research project. Before you can begin your research, it needs to be approved, whether by a professor, thesis advisor, or supervisor. It's crucial to make your proposal strong; if it is rejected, you may not receive the funding you need or be able to progress in your graduate studies.

5.3 Dissertation: A dissertation is an original research project conducted at the academic level to assess a student's skills, abilities, and knowledge, indicating their potential performance in their chosen field. According to Kerchner (1994). “Dissertation is a demonstration of researcher skills”.

Choosing a topic for a dissertation is crucial as it directly impacts the evaluation of the researcher's abilities. Often, weeks or even months are spent selecting a topic that is relevant and has scope for further research, building on existing studies. A dissertation is built upon the foundation of others' work or research, aiming to contribute new knowledge or experiences to the existing body of knowledge. (Agrawal.2013)

6. Characteristics of Academic Writing:

Gillett (n.d) claims that, “academic writing in English is linear, that is, it is centered on one point with every part contributing to the main line of argument, without digressions or repetitions”. Its objective is to inform rather than entertain. Yet, he identifies eight features of academic writing, namely complexity, formality, objectivity, explicitness, precision, accuracy, hedging, responsibility, organization, and planning.

6.1 Complexity: Written language is more intricate compared to spoken language. It consists of longer words, a higher density of vocabulary, and a more diverse and specialized lexicon.

It often utilizes noun-based phrases more frequently than verbs, which aids in constructing concise and meaningful expressions.

6.2 Formality: Academic writing tends to be formal, requiring the avoidance of colloquial words and expressions commonly used in casual conversation Mateus, (2017, p.6). States that in academic writing “It is, more often than not, advisable to use Standard English words and expressions (i.e. we must employ words of classical origin [Greek and Latin] instead of everyday words or expressions). In this case, we are expected to avoid using labeled informal, slang, offensive, taboo, etc... “

6.3 Precision: In academic writing, facts and figures are given precisely. It is advisable to avoid excessively long sentences with multiple clauses as they can be challenging to understand. The goal is to prevent ambiguity and maintain conciseness, precision, and specificity Mateus, (2017).

6.4 Objectivity: Academic writing maintains an objective tone rather than a personal one. This style minimizes the use of words referring to the writer or the reader, focusing instead on the information and arguments being presented. Consequently, academic writing often favors nouns and adjectives over verbs and adverbs, placing greater emphasis on the content being communicated. According to Mateus (2017). Academic writing aims to avoid personal pronouns and possessive forms. It also focuses on constructing sentences where the main emphasis or strength is at the end, particularly in sentence structures.

6.5 Explicitness: In academic writing, it is crucial to clearly indicate the relationships within the text. The writer must ensure that the connections between different parts of the text are apparent to the reader. This can be achieved through the deliberate use of various signaling words.

6.6 Accuracy: Academic writing employs precise vocabulary, particularly in fields where terms have specific and distinct meanings. For example, in linguistics, the terms "phonetics" and "phonemics" are clearly differentiated, a distinction not typically made in general English usage. Moreover, in academic writing, it is important to adhere to certain guidelines: (a) write in complete sentences with a subject and a finite verb, (b) vary the lengths of your paragraphs and sentences, (c) use a variety of sentence constructions and ensure correct subject-verb agreement, and (d) choose the most appropriate tense for your topic. (Lutrin & Pincus, 2009) as cited by Mateus (2017).

6.7 Hedging: Another key aspect of academic writing is the use of cautious language or hedging, which expresses probability rather than certainty (Hyland, 1997). It is very important to decide your position on a topic or the certainty of your assertions.

6.8 Evidence: Mateus (2017). Suggests that in academic writing, claims, points, or suggestions should always be backed by relevant information, staying focused on the main topic without digressing. The focus should be on existing shared knowledge as well as new information, such as the latest data that supports your opinions or theories. Academic research is expected to reference previous studies in the field.

6.9 Organization: Academic writing is characterized by its well-organized structure, with smooth transitions between sections. Transitioning from one idea to another should be done logically and sequentially, ensuring a smooth flow of ideas Mateus (2017).

7. Academic Writing Challenges:

Lucantoni (2019), in his discussion on academic writing, highlights several challenges faced by learners transitioning from general English to academic English writing.

7.1 Mastery of Academic Writing Convention: Students often struggle with adhering to use specific formats, guidelines, and a formal tone. Elements, such as structure, grammar, spelling, and vocabulary can pose challenges.

7.2 Generating and Communicating Ideas: Expressing ideas in a clear and coherent manner can be daunting. Constructing well-reasoned arguments and conveying thoughts effectively are essential skills.

7.3 Applying Knowledge across Disciplines: Academic writing requires the ability to apply knowledge in diverse contexts. Transferring skills from one subject area to another can be tricky.

7.4 Research and Source Usage: Properly researching and citing sources is crucial. Students may struggle with finding relevant materials and integrating them seamlessly into their writing.

7.5 Balancing Personal Expression and Formality: Academic writing often prioritizes objectivity and formal language. Students may feel restricted in expressing their own voice and creativity.

Conclusion:

Academic writing is commonly acknowledged as an essential skill for students to develop. Being adept at writing allows learners to express their ideas clearly and convincingly, which is valuable not only for academic achievement but also for career advancement and effective communication in different situations. Proficiency in academic writing goes beyond conveying thoughts; it includes organizing arguments coherently, citing sources correctly, and following the norms of academic communication.

Chapter Three: Data Collection and Analysis

Introduction:

This dissertation, as any other regular research paper, comprises two main chapters: a theoretical part that includes a literature review of both artificial intelligence and academic writing, and a practical part that focuses on the data-collection procedure to assess the usefulness of artificial intelligence in improving students' academic writing. The investigation employs two primary research instruments. First, a questionnaire was administered to thirty master-one students of English at Mila University Center to delve into their perspective on using artificial intelligence to improve their academic writing. Second, an interview was administered to eight Written Expression teachers to know their opinions towards artificial intelligence usefulness. Both instruments share the aim of exploring to what extent artificial intelligence can improve students' academic writing skills.

1. The Students' Questionnaire:

1.1. Aim of the Students' Questionnaire:

The primary aim of this questionnaire is to assess students' perceptions and experiences regarding the effectiveness of artificial intelligence to improve their academic writing.

1.2. Sample and Population:

The 30 students, who responded to the questionnaire, were selected from a total of 119 master-one students at the Mila University Center.

1.3. Description of the Students' Questionnaire:

The questionnaire is composed of 16 questions split between multiple-choice question, where participants select an appropriate answer, and open-ended questions, where they can provide their insights and justifications. It is divided up on four sections, each

serving a distinct purpose. It opens with a brief introduction to provide the participants with an explanation of the aim of the research. The first section attempts to gather general information about the sample, including the age, the gender, the goal behind studying English. The second section was tailored to glean insights into the students' attitudes towards academic writing; this section provides information about students' academic writing level along with the difficulties they face while writing. The third section aims to investigate the students' attitudes towards and familiarity with artificial intelligence. The last section discusses artificial intelligence as a strategy to enhance students' academic writing.

1.4. Analysis of Students' Questionnaire:

Section One: Demographic Information:

Q.1. What is your age?

Table 1: Students' Age.

Options	Age	%
20-25	27	90%
25-35	1	3,33%
Above 35	2	6,6%
Total	30	100%

This question aims to inform us about the respondent students' age. According to the table, (3,33%) were ranges between [25-35], and (6,66%) were above (90%) were ranges between [20-25], which is the normal age of the English master-one students.

Q.2. What is your gender?

Table 2: Students' Gender.

Options	Gender	%
Male	5	16,66%
Female	25	83,33%
Total	30	100%

The aim of this question is to reveal the student's gender. (83,33%) were female and (16,66%) were male. We notice the highest majority of master students are female. This high female' representation in the Foreign Languages Department at Mila University Center shows that females are more interested in completing and getting their master degree.

Q.03. What has been your goal behind studying English?

Table 3: Goal behind Studying English.

Goal	Number	%
For academic purpose	12	40%
Personal interest	10	33,33%
Communication abilities	5	16,66%
Career advancement	3	10%
Total	30	100%

This question aims to investigate students' goal behind studying English. The answers reveal that 12 of the participants (40%) are studying English for academic purposes, 10 of the participants (33,33%) are studying English for a personal interest, 5 of the participants (16,66%) are studying English for the sake of enhancing their communication abilities, 3 of the participants (10%) choose English for their career advancement. We notice that most of the students are studying English for academic purposes, which reflects the widespread recognition of English as a valuable language in the academic sphere.

Section two: Students Attitude towards Academic Writing

Q.4. What is your current academic writing level?

Table 4: Students' Academic Writing Level.

Level	Number	%
Very high	1	3,33%
High	4	13,33%
Medium	20	66,66%
Low	3	10%
Very low	2	6,66%
Total	30	100%

The purpose behind asking this question is to know students' current academic writing level. The results show that (66,66%) of the students' academic writing level is medium, and (13,33%) have a high level of academic writing, while (10%) of the students

have a low academic writing level, and (6,66%) of the students' level is very low. Only (3,33%) of the students say that they have a very high academic writing level. We notice that the highest percentage denotes that they have a medium academic writing level. This could be taken to mean that master-one students possess a basic understanding of academic writing conventions but may struggle with more complex challenges.

Q.5. Are you satisfied with your academic writing level?

Table 5: Students' Satisfaction with their Academic Level.

Options	Number	%
Yes	10	33,33%
No	20	66,66%
Total	30	100%

The aim of this question is to gauge students' confidence levels in their academic writing skills and identify potential areas for improvement. The answers reveal that 10 participants (33,33%) are satisfied with their academic writing level, while 20 participants (66,66%) are not satisfied with their level.

Q.06. How important do you think academic writing skills are in achieving your academic goals?

Table 6: Students' Opinion about the Important of Academic Writing.

Option	Number	%
Very important	26	86,66%

Somewhat important	4	13,33%
Not important at all	0	0%
Total	30	100%

The question aimed to get to the bottom of the students' opinions regarding the importance of academic writing skills in achieving their academic goals. The responses are as follows: 26 participants (86,66%) consider academic writing to be very important. 4 participants (13,33%) believe that academic writing is somewhat important, and no one indicated that academic writing is not important at all. The results show that the majority of Master 1 students, comprising (86,66%) of the participants, consider academic writing to be very important. This indicates a strong belief among students in the importance of academic writing in achieving their academic goals.

If it is important why?

Table 7: Students' Reasons for Considering Academic Writing Important.

Options	Number	%
It improves critical thinking	8	26,66%
Academic success and good grades	17	56,66%
Communicate complex ideas	5	16,66%
Total	30	100%

The question aimed to understand why students consider academic writing important. The responses are categorized as follows: 8 participants (26,66%) believe that academic writing is important because it improves critical thinking skills. 17 participants (56,66%) stated that academic writing is important for achieving academic success and obtaining good grades. 5 participants (16,66%) mentioned that academic writing is very important because it helps in communicating complex ideas effectively. This highlights the multifaceted importance of academic writing in the academic context.

Q.07. What are the difficulties you face in academic writing?

Table 08: Difficulties that Students' Face in Academic Writing.

Options	Numbers	%
Generating ideas and organizing theme	7	23,33%
Lack of vocabulary	7	23,33%
Grammar and spelling	2	6,66%
Integrating sources effectively	0	0%
Writing introductions and conclusions	3	10%
Academic conventions (citation, references)	10	33,33%
Plagiarism	1	3,33%
Total	30	100%

This question aimed to identify students' challenges and difficulties in academic writing. The responses are categorized as follows: (23,33%) highlighted difficulties in generating ideas and organizing them effectively. Another (23,33%) mentioned a lack of vocabulary as a challenge in their academic writing. (6,66%) reported facing problems with grammar and spelling. (10%) expressed difficulties in writing effective introductions and conclusions. (33,33%) struggled with academic conventions, specifically citing sources and referencing. (3,33%) mentioned facing challenges related to plagiarism. No participant reported difficulty with integrating sources effectively. The analysis reveals that students face a variety of challenges in academic writing, including generating and organizing ideas, vocabulary limitations, grammar and spelling issues, writing introductions and conclusions, and understanding and applying academic conventions. Although Plagiarism and source integration were less commonly mentioned, they still represent significant challenges. These findings underscore the complexity of academic writing and the need for targeted strategies to address these difficulties effectively.

Q.08. Which genre of academic writing do you consider to be the most difficult?

Table 9: Genres of Academic Writing that Students Consider as the Most Difficult.

Options	Numbers	%
Essays	8	26,66%
Research proposals	2	6,66%
Dissertations	20	66,66%
Total	30	100%

The question aimed to identify the genres of academic writing that students consider most challenging. (26,66%) identified essays as the most difficult genre in academic writing. (6,66%) mentioned facing difficulties with research proposals. The majority of the participants, (66,66%), revealed that dissertations are the most difficult genre for them in academic writing. This indicates that students perceive dissertations as the most challenging genre in academic writing, with essays also posing significant difficulties. Research proposals were mentioned as a challenging genre but to a lesser extent. These findings highlight the specific genres that students struggle with the most, suggesting a need for targeted support and resources in these areas.

Section Three: Students' Attitude towards Artificial Intelligence Tools

Q.09. Are you familiar with artificial intelligence?

Table 10: Students' Familiarity with Artificial Intelligence.

Options	Numbers	%
Yes	30	100%
No	0	0%
Total	30	100%

This question aimed to assess students' familiarity with the concept of Artificial Intelligence (AI). The responses indicate that All 30 students (100%) reported being familiar with Artificial Intelligence. The analysis demonstrates that Artificial Intelligence is a widely known and familiar concept amongst the students surveyed. It is noteworthy that all

participants indicated their familiarity with AI, suggesting its prevalent recognition and relevance in today's context.

Q.10. Have you ever used any artificial intelligence-powered tools or apps in your studies?

Table11: The students' Use of Artificial Intelligence in their Studies.

Options	Number	%
Yes	30	100%
No	0	0%
Total	30	100%

The question aimed to understand students' use of Artificial Intelligence in their studies. The results show that All 30 students (100%) reported using AI-powered tools or apps in their studies. This suggests that AI has become a prevalent strategy for learning and facilitating learning processes. It signifies a growing trend of integrating AI into education, highlighting its potential to enhance educational practices and outcomes.

Q.11. Do you think that integrating artificial intelligence tools in your studies could benefit you?

Table 12: Rate for Students' who Believe that Using AI tools in Writing is Beneficial.

Options	Numbers	%
Yes	29	96.66%
No	1	3.33%

Total	30	100%
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The question aimed to assess students' beliefs regarding the benefits of integrating artificial intelligence (AI) tools in their studies. The responses indicate:

29 students (96,66%) believe that integrating AI tools in their studies is beneficial. Only 1 student (3,33%) expressed a belief that integrating AI tools is not beneficial. This demonstrates that the majority of the students (96,66%) perceive integrating artificial intelligence tools in their studies as beneficial. This suggests a positive attitude towards AI's potential to enhance their learning experiences and outcomes.

If yes why?

Table 13: Students' Reasons for Believing AI -Tools are Beneficial.

Options	Numbers	%
It Provides a personalized learning experience	15	51,72%
It provides immediate feedbacks	10	34,84%
It enhances collaboration between students	4	13,79%
Total	29	100%

The question aimed to understand why students believe that integrating artificial intelligence tools in their studies is beneficial. The responses are categorized as follows: (51,72%) believe that AI tools are beneficial because they provide a personalized learning experience. (34,84%) mentioned that AI tools are beneficial because they provide immediate

feedback. (13,79%) stated that AI tools enhance collaboration between students. which indicates that students perceive several benefits of integrating AI tools in their studies, including personalized learning experiences, immediate feedback, and enhanced collaboration. These findings underscore the multifaceted advantages of AI in education, as perceived by students.

Section four: Students' attitude Toward the Integration of AI into Academic Writing

Q.12. Which AI tool for academic writing are you most familiar with?

Table 14: AI-tools for Academic Writing Students are Most Familiar with.

Options	Numbers	%
Chat GPT	11	36,66%
Chat GPT, google scholar, QUIL BOT	14	46,66%
Chat GPT, WORDTUNE	1	3,33%
Chat GPT, google scholar, Grammarly	2	6,66%
All the choices	2	6,66%
Total	30	100%

This question was designed to gauge the familiarity of students with AI tools for academic writing. The results showed that 11 of the participants (36,66%) chose Chat GPT alone. 2 of the participants chose all the tools (6,66%). 14 participants (46,66%) chose Chat

GPT, Google Scholar, and Quill Bot. 1 participant (3,33%) choose Chat GPT, Google Scholar, and Grammarly. From this data, we can deduce that Chat GPT is the common choice among all students, indicating its widespread acceptance and utility in academic writing. Google Scholar also appears to be a popular choice, especially when used in conjunction with Chat GPT, as seen in the preferences of (46,66%) of the participants. The data suggests that while there is a strong preference for Chat GPT, there is also an interest in using a combination of tools to address different aspects of academic writing. For instance, Google Scholar is likely used for research and sourcing information, Quill Bot for rephrasing and improving readability, and Grammarly for grammar and spelling checks. The combination of these tools reflects a comprehensive approach to academic writing, where AI assists not only with language mechanics but also with content development and research. The small percentage of participants who opted for a broader range of tools may reflect a preference for a diverse set of functionalities or a desire for a more extensive writing and editing process.

Q.13. Do you integrate AI tools into you writing?

Table 15: Students Integration of AI- Tools in their Writing.

Options	Numbers	%
Yes	27	90%
No	3	10%
Total	30	100%

This question was asked because the integration of AI tools in writing is a topic of significant interest, especially in academic circles. Out of 30 participants, 27 participants (90%) answered with “yes”, indicating a strong preference for integrating technology into the

writing process. 3 participants (10%) answered with “no” suggesting a minority either does not find these tools useful or prefer traditional methods.

If yes why?

Table 16: Students’ Reasons for Integrating AI-Tools in their Academic Writing.

Options	Numbers	%
To access a wider range of sources and information, to avoid plagiarism	14	51,85%
To receive feedback on grammar, spelling and vocabulary	1	3,7%
To paraphrase and summarize text and access a wider range of sources and information, to help with sentence structure and word choice.	5	18,51%
All the answers	7	25,92%
Total	27	100%

For those who answered “yes”: 14 participants (51,85%) said AI tools help them access a wider range of sources and information and avoid plagiarism. This highlights the importance of originality in academic writing and the need for extensive research. 1

participant (3,7%) mentioned that AI tools provide feedback on grammar, spelling, and vocabulary, which is crucial for ensuring the technical accuracy of writing. 5 participants (18,51%) pointed out that AI tools assist with paraphrasing and summarizing text, as well as improving sentence structure and word choice. This suggests a focus on the clarity and readability of their writing. 7 participants (25,92%) choose all the options, indicating that they find AI tools to be multifaceted and beneficial in various aspects of writing. The data suggests that the majority find AI tools to be beneficial for several reasons.

Q.14. Do you think that integrating AI-powered tools into your academic writing could yield a better acquisition of academic writing concepts?

Table 17: Students' Perceptions about the Impact of AI-powered Writing Tools on Enhancing Academic Writing Proficiency.

Options	Numbers	%
Yes	27	90%
No	3	10%
Total	30	100%

This question was asked to assess the effectiveness of AI tools in academic writing and their acceptance within the educational community. The majority of participants, 27 (90%), believe that AI-powered tools can enhance the acquisition of academic writing concepts by providing extensive research resources, ensuring originality through plagiarism prevention, and improving writing quality with grammar and style feedback. However, a small minority, 3 participants (10%), may have concerns about over-reliance on technology, potential misuse, and the loss of personal writing style. Overall, AI tools are seen as

beneficial supplements to traditional writing methods, provided they are used ethically and responsibly.

Q. 15. Do you believe that integrating AI tools into academic writing is effective? Explain?

This question was designed to assess whether students find AI tools effective in aiding their academic writing and, if so, how they help. The results showed that 28 participants (93,33%) find AI tools effective. Students reported that these tools revolutionize academic writing by offering functionalities that cater to various aspects of the writing process. AI tools are adept at providing new ideas, sparking creativity, and introducing innovative concepts that expand the writer's horizon. By enhancing writing style, these tools refine the writer's voice, ensure clarity, and maintain the academic tone required for scholarly work. They are invaluable for giving feedback, offering real-time suggestions that guide writers towards improved expressions and coherence. Another strength of AI tools is error-correction; they meticulously scan the text for grammatical errors and typos. Additionally, these tools play a crucial role in avoiding plagiarism, helping writers to maintain originality and integrity in their work. They support the learning process by providing educational insights into writing best practices and common pitfalls. Conversely, 2 participants (6,66%) believe that AI tools are not effective because they limit the creativity of the human mind.

Q16: How comfortable are you with the idea of artificial intelligence systems providing feedback on your academic writing and what concerns, if any, do you have about relying on artificial intelligence for improving your academic writing skills?

This question is designed to gauge students' comfort levels with AI systems providing feedback on academic writing, as well as to understand any concerns they might have about relying on such technology for improvement. The results showed that 28 participants (93,33%) were very comfortable, while 2 participants (6,67%) weren't. The data suggests a high acceptance rate (93,33%) for AI assistance in academic writing among the participants.

This could indicate a general trend of trust and positive perception towards AI tools in academic settings. The existence of a small group (6,67%) that is not comfortable points towards potential concerns or skepticism. Participants who expressed comfort with AI-generated feedback on academic writing cited several reasons. Firstly, they appreciated the efficiency of AI tools. These systems can handle mundane and repetitive tasks, such as grammar checks and proofreading, allowing writers to focus on higher-level content. Secondly, AI tools contribute to writing quality. They can identify and correct errors related to spelling, grammar, and punctuation, resulting in more polished work. Additionally, participants found the immediate feedback provided by AI beneficial. It allows for iterative improvements during the writing process, leading to better overall outcomes. Lastly, the accessibility of AI tools was highlighted. Writers can access these resources anytime, regardless of their physical location or time constraints.

Discomfort with AI Feedback: On the other hand, some participants expressed discomfort. Their concerns centered around several factors. First, there were doubts about the accuracy of AI feedback. Second, the concept of authenticity raised concerns. Participants feared that relying too heavily on AI might dilute their unique voice and originality. Finally, privacy emerged as a significant issue. Writers questioned how their personal data would be handled by AI systems, especially when dealing with sensitive academic content. These concerns contributed to their discomfort with using AI for writing improvement.

1.5. Discussion of the Results:

The survey clearly shows that a large number of participants favor using AI for writing academic papers the majority agreed that AI has improved their writing abilities, indicating a strong approval for these tools. The survey was detailed, covering four key areas: the background of the participants, their views on academic writing, their knowledge of AI tools, and how they use these tools in their writing.

Background Information: The first part of the survey gathered essential information about the participants, such as their age, sex, educational goals, and thoughts on the usefulness of AI tools. Most respondents were young women between 20 and 25 years old who used AI for school-related writing. This suggests that young female scholars might be more interested in completing their studies.

Views on Academic Writing: The second part measured how the participants judged their own writing skills, their satisfaction with those skills, the value they place on academic writing, and the difficulties they face with different types of writing. This section is crucial because it helps understand why participants turn to AI tools. Many felt their writing skills were average and were not content with that, emphasizing the role of writing in their education. They found writing dissertations particularly hard, which could be an area where AI tools are very useful.

Knowledge of AI Tools: The third section looked at how much the participants knew about AI, whether they used it, and the benefits they thought AI could bring to their academic work. The responses showed a broad awareness and acceptance of AI in academic writing. All participants were familiar with AI, and the majority had used it in their studies and found it beneficial.

Use of AI in Writing: The final section asked about the specific AI tools the participants were aware of, how they applied these tools in their writing, and how comfortable they were with this integration. The majority believed that using AI tools in education is beneficial, indicating a positive trend towards the adoption of technology in learning.

In conclusion, the survey clearly highlights a favorable opinion of AI tools in academic writing: students expressed a strong interest in improving their writing abilities and indicated a preference for AI tools and platforms. They believe that AI can significantly

benefit their academic writing by providing immediate and personalized feedback, which they perceive as valuable support in their writing process.

2. The Teachers' Interview:

2.1 Aim of the Teachers' Interview:

This interview seeks to gather information on teachers' perspectives regarding the utilization of Artificial Intelligence (AI) to enhance the academic writing of EFL students. To collect their opinions and perceptions, teachers were asked to respond to nine open-ended questions related to their views on this research topic.

2.2 The Sample and Population:

The written interview focuses on EFL Written Expression teachers, with eight participants selected from the broader group of EFL Written Expression instructors at the Mila University Center. The limited number of participants (08) was due to several teachers declining to participate, citing personal reasons. Due to time constraints expressed by most teachers, the interviews were conducted in written form. This approach was deemed sufficient to cover the majority of the topics intended for discussion.

2.3. Description of the Teachers' Interview:

This interview aims to gather insights into teachers' attitudes towards the use of Artificial Intelligence (AI) for improving students' academic writing. It comprises nine structured questions, each designed to elicit specific information. The questions cover teachers' familiarity and experience with AI, their observations of students' difficulties in academic writing, their own experiences with teaching academic writing, and their perceptions of potential applications of AI in this context.

2.4. Analysis of the Teachers' Interview:

Q.1/ Can you briefly introduce your experience as far as teaching Academic Writing is concerned?

This question aims to understand the teacher's background and how long they have been teaching Academic Writing. It also seeks to uncover their teaching methods and the challenges they face. Analysis of the responses from the eight teachers reveals a range of experiences, from one to seven years, with a focus on developing thesis statements, critical thinking, and research skills. Despite differences in experience, all teachers note initial student challenges and the need for ongoing guidance and practice. They also observe that while students have proficient English skills, they often lack the specific skills needed for Academic Writing. This inquiry is important for identifying teaching deficiencies and determining areas where students need more support to improve their academic writing.

Q.2/What are the common difficulties that students typically encounter in academic writing, and how these challenges impact their learning process?

This question seeks to identify the common challenges that hinder students from producing well-organized, clear, and academically strong papers. Feedback from eight teachers shows that students often struggle with the formal aspects of writing, like grammar and structure. Many students do not fully grasp what academic writing involves, which makes it hard for them to create coherent and logical texts. This lack of clarity and writing skills can significantly hinder their learning journey, as academic writing is crucial for showcasing knowledge and developing critical thinking. Understanding these common problems helps educators adjust their teaching methods to better support students in overcoming these challenges and improving their academic writing skills.

Q.3/Are you familiar with the idea of AI-systems providing feedback on students' academic writing?

This question aims to gauge teachers' awareness and understanding of AI-driven feedback mechanisms in academic writing. The fact that all eight teachers are familiar with this concept indicates a broad recognition of AI tools in the realm of academic writing.

Q.4/Have you ever attempted to integrate any AI programs into your teaching practices? If so, could you provide an example?

This question seeks to understand educators' experiences with AI in their teaching. Despite all eight teachers being aware of AI, none has applied it in their classrooms. The main reasons include limited teaching experience and the recent popularity of AI. This indicates a gap between knowledge of AI and its practical use in education, suggesting that teachers may need more support, training, and resources to effectively implement AI in their teaching practices for improved student learning outcomes.

Q.5/What impacts do you think artificial intelligence based-tools bring to the entire academic writing process?

This question is aimed at understanding educators' perspectives on the influence of AI tools on academic writing. The goal is to explore both the positive and negative effects these tools can have on the writing process.

From the responses of the eight teachers, it's clear that AI tools are seen as facilitators that can streamline the writing process. However, there is a mixed view that while AI tools can be beneficial, they also have potential drawbacks. The teachers believe that the impact of AI tools is largely positive when students use them correctly, as they can enhance the quality of writing and even inspire new ideas. On the other hand, over-reliance on AI tools could lead to negative outcomes, such as a lack of independent critical thinking or writing skills. This

analysis suggests that AI tools are valuable in the academic writing process when used as supplements to traditional learning methods, ensuring that students still develop the necessary skills while benefiting from the efficiency and support that AI provides.

Q.6/ Which areas of academic writing can AI make the biggest positive difference and be most advantageous?

This question seeks to identify the specific aspects of academic writing where AI tools could have the most significant impact. The aim is to understand the potential benefits of AI in enhancing the academic writing process and to understand where these tools could be most effectively applied.

Analyzing the responses from the 08 teachers, it is evident that they see AI as particularly beneficial in improving grammar and structure, expanding vocabulary, aiding in summarizing and paraphrasing, and providing research support. The mention of “all areas” by some teachers indicates a belief that AI has the potential to positively influence the entire academic writing process. This suggests that AI tools could serve as comprehensive aids, addressing a wide range of writing challenges and thereby improving the overall quality and efficiency of academic writing for students. The teachers’ responses highlight the versatility of AI in academic writing, suggesting that when used correctly, AI can be a powerful tool in the writing process, from the initial stages of research to the final touches of grammar and style.

Q.7/How do you think artificial intelligence tools can be effectively integrated into academic writing process?

This question invites educators to share practical methods for incorporating AI within the academic writing framework. The objective is to identify strategies that leverage AI to strengthen the writing process. According to the teachers, AI can significantly enhance academic writing by improving clarity and accuracy, providing a platform for self-assessment

complemented by AI evaluation, delivering tailored feedback, and ensuring grammatical and structural integrity. This collective insight underscores the role of AI as a facilitative tool, not only for correcting errors but also as an educational resource that fosters a dynamic and engaging learning environment. Such integration of AI is seen as crucial for developing students' writing proficiency and independence, aligning with the broader goal of empowering students through technology.

Q.8/How would you guide students in using artificial intelligence tools while maintaining their own voice and originality in their writing?

This question is directed at uncovering methods educators can employ to ensure that AI tools enhance rather than replace the student's individual writing style. The 08 teachers agree to use AI tools as a supportive resource in academic writing. They suggest that students should first write on their own to develop their unique voice and ideas. Post-writing, AI tools can be employed for providing examples, guidance, and feedback, which helps students recognize and correct their errors. This method ensures that students can benefit from it without becoming unduly reliant on it.

Furthermore, the teachers recommended for workshops to teach students about AI tools, aiming to use them effectively while safeguarding their originality. The key message is that AI tools should aid learning, not replace the creative process. With this strategy, students can retain their personal writing style and enhance the technical aspects of their work, thus achieving a balance between skill enhancements and maintaining originality, all while being supported by AI in the demanding field of academic writing.

Q.9/ Is there anything you want to share about your experience with AI in academic writing, any additional insights, recommendations, or thoughts...etc.?

This question seeks to understand the educators' perspectives on the practical application of AI tools in enhancing students' writing skills without limiting their creativity. The underlying objective is to collect a diverse range of opinions and recommendations that could inform best practices in integrating AI into academic writing.

The responses indicate a cautious yet optimistic view of AI in education. While some educators have not personally used AI tools or integrated them into their teaching, there is a recognition of the potential benefits AI offers, particularly in language correction and academic training. The emphasis is on using AI to support and develop writing skills without becoming overly reliant on it. The collective advice is to see AI as a tool for improvement, encouraging students to use it thoughtfully and creatively. This question encourages reflection on AI's role in education and promotes a balanced approach to integration, ensuring it enhances learning outcomes without overshadowing students' individuality.

2.5. Discussion of the Results:

The collective insights from the teachers' interviews reveal a nuanced understanding of the role of AI in academic writing. The educators recognize the potential of AI as a tool for improvement rather than a replacement for the student's own efforts. They emphasize the importance of maintaining student's original voice and creativity, suggesting that AI should be used to enhance rather than limit the academic writing process.

From the discussions, it is clear that while the teachers have not integrated AI into their teaching, there is an overall positive attitude towards its use for language correction and as a means to train students in academic writing. The recommendation to use AI critically to ensure it serves as an aid and not a crutch highlights a shared concern about over-reliance on technology. The idea of organizing workshops to familiarize students with AI tools suggests a proactive approach to education, where students are not only users but also informed

evaluators of the technology. This educational strategy aims to empower students to use AI effectively, ensuring that they remain the primary agents in their learning journey.

In summary, the interviews suggest a balanced approach to integrating AI tools into academic writing, emphasizing its role as a supportive tool that respects and fosters student creativity. Teachers' responses provide guidance on effectively integrating AI tools into academic practices, ensuring it supports learning and skill development while promoting independence and originality in student writing. These results can confirm our hypotheses.

Conclusion:

In conclusion, the primary focus of this study is to illuminate both learners' and teachers' perceptions regarding the impact of artificial intelligence tools on enhancing academic writing skills. Additionally, it includes recommendations from teachers on how to utilize these tools effectively. To achieve the objectives of the study, both a questionnaire and interviews were used. The questionnaire was administered to Master's level students specializing in Didactics at Mila University Center, while the interviews were conducted with teachers of Written Expression. The questionnaire aims to identify the challenges students face in improving and learning academic writing and to evaluate their attitudes towards the use of artificial intelligence (AI) tools in this domain. The main aim of the questionnaire was to underscore the difficulties encountered by students, which included generating and organizing ideas, a deficiency in vocabulary, and struggles with academic conventions, such as citation and referencing. Moreover, the questionnaire intended to measure student attitudes towards AI tools, which could potentially aid them in addressing these obstacles. Through the analysis of data from both the questionnaire and the teacher interviews, this chapter has offered significant insights into the challenges of academic writing faced by students. It has, likewise, highlighted students' perspectives on the adoption of AI tools to tackle these

challenges. These findings are crucial for comprehending how AI tools can be strategically implemented to enhance academic writing abilities among students.

Pedagogical Implications and Recommendations

This study explores the usefulness of Artificial Intelligence (AI) in enhancing academic writing. The findings confirm AI as a valuable and effective tool in this field.

Recommendations for Teachers:

1. Encourage students to use AI tools for organizing ideas, and for receiving feedback on grammar, spelling, and vocabulary.
2. Emphasize the importance of academic honesty and responsible usage of AI to avoid plagiarism.
3. Provide workshops and training sessions for students on how to effectively use AI tools.
4. Advise students to practice regularly to improve their academic writing skills.

Recommendations for Students:

1. Use AI tools for feedback on grammar, spelling, organization, and vocabulary to enhance the quality of academic writing.
2. Utilize AI tools for citation, references, and management to ensure writing meets required standards.
3. Avoid over-reliance on AI and use it as a tool for feedback.
4. Practice writing both inside and outside the classroom in order to improve.

General Conclusion:

The central focus of this investigation is to shed light on the perspectives of both learners and teachers regarding the efficiency of AI instruments in enhancing students' academic writing abilities. To fulfill the objectives of this research, a mixed-method approach was employed, combining both a questionnaire and an interview: the questionnaire was administered to 30 master's students specializing in English at Mila University Center, while the interview was conducted with Written Expression teachers at the Department of Foreign Languages at the same institution, aiming to explore their insights on the impact of artificial intelligence tools on academic writing proficiency.

This study is structured into two primary parts: a theoretical framework comprising two chapters: artificial intelligence and academic writing and a practical part where a descriptive research methodology was utilized. Both a questionnaire and an interview were employed to fulfill the research objectives.

Regarding the key findings derived from the questionnaire analysis, the majority of EFL students believe that AI technologies can play a significant role in improving their academic writing skills. The teachers also recognize the benefits of students using this tool. Both students and teachers have a positive attitude towards incorporating AI tools. The study emphasizes the importance of students mastering the use of these tools while being aware not to rely too heavily upon them. Finding a balance is crucial to fully maximize the benefits of AI technologies without undermining fundamental writing skills.

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Appendix A**AbdElhafid Boussouf University Centre of Mila****Institute of Literature and Languages****Department of Foreign Languages****Students' Questionnaire**

Dear Student,

You are kindly invited to complete the present questionnaire which has been tailored to collect data for the accomplishment of a master's dissertation titled "investigating the usefulness of artificial intelligence tools in improving students' academic writing".

Your participation is greatly appreciated.

Section One: Demographic Information**Q.01.** What is your Age?20-25 25-35 Above 35 **Q.02.** What is your Gender?Male Female

Q.03. What has been your goal behind studying English?

For academic purposes

Personal interest

Enhancing communication abilities

Career advancement

Section two: Students' Attitude Towards Academic Writing

Q.04. What is your current academic writing level?

Very high

High

Medium

Low

Very low

Q.05. Are you satisfied with your academic writing level?

Yes

No

Q.06. How important do you think academic writing skills are in achieving your academic goals?

Very important

Somewhat important

Not important at all

If it is important, why?

It improves critical thinking

It is essential for academic success and getting good grades

Help communicate complex ideas

Q.07. What are the difficulties you face in academic writing?

Generating ideas and organizing theme

Lack of vocabulary

Grammar and spelling

Integrating sources effectively into my writing

Writing introductions and conclusions

Academic conventions (citation, references)

Plagiarism

Q.08. Which genre of academic writing do you consider to be the most difficult?

Essays

Research proposals

Dissertations

Others.....
.....

Section Three: Students' Attitude towards Artificial Intelligence Tools

Q.09. Are you familiar with artificial intelligence?

Yes

No

Q.10. Have you ever used any artificial intelligence-powered tools or apps in your studies?

Yes

No

Q.11. Do you think that integrating artificial intelligence tools in your studies could benefit you?

Yes

No

If yes why

It provides a personalized learning experience

It provides immediate feedbacks

It enhances collaboration between students

Section Four: Students' Attitude toward the Integration of AI into Academic Writing

Q.12. Which AI tool for academic writing are you most familiar with?

Chat GPT

Grammarly

Quill Bot

Google scholar

Wordtune

Q.13. Do you integrate AI tools into you writing?

Yes

No

If yes why

To receive feedback on grammar, spelling and Vocabulary

To access a wider range of sources and information

To avoid plagiarism

To enhance writing styles and clarity

To paraphrase and summarize text

To help with sentence structure and word choice

Others.....
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.....

Q.14. Do you think that integrating AI-powered tools into your academic writing could yield a better acquisition of academic writing concepts?

Yes

No

Q.15. Do you believe that integrating AI tools into academic writing is effective? Explain?

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Q16: How comfortable are you with the idea of artificial intelligence systems providing feedback on your academic writing and what concerns, if any, do you have about relying on artificial intelligence for improving your academic writing skills?

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Thank You.

Appendix B

Teachers' Interview

Dear teacher,

You are kindly requested to answer the questions below. Your feedback will be immeasurably valuable, and will provide a great help to us.

Q.1/ Can you briefly introduce your experience as far as teaching Academic Writing is concerned?

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Q.2/What are the common difficulties that student typically encounter in academic writing, and how these challenges impact their learning process?

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Q.3/Are you familiar with the idea of AI systems providing feedback on students' academic writing?

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Q.4/Have you ever attempted to integrate any AI programs into your teaching practices? If so, could you provide an example?

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Q.5/What impacts do you think artificial intelligence based-tools bring to the entire academic writing process?

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Q.6/Which areas of academic writing can AI make the biggest positive difference and be most advantageous?

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Q.7/How do you think artificial intelligence tools can be effectively integrated into academic writing process?

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Q.8/How would you guide students in using artificial intelligence tools while maintaining their own voice and originality in their writing?

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Q.9/Is there anything you want to share about your experience with AI in academic writing, any additional insights, recommendations, or thoughts...etc.?

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ملخص

إتقان مهارات الكتابة باللغة الإنجليزية كلغة أجنبية يشكل تحديًا كبيرًا للمتعلمين حيث غالبًا ما يواجهون العديد من العقبات ويقعون في أخطاء متنوعة. يهدف هذا البحث إلى دراسة فعالية أدوات الذكاء الاصطناعي في تعزيز قدرات الكتابة الأكاديمية لمتعلمي اللغة الإنجليزية. تسعى الدراسة أيضا إلى قياس انطباعات المتعلمين والمعلمين بشأن فائدة أدوات الذكاء الاصطناعي في هذا السياق. في سياق هذا العمل، تتمثل الأسئلة البحثية فيما يلي: 1/ ما هو تأثير أدوات الذكاء الاصطناعي على مهارات الكتابة الأكاديمية لطلاب اللغة الإنجليزية؟ 2/ كيف يمكن استخدام الذكاء الاصطناعي لتحسين كتابة الطلاب الأكاديمية؟ 3/ ما هي المجالات الأكاديمية المحددة التي يمكن لتقنيات الذكاء الاصطناعي دعمها بفعالية؟ ولإيجاد اجابات مدعمة بحثيا لهذه الاسئلة، قمنا باستخدام نهج مختلط والذي يتضمن استبيان تم توزيعه على 30 طالبًا من طلبة سنة أولى ماستر لغة إنجليزية ومقابلات مع 8 معلمين في قسم اللغات الأجنبية، في المركز الجامعي ميلة. تشير نتائج الدراسة إلى أن الطلاب والمعلمين على علم بالفوائد المحتملة لاستخدام الذكاء الاصطناعي في الكتابة الأكاديمية. بالإضافة إلى ذلك، اقر كل من الطلاب والمعلمون بدور الذكاء الاصطناعي في تقليل الوقت المستغرق في مراجعة المسودات وتقديم رؤى حول أنماط الكتابة التي يمكن تحسينها. كان الاتفاق العام بين المشاركين هو أنه عند استخدام أدوات الذكاء الاصطناعي بحكمة، يمكن أن تساهم بشكل كبير في تطوير مهارات التفكير النقدي والتحليلي الأساسية للكتابة الأكاديمية.

الكلمات الرئيسية: الذكاء الاصطناعي، مهارات الكتابة الأكاديمية، انطباعات الطلاب، انطباعات المعلمين، التحسين.

Résumé

La maîtrise des compétences en écriture en anglais en tant que langue étrangère constitue un défi majeur pour les apprenants, car ils rencontrent souvent de nombreux obstacles et commettent diverses erreurs. Cette étude examine le potentiel des outils d'intelligence artificielle pour réduire ces défis et améliorer les compétences en écriture académique. L'objectif principal est d'examiner l'efficacité des outils basés sur l'IA dans l'amélioration des capacités en écriture académique des apprenants en anglais. L'étude vise également à évaluer les perceptions des apprenants et des éducateurs concernant l'utilité des outils d'IA dans ce contexte. Dans le cadre de ce travail, les questions de recherche sont les suivantes : 1/ Quel est l'impact des outils basés sur l'IA sur les compétences en écriture académique des étudiants ? 2/ Comment l'intelligence artificielle peut-elle être utilisée pour améliorer l'écriture académique des apprenants ? 3/ Quels domaines spécifiques de l'écriture académique peuvent être efficacement soutenus par les technologies d'intelligence artificielle ? En réponse à ces questions, une approche mixte a été utilisée, impliquant un questionnaire administré à 30 étudiants en master d'anglais et des entretiens avec 8 enseignants d'expression écrite au Département des langues étrangères, Centre universitaire Mila. Les résultats de l'étude indiquent que les étudiants et les enseignants sont conscients des avantages potentiels de l'utilisation de l'IA dans l'écriture académique. De plus, les étudiants et les enseignants ont reconnu le rôle de l'IA dans la réduction du temps passé à réviser les brouillons et dans la fourniture d'aperçus des modèles d'écriture pouvant être améliorés. L'accord général parmi les participants était que, lorsqu'elle est utilisée judicieusement, les outils d'IA peuvent considérablement aider au développement de la pensée critique et des compétences analytiques essentielles à l'écriture académique.

Mots-clés : Intelligence artificielle, compétences en écriture académique, perceptions des étudiants, perceptions des enseignants, Amélioration.

