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**The Use of Artificial Intelligence Paraphrasing Tools in EFL Research Writing:
Master**

Two Students' Perspectives, Department of English, Guelma University

**A Dissertation Submitted to the Department of Letters and English Language in Partial Fulfillment of
the Requirements for the Degree of Master in Language and Culture**

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Dedication I

In the name of Allah, the most Gracious, the most Merciful.

I dedicate this dissertation to my **supportive parents**; without them, I would not be here

To my baby Taimo, the light of my life and the joy in my heart.

To my dear brothers, **Hakim**, and **Khaled**.

To my wonderful sisters, **Wissem**, **Fatma**, and **Nadjwa**, the most beautiful souls on earth.

To everyone I love, and who loves me.

To those who wished to be present today but could not.

Finally, to the girl whose life challenged deeply, yet gained the strength to stand on her
own, **Me**

Loubna FADEL

Dedication II

My success is only through Allah, upon him I have relied, and to him I return.

(Qur'an, 11:88)

To my family: my **loving mother, my hardworking father, and my caring brothers.**

Thank you for all the encouragement and support. With you, I was able to endure so much.

To the prettiest girl, **Yusra LAMARI**—

Thank you for being my friend, the first person I reach out to, and my all-along twin.

To my haven and home, **Stray Kids and Enhypen**—

Thank you for coming into my life and teaching me how to live. Thank you for shielding me and making me feel worthy. No one has ever hugged me more tightly or wiped my tears more gently. Thank you for walking with me and never leaving my side.

Just as importantly, to my one and only, **Park Sunghoon**—

Thank you for being the sun to my clouds, the shoulder I lean on, and the peace I seek.

The calm to my chaos and the relief to my stress.

Thank you for loving me and showing me how to love.

As promised, I will always carry your words with me:

“Give your best shot. You may miss the moon, but at least you’ll land among the stars.”

To me—an earnest and truthful thank you.

To the girl who cried, smiled, and endured.

Who faced many walls, yet chose to climb and pass.

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Abstract

The present study aims at investigating Master two students' perspectives regarding the use of artificial intelligence paraphrasing tools at the Department of English at Guelma University.

Writing a research in English as a foreign language presents significant challenges for students, many of them struggle with both writing and research skills, leading them to rely on artificial intelligence tools for support. Among these tools are artificial intelligence paraphrasing tools, in which students increasingly rely on them when writing their research.

This study hypothesizes that students hold positive attitudes toward the use of artificial intelligence paraphrasing tools in research writing. In order to test this hypothesis, a descriptive quantitative method was employed. A structured questionnaire was selected as a data gathering tool and was administered to 53 Master two students. The findings of the study indicate that the majority of students are familiar with artificial intelligence paraphrasing tools and frequently use them, especially chatgpt and quillbot. However, the results also reveal that some students face difficulties when using these tools. Based on these findings, the study recommends that students should be aware of the flaws of artificial intelligence paraphrasing tools, reduce their overreliance on them, and strive to become more independent in their academic work.

Keywords: Artificial intelligence, artificial intelligence paraphrasing tools, master two students' perspectives

List of Abbreviations

AI: Artificial Intelligence

AIPTs: Artificial Intelligence Paraphrasing Tools

APTs: Automated Paraphrasing Tools

EFL: English Foreign Language

NESs: Native English Speakers

NNESs: Non-native English speakers

NLP: Natural Language Processing

ML: Machine Learning

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French Summary: Résumé Arabic

Summary:

General Introduction

In the current academic environment, the integration of Artificial Intelligence (AI) in educational practices has become increasingly significant, particularly in writing and language learning. Among various AI applications, paraphrasing tools like QuillBot, Grammarly, and ChatGPT have gained traction for their ability to help students reformulate sentences while preserving the original meaning. These tools utilize advanced natural language processing (NLP) and machine learning (ML) techniques to produce grammatically correct and coherent writing that are contextually appropriate. This is particularly beneficial in the context of English as a Foreign Language (EFL), where learners often struggle to express complex academic ideas fluently and accurately, as these tools can assist in overcoming linguistic and stylistic challenges in research writing.

This dissertation examines the views of Master Two EFL students regarding the use of Artificial Intelligence Paraphrasing Tools (AIPs) in academic research writing. The study aims to investigate students' perspectives, attitudes of tool usage, and the perception of ethical concerns within an academic framework. Given that academic writing demands originality, clarity, and adherence to scholarly conventions, understanding students' reliance on AIPs is vital for evaluating their impact on language proficiency, academic integrity, and the cultivation of independent writing skills. The findings from this research will enhance the understanding of how such technologies are influencing research writing practices in EFL contexts.

1-Statement of the Problem

The writing process in academic settings includes several important steps, such as planning, drafting, revising, and editing. These steps help students organize their thoughts and create clear and well-researched papers. A key skill in this process is paraphrasing, which means rewriting information from sources in a student's own words while keeping the main idea. However, many students struggle with paraphrasing. Because of their limited vocabulary, poor grammar

, or a lack of confidence in their writing. These difficulties can affect their writing skills. To help with these challenges, (AIPTs) have become popular. These tools can assist students by rewording and reorganizing their content, making it easier for them to focus on their ideas. However, some students rely too much on these tools and stop trying to learn how to paraphrase on their own. Others might misuse them, i.e., copying without truly understanding the material. Similarly, Master two students at the department of English at Guelma University face different problems with regard to the paraphrasing process, particularly in the context of research writing. Many of these students struggle with rephrasing ideas effectively while maintaining the original meaning. Accordingly, they become dependent on other external tools, especially, when completing tasks like writing research papers, essays, and dissertations. In fact, AIPTs can be useful tools that facilitate the process of writing in general and paraphrasing in particular. However, they are a double-edged sword that if not used appropriately may not only impede students' writing skill development, but research skill as well.

2-Aims of the Study

This study aims to investigate students' perspectives on the use of AIPTs in research writing. More specifically, it attempts to explore students' attitudes towards AIPTs and their effectiveness. Additionally, it endeavors to investigate students' awareness of academic integrity and ethical considerations related to using AIPTs.

3-Research Questions

The current research addresses the following questions:

- 1-What are EFL learners' perspectives and attitudes on the use of AIPTs in research writing?
- 2- How do EFL students use AIPTs in research writing?
- 3- What are mostly used AIPTs by students?

4-Research Hypothesis

This study hypothesizes that:

-EFL M2 Students have a positive attitude towards the use of AIPTs in research writing.

5- Research Methodology and Design

5-1 Research Method and Data Gathering Tool

In order to investigate students' attitudes towards the use of AIPTs, this research followed a descriptive quantitative method. This method was chosen as it allows for the systematic collection and statistical analysis of numerical data. In order to collect the necessary data, a structured questionnaire was developed as the primary tool. The questionnaire was designed for

Master two EFL students targeting different aspects related to the use of AIPTs.

5-2 Population and Sampling

The sample of the study was randomly selected from the population of Master two students majoring in English at the Department of Letters and English Language, University of 8 Mai 1945, Guelma. The sample consisted of 53 students representing a substantial portion from the overall population of second-year Master's students enrolled during the academic year 20242025.

The selection of second-year Master's students is based on the assumption that EFL learners at this stage in their academic career. are typically engaged in more advanced academic activities and research-related tasks, such as preparing dissertations, writing critical essays, and delivering oral presentations. As a result, they are more likely to have experience with and informed opinions about the use of AIPTs in academic writing. So, this sample is expected to give insightful and reliable data.

6- Structure of the Dissertation

This dissertation consists of two main parts. The first part is theoretical, encompassing two chapters that focus on the literature review of research writing and AIPTs. The second part is practical; it includes a chapter dedicated to analyzing and discussing the results from the students' questionnaire, along with a general introduction and conclusion.

Starting with a general introduction that covers the problem statement, aims of the study, research questions, research hypothesis, population and sample of the study, data gathering tools, and the structure of the dissertation.

The first chapter addresses the theoretical background of research writing. It provides a definition of research writing along with the types and characteristics associated with it. Additionally, it discusses the structure, components, and process of research writing. The chapter concludes by highlighting the issues and challenges that learners may face while writing their research.

The second chapter deals with AIPTs. It starts with providing an overview of paraphrasing and its key aspects followed by an introduction to AIPTs and their origins. The chapter also presents the most common AIPTs, along with a description of their main features and functionalities. A comparative analysis between AIPTs and human paraphrasing is also provided. Moreover, the chapter tackles critical concerns in relation to academic integrity, particularly how the misuse of AIPTs may create ethical challenges. The chapter concludes by examining the impact of AIPTs on research writing and discussing their potential benefits as well as their limitations.

The third chapter is devoted to analyzing the students' questionnaire, it provides an overview of the research design and methodology. It also offers an analysis, interpretation, and description of the extracted data regarding students' views on using APITs in research writing. Additionally, the chapter summarizes the research findings based on the extracted data. By

the end of the dissertation, the general conclusion includes a summary of the research findings, pedagogical implications and recommendations, limitations of the study, and suggestions for future research.

Chapter one
EFL Research Writing

Introduction

Writing a research is a fundamental task that EFL students like any other university students must undertake in their academic journey, aiming at solving problems, finding solutions and sharing this knowledge with the world. This chapter provides an overview of research writing, it starts with definition of the term research, its types and characteristics. After that, the chapter discusses the structure and components of research paper along with the process students undergo to write an academic research. Finally, it explores the challenges faced by students while conducting their research.

1.1. Definition of Research

Research is a word made of two morphemes, the prefix *re* that means again and again or anew, and the verb *search* that means to examine and to test, combined together these two morphemes make the noun *research*, this latter refers to a systematic investigation in some fields of knowledge, undertaken to establish facts and principles (Grinell, 1993, as cited in Kumar, 2011).

In other words, it is a systematic study that solves problems using accepted scientific methods and that yields new, generalizable knowledge (Grinell, 1993, as cited in Kumar, 2011). In addition, Kothari (2004) claims that research is a formal, systematic, strict, and precise process that attempts to find knowledge using a variety of methods, such as experimentation, comparison, and observation. All this is to be achieved through objective, systematic procedures that are meant to solve problems or uncover new facts that can be interpreted correctly.

Likewise, the Department of Education defines research as the creation of new knowledge or the use of previous produced knowledge in a new creative way to generate new concepts

(Western Sydney University, n.d.)

1.2 Types of Research

Research has various types and forms each depends on the nature of the inquiry and the field of study, the following titles deal with the well-known and the important research types:

1.2.1 Qualitative vs Quantitative Research

There are two primary ways of conducting research, qualitative and quantitative. Kothari (2004, p. 3) provides a clear differentiation between the two. According to him: Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind.

In other words, quantitative research relies on facts, therefore it is scientifically valid. It frequently consists of real figures. However, qualitative research is unstructured and lacks rigid scientific planning, hence, viewed as messing around and vague (Pennink & Jonker, 2010). Likewise, quantitative research is defined as testing factual concepts using measurements of the relationship between variables. Where numeric data is altered into form for statistical analysis. A final report on a quantitative research paper needs to include an introduction, literature review, theory, methods, findings, and commentary. Whereas, qualitative research explores how people or groups make sense of social or human problems. It involves designing questions and procedures, gathering data from the participants, analyzing it from specific to general, interpreting it, and developing an elastic framework of the report (Creswell, 2009).

Nevertheless, Richards declares that “qualitative and quantitative data do not inhabit different worlds. They are different ways of recording observations of the same world.” (2005, as cited in Dornyei, 2007, p. 25). That is both types are not opposites nor quite different, but rather interconnected; they both record the same observation through different lenses, the first with pictures and words, while the other with numbers and statistics.

1.2.2 Applied vs Fundamental Research

Research can either be action/applied research or pure/basic/fundamental research. Applied research is concerned with the solution of human and societal issues and that provides solutions to real-world issues. More specifically, it provides solutions to existing problems in political, social, and industrial institutions. However, fundamental research seeks a deeper level of understanding, knowledge of the universe involves learning information in order to know it (Mackey, 2006).

Kothari (2004, p. 3) believes it focuses on “finding information that has a broad base of applications thus, adds to the already existing organized body of scientific knowledge” within areas such as biology, physics, and astronomy.

Kumar (2011) defines applied research as the use of research procedures, methods, and techniques for the collection of information on a specific problem or phenomenon. Such information can be used in policy formulation. While pure research is about testing and constructing theories and hypotheses with possible practical applications in the present or the future.

1.3 Characteristics of Research

Hollingsworth (2008) claims that any research that is “creative, ground- breaking research, often as a result of small, step-wise advances that result in a new way of thinking about a problem” (as cited in Carlsson, Kettis, Söderholm, 2011, p. 14).

According to aceto (2003) maintained that well-research needs logic, intelligibility and reality, that has evaluative information by mental process, interpretation, and reconstruction (Akkaya & Ayden, 2018).

Simply, a good academic research of any kind has to be clear, easy to understand, outstanding, and concise, and to be illustrated in a particular way by keeping cohesion and coherence within its subsections (Akin, 2009, as cited in Akkaya & Ayden, 2018).

The following are the most common characteristics discussed by Testbook and Uttarakhand Open University:

1.3.1 Generalizability

It is the degree to which the findings of the research may be generalized to the whole population (Testbook, 2025). In other words, while conducting a research and choosing the sample, this latter has to be an appropriate representation of the whole population. Therefore, the results have to be representative of and applicable to the entire population in addition the information obtained from the study should provide fair idea of the total population (Uttarakhand Open University, n.d.).

1.3.2 Controlled

Controlling variables and factors that may interfere with the results ensures that the study is isolated and being tested appropriately (Testbook, 2025). During the study of the relationship between the two variables, the study has to be set in a way that prohibits any outer factors from effecting this relationship (Uttarakhand Open University, n.d.).

1.3.3 Empirical

Empirical research uses observable and measurable evidence, as it proves facts through the collected data or throughout the experimentation, In this way, the findings are concrete and verified (Testbook, 2025). Any findings and conclusions coming from a research has to be drawn from firm data gathering, this proves that the research was conducted with rigorous methods and procedures (Uttarakhand Open University, 2025).

1.3.4 Systemic

To minimize errors and coherently concluding the study, the researcher has to plan a step by step systemic approach (Testbook, 2025). A careful process ensures the optimization of the resources used otherwise the outcomes will not be as expected (Uttarakhand Open University, 2025).

1.3.5 Reliability

The research gives similar results each time it is tested, which proves that the experiment, procedures and tools are well measured and calculated (Uttarakhand open University, 2025). In simple words, A reliable study gives unchangeable results, this means the outcomes of the study are constant over time (Testbook, 2025).

1.3.6 Validity

Validity is the extent in which the study measures what it aims to measure (Testbook, 2025). According to Uttarakhand Open University (2025) validity is based on the strength of numerous types of evidence. In research, validity is the ability to determine whether research findings, hypotheses, and propositions are true or not, i.e., whether validity measures what it should measure, it also ascertains that undergoing a research in order to find solutions to an issue in different conditions, provides a clear directions of the research activity.

1.4 Structure and Components of Research

According to Smith (2024), in order to clearly convey ideas and findings, the research paper must be composed of several important elements. That is, a clear and effective paper requires knowledge and interaction of the following elements:

1.4.1 Title Page

The title page is the first thing readers see when they read a research in writing the paper paper. It should give the readers an idea of the topic, like the cover of a book. A title page typically contains a title that has to be informative, brief, and convey its most significant details (Smith, 2024). It also contains names of individuals who assisted the researcher the paper, name of the researcher, the institution or organization name, running head, a brief version of the title, and page number. Occasionally, the researcher may include a note appreciating the individuals who funded his study or assisted him with it, because this note provides readers with the essential information they need (Smith, 2024).

1.4.2 Abstract

The very first things one reads in a research paper is its abstract. It invites readers to proceed with reading the work by offering a concise overview of the research problem, methodology, and conclusion. Researchers can highlight key findings or implications of the study in a wellwritten abstract, providing readers with an idea of the worth of the research (Smulatha & Nikhil, 2024). In addition, the abstract has to include opening sentence that addresses the aim and methods of the study, along with the results and the conclusion. The abstract has to be crafted carefully and properly in order for the readers to engage with it then read the full study (Conrad, 2023).

1.4.3 Introduction

According to Smulatha and Nikhil (2024), readers are invited to enter into the research paper through the introduction. It should present the thesis statement or the research question, mention the research problem, and give background information about the subject matter. The introduction engages readers and gets them ready for the topic at hand by giving a summary of the background and importance of the study. Furthermore, the reason behind the study could also be described in the introduction; identifying the purpose that the researcher expect to accomplish.

1.4.4 Literature Review

Conrad (2023) states that in the literature review section, the researcher provides a summary, synthesis, and critical evaluation of the subject. He chooses studies that contribute to the conceptualization and understanding of his research, provides logical continuity and connects the studies to each other, reveals research gaps and positions his paper, reports contradicting and supporting literature, and finally places his arguments based on the intellectual space he created when he formulated his literature review section (Conrad, 2023).

Moreover, theoretical models or conceptual frameworks that were used in prior research may also be part of the literature study. By analyzing such frameworks, researchers are able to determine the theoretical foundations of their research and discuss how their research adds to the general scholarly debate. This enriches the research paper and makes the readers aware of the theoretical context within which the research is being conducted (Smulatha & Nikhil, 2024).

1.4.5 Methods

In simple words, this section shows how the research was performed, it gives a description of the subjects that were involved in the study, design of the study, the used material and the procedures (University of California, San diego, Department of Psychology, n.d.). This section must be explained concisely and in clear terms so that readers can make sense of the methodology and assessment of the study. Clearly explained methodology makes the study trustworthy and also enables other researchers to replicate or expand the research findings (Smulatha & Nakhil, 2024).

According to Conrad (2023) unreliable methodology effects the whole research from process to results, discussion and conclusion. Because methodology is the pillar of the research, any flaw in this section can ruin the overall study.

1.4.6 Results

Results present the collected data and findings of any test. In reporting results, the researcher uses figures, tables, graphs... etc. He has to make sure not to manipulate the findings and refrain any biased judgments (University of California, San Diego, Department of Psychology, n.d.). Also, the researcher may include other data or sub-analyses that shed more light on the study problem in addition to the main results (Smultatha & Nikhil, 2024).

1.4.7 Discussion

Conrad (2023) believes that in discussion, the researcher reports his findings and any new insights. He sheds light on the aim of his study and how it fills the gap, and provides explanations and discussions of his findings.

Moreover, the researcher can mention the study's limitations, recognizing any confounding variables or biases that might have affected the findings. He also shows his dedication to transparency and scientific integrity by openly revealing these limitations (Smulatha & Nikhil, 2024).

1.4.8 Conclusion

By gathering the major findings and their implications, the conclusion offers a concise summary of the study work. It must also consider the importance of the study and offer possible contribution for future research. Readers are left with a permanent impression by a carefully constructed conclusion that emphasizes the significance of the study and its possible implications (Smulatha & Nikhil, 2024). The researcher ensures that the readers are left with a clear understanding of what contribution he has made to the field by providing a summary of the primary conclusions (Smulatha & Nikhil, 2024). The researcher also has to ensure that his conclusion, aim of the study, and the scope are all related. After that, he reports any implications that have to be considered (Conrad, 2023).

1.4.9 References

References is a list ordered alphabetically; it includes all sources cited and used during the study (University of California, San Diego, Department of Psychology, n.d.). Therefore, citing properly and providing all references ensures the avoidance of plagiarism. The list has to be systemic and complete as it helps in showing where the researcher brought his arguments. In addition, this list has to be written according to a specific referencing style (Conrad, 2023).

1.5 Process of Research

Stewart (2025) states that research process is a method used to collect data and information systematically. This process is built of several fundamental steps that have to be followed.

These steps are:

1.5.1 Choosing the Problem

Since the research problem cannot be borrowed, it must be properly chosen and derived from the researcher's ideas. The researcher must then come up with his own solution to the problem (Kothari, 2004). according to Mackey and Gass (2005), the inquiry question should be narrow and cover daily issues so it will be understandable and simple to respond to.

Any inquiry question that the researcher would like to respond to or hypothesis he would like to test can be his research problem to study (Kumar, 2011). In order to develop any problem, the researcher needs to have a clear idea about the subject and the appropriate research methodology (2011). Yegidis and Weinback (1991, p. 35) suggests that "first identifying and then specifying a research problem might seem like research tasks that ought to be easy and quickly accomplished. However, such is often not the case" (As cited in Kumar, 2011). Moreover, Kothari (2004) states that the proper-framed problem requires the researcher to keep a few important things in mind, e.g., avoiding over-taken topics since it is difficult to make some fresh contribution to them. The researcher should not select a polemic topic, too general and too specific issues should be avoided.

In an attempt to obtain proper research materials or sources, the research has to be in areas that are known and feasible. He has to carry out a pre-examination prior to the formulation of the research problem in a new field of research. The topic of study importance, the researcher's qualifications and experience, study cost, and the time factor all need to be the priority (Kothari, 2004). Pennink and Jonker divides the task of research into two categories: open and closed questions. The first category is looking at the topic in a general manner, where it is not known

beforehand what exactly must be investigated, However, the other category is not general, i.e., specialized and restricted (2010).

1.5.2 Hypothesis

Kothari (2004) defines hypothesis as an assumption or a collection of statements that serve as an explanation for a given phenomenon. That is, it is a formal question or prediction that must be tested using scientific methods to ascertain its validity, in which it should be specific, testable, narrowly defined, and clear. The independent variable (cause of an issue) and the dependent variable (or measure of the effect of the independent variable) form the hypothesis, which is a statement that researchers use to specify what they expect to happen in a study. Howitt and Cramer (2000) asserts that the role of the hypothesis is to both decide on the relationship between the two variables and to make hypotheses concerning what findings the study might have. They further add that there are two types of hypotheses. The directional hypothesis which is clear and which outlines the relationship between the independent and dependent variables. and non-directional hypothesis outlines the relationship between the two variables. However, according to Kothari (2004), the researcher attempts to establish the Alternative Hypothesis (H1), which indicates that there is some relationship between the two variables and that they are associated with one another, whereas the hypothesis which the researcher attempts to disprove is known as the Null or Zero Hypothesis (H0) and holds that the two variables are not related to each other.

1.5.3 Gathering and Analyzing Data

In any research process, the researcher uses different research tools to gather data and information that serves as a means to reach the desired results and solve any problems.

1.5.3.1 Gathering Data

In an attempt to obtain the data required to get the intended outcomes and to address any phenomena or issue, researchers tend to use a series of research tools, each tool tailored the study's specific needs, these tools are:

1.5.3.1.1 Case Study

The case study is the initial method of data collection. It deals with describing, understanding, and managing the individual (Woodside, 2010). In addition to being descriptive and qualitative, the case study investigates phenomena in real contexts and is not restricted to a certain approach; rather, it employs both quantitative and qualitative methods. In that regard, Duff (2008) claims that the case study is applied as a tool to generate new theories and hypotheses.

There are three primary types of case studies: Intrinsic case studies which aim to answer specific questions about a specific case. Instrumental example studies involve trying out a specific example in order to know a problem or theory well innately. The collective case study is interested in acquiring an in-depth knowledge by combining groups of single cases (Stake, 1994, as cited in Cohen et al, 2000).

1.5.3.1.2 Questionnaire

The essence of a questionnaire is creating accurate written questions for a group of people whose responses or opinions that help the researcher gain information on a problem or phenomena. In fact, questionnaires are among the most used research tools (Blaxter et al., 2006). In order to achieve the informants, comfort and trust, anonymity is required and the responses have to be maintained confidential (Cohen et al., 2000). Concerning the questions, they can be asked in various forms, yes-no questions, rating scales, open-ended questions, multiple-choice questions, and rank ordering (Cohen et al., 2000).

1.5.3.1.3 Observation

According to Kumar (2004), observation is a systematic and purposeful data collection tool where the researcher watches the behaviors and activities of the participants. The latter are the individuals or groups selected by the researcher as a research sample, on whom he can conduct an investigation and manipulate the conditions under which the phenomenon occurs. The researcher uses the observation tool to monitor the thoughts and responses of the participants, which will allow him to provide an extensive description and thorough investigation of participants' behaviors (Kumar, 2004). There are three forms of observation. The structured or standardized observation entails testing the hypothesis, as this latter has already been set and the data obtained from the observation are used to test or refute the hypothesis. In this case, the researcher has pre-determined what behavior will be observed and recorded (Cohen, et al., 2000). The second type is Semi- Structured Observation; which requires collecting by listening to and observing the participants to develop a hypothesis about a given problem. In the unstructured observation, the researcher is unaware of what he is looking for and devises a hypothesis after completing his observation. That is, there are no restrictions put on what would not be performed by the observer, and all of the behaviors in the episode under investigation are tracked (Cohen et al, 2000).

Observation steps begin with the researcher defining the aim of his research; he prepares what he wants to observe, then he identifies relevant variables to be observed and recorded. Before choosing the setting, he has to consider any factors that may effect his observation. After that, the researcher prepares a plan where he states the procedures, guidelines, data collection methods, and any specific instructions. Now the researcher starts his observation, he observes all subjects carefully and pays attention to any behaviors or events. During this, he has to maintain his objectivity throughout the whole process, and has to ensure that his data is being recorded systematically. After the observation, the researcher analyzes the collected data using appropriate techniques and draws meaningful conclusions (Testbook, 2025).

1.5.3.1.4 Survey

According to Cohen et al. (2000), a survey is a method of gathering information over a span of time with the aim of describing a situation as it is and pinpointing the relationships that exist among various occurrences.

In other words, “surveys are concerned with describing, recording, analyzing, and interpreting conditions that either exist or existed” (Kothari, 2004). That is, the survey is used in analyzing problems over a period of time, where people can offer useful data and assist the researcher in getting important information (Howitt & Carmer, 2000).

1.5.3.1.5 Interview

The interview is a two-way verbal communication between the respondents and the interviewers, where participants give their views concerning the world they are in and respond to questions on a specific topic (Cohen et al., 2007).

Through interviews, researchers can gain information about people's subjective experience and gain insights that cannot otherwise be obtained by employing other methods of research. They give insight into people's meanings, feelings, thoughts, and interpretation of a certain phenomenon. Finding recurring themes about that phenomenon can be based on data that reflect these perceptions (Stewart, 2025). This tool gathers qualitative, detailed data in the guise of words, ideas, and themes, rather than quantitative methods that gather data which can be statistically analyzed in numbers. Interviews permit researchers to gather evidence regarding people's experiences in a way that is attuned to the situation and the individual's point of view. Researchers can discover more about the phenomena they are investigating and the meanings that people give to their experience through conducting interviews (Stewart, 2025)

1.5.3.2 Data Analysis

The researcher proceeds to the next step, data analysis, once he has used one or more of the data collection tools outlined before. In that regard, Kothari (2004) states that the term analysis

is used to communicate the statistical and numerical data to signify the variables, relationship and to make inferences to solve the study problem.

“Having collected and analyzed the data, the researchers’ job is far from being complete because the results have to be written up and disseminated” (Dornyei, 2007). As a result, the researcher does some generalizations that reflect the actual significance of the study following testing the hypothesis (Kothari, 2004). Ortega (2005) asserts that the ultimate purpose of all research is to enhance human existence, and that this purpose is assessed both by the methodological rigor of the discipline and by its capacity to resolve social and educational issues successfully. In this sense, the major component of the researchers, tasks are sharing the findings with the public at large.

The results can be presented in three different ways: (1) Reader-friendliness is an essential requirement which ultimately should direct all research. The researcher should intentionally try to present the data in such a way as to increase the reader’s chances of being able to successfully understand it. (2) language and style that are accessible. (3) Telling a Story: in this approach, the researcher narrates the concepts and results in plain language with the objective of attracting the listeners to him through an interesting and engaging story that mirrors his passion in the subject. (AERA, 2002, as cited in Dornyei, 2007).

Kumar (2011) asserts that conclusion making is the final but most essential phase of the research process. Consequently, he outlines some essential elements, which are: application of statistical methods for verification of the validity of research findings in order to increase confidence on the part of the readers in relation to research; presentation of results sequentially and in a structured manner; and keeping results concise, unambiguous, reasonable, and laconic.

1.6 Research Challenges

Many researchers face different challenges and obstacles while conducting their research, these challenges and obstacles mostly occur during conducting the research, they may lead to

negative effects in results and findings. Some of these challenges and obstacles are presented as follow:

1.6.1. Poor Supervision

Spear (2004) mentions that among the most frequent grievances made by research students is infrequent or irregular contact with their supervisors. Supervisees are left to write their thesis alone, although with not much thoroughness, since they only meet their supervisors occasionally.

1.6.2 Topic

Students initial issue is selecting a research topic. Where finding a suitable topic that satisfies both supervisors, and students'; needs is considered a time-consuming task. The first of the two main reasons for this issue is the high expectations supervisors and students have about the topic. Second, the wide variety of subjects available for references to study, especially when students are unsure about their areas of interest, Hence, they might struggle to determine a proper scope of the subject being researched (Alsied & Ibrahim, 2017).

Similarly, taskeen et al (2014) state that the selection of a research topic is the first step in any research study, which begins by selecting the area of interest, and stipulating the problem that will be researched in the chosen field. At this process is regarded as one of the biggest research problems, since it is hard for researchers to choose a new topic due to the fact that they do not know how to choose a research topic and they do not consider the criterion or reason for doing so. They end up selecting topics that are irrelevant, narrow, vague and overdone...etc.

Hence, inadequate research, lack of confidence in the area of interest, and irrelevant reading on the subject are all perpetrators causing most researchers to have a problem choosing a topic and wasting much time in doing so (Taskeen, et al., 2014).

1.6.3. Time Management

Time management is one of the most important concerns of researchers in conducting research. Researchers tend to devote nearly all their efforts to the later phases, when they encounter problems in completing their work within the allotted time. They experience anxiety and stress as a result of their inability to manage time effectively in addition to other professional or personal reasons (Todd, et al., 2006).

“Time management skills boil down to organization, commitment and awareness and may be applied to a number of tasks in life one might decide to take on”. Accordingly, researchers ought to be cautious about how much time they can use in order to undertake their work, and adhere to the timeline (Dombeck & Wells-Moran 2006, as cited in Alsied and Ibrahim, 2017, p. 145).

1.6.4. Lack of Sources

According to Al-Qaderi (2016), researchers usually struggle to locate the most important references and sources from libraries because they are not usually found despite being essential for a comprehensive literature review, hence, an affective research work. Students failing to cite data from sources when writing research papers is also an issue that has been highlighted (as cited in Qasem and Zayed, 2019).

According to Cumming et al (2016), most studies conducted in EFL context revealed that students most likely to produce research writing often encounter rigorous processes and failures when producing their writing based on material obtained in the libraries where they study. In fact, the majority of the students’ time is spent looking for books they need, but in most cases, they do not even get to find what they are looking for. As a result, they postpone writing their research assignment and lose motivation to continue working on it (Qasim& Zayed, 2019).

1.6.5. Problems with The Sample

Taskeen et al. (2017) define sample as the number of individuals being selected to speak on behalf of the population for the research study. Nevertheless, researchers encounter challenges in determining the sample since they may not have been present, which can influence the research findings and generalization. Apart from that, proper sampling and sampling methods are needed for an effective and good research study.

1.6.6. Poor Writing Skills

Garg et al (2018) believe that the lack of research skills among researchers may be due to curriculum instructions pedagogies that are not aimed at teaching and practicing research methodologies, rather, more aimed at improving students in other skills. Accordingly, the research skills are superficial and rudimentary which means no specific criteria of research skills will be followed. Higher education plays a crucial role in imparting information and research skills required to conduct successful work, research literacy is a vital graduate attribute that students are expected to have. Indeed, the development of research skills is consistently considered as an underlying principle to researchers. That is, if no guidance or teaching is accessible to students, then the quality of research at graduate level may not be at a high level (Garg, et al., 2018).

Moreover, if students are not provided with research skills by academic mentors, they may create them on their own, which will be counterproductive to their effectiveness and success in conducting research (Garg, et al., 2018).

Likewise, Qasem and Zayed (2019) explain that writing research skills is a difficult skill, especially for EFL and L2. The majority of researchers lack the ability to express themselves and will always use the stylistic devices of their own language, attempting to write lengthy words, repeating ideas in relation to the research issue, and repeating statements without

focusing on the main point. This will reflect on their research project writing style, which may result in a weak study project.

Conclusion

Research writing is a vital task in any academic field. This chapter sheds light on the theories related to the main steps and principles of conducting a good research process. It explores the definitions of research, its types in addition to its characteristics. After that, it provides the main components of the research, its process such as choosing the problem, hypothesizing, analyzing the data and formulating conclusions. Then, it discusses the different tools to gather and analyze data. Finally, the chapter explores research challenges or obstacles that may face researchers when conducting their work

Chapter Two

Artificial Intelligence Paraphrasing Tools

Introduction

Academic writing is a complex mental task that EFL learners often struggle with due to various factors, including motivation and anxiety. A key challenge is paraphrasing, which many students misunderstand as merely altering words or sentence structure. However, teachers expect a deeper understanding and effective paraphrasing skills. Consequently, some students rely on tools to ease the pressure of writing academically, which can lead to a reliance on these aids over manual paraphrasing.

This chapter explores various ideas related to paraphrasing, organized under several distinct titles. It begins with a definition of paraphrasing and outlines various strategies associated with it. Next, the focus shifts to AIPTs, defining them and discussing the algorithms that power these systems, including NLP and ML. The chapter provides examples of popular AIPTs such as Quillbot, Scribbr, and ChatGPT. A comparison between AIPTs and human paraphrasing is presented, along with a consideration of how these tools relate to academic integrity, including discussions on addressing their misuse in academic settings. Finally, the use of AIPTs in research writing is examined, highlighting both the benefits they offer and the limitations they present in this context.

2.1 Definition of Paraphrasing

According to McInnis (2009), paraphrasing is one of the most sophisticated academic writing competencies, which is a practice standard in research writing (as cited in Alammar & Amin, 2023b). In the same context, Rogerson and McCarthy (2017) state that paraphrasing is a common practice in academic writing for demonstrating that students have understood what they have read and can support their arguments with relevant facts (as cited in Syahnaz & Fithriani, 2023).

Jihad et al. (2024) delve deeper into the meaning of paraphrasing; They say that paraphrasing means the process of restating a given piece of work in one's own words and retaining the

central ideas and facts of the given text. It requires the use of various words, phrases, and sentence arrangements in expressing analogous ideas, information, and opinions found in the given work

(as cited in “USING AI TOOLS IN PARAPHRASING THE ORIGINAL WORK AND THE PATCH WRITING IN RESEARCH PAPER WRITING,” 2024). Similarly, Hirvela and Du (2013) indicate that:

Paraphrasing is rewording one’s ideas by using different phrases, giving the citation, and rewriting the passage in a different style of written form. It could be concluded that paraphrasing is one of the techniques that needs to be mastered by students in using those ideas to conduct good writing (as cited in Azkar, 2021).

According to Dung (2010), non-native English speakers (NNESs), such as EFL students, find paraphrasing challenging because of limited vocabulary and less familiarity with complex grammatical structures than native English speakers (NESs) (as cited in Syahnaz & Fithriani, 2023). Ramadhani (2019) explains that these challenges make students not being able to write their research papers or projects. However, they can lead to inappropriate paraphrasing through accidental plagiarism and poor writing results (as cited in Alammar & Amin, 2023b). So, for mastering the art of paraphrasing efficiently, regular writing, enhancing their academic and general vocabulary, and extensive reading are the best solution (as cited in Syahnaz & Fithriani, 2023) .as a result, gaining research skills makes students being able to paraphrase in academic writing in addition to understanding what is read and being able to rewrite it in one’s own words (as cited in Alammar & Amin, 2023b).

2.1.1 Strategies of Paraphrasing

To create an effective paraphrase, students must possess strong reading comprehension skills. According to Watson et al. (2012), in order to shorten a piece of text, a reader needs to identify the main idea and express it in his own words. Therefore, it has been recommended

that paraphrasing has to be taught either before or alongside summarization (as cited in Miranda, 2021).

Key cognitive skills like comparing and contrasting, recognizing similarities and differences, and making inferences are essential for effective paraphrasing. Furthermore, a strong vocabulary is crucial for understanding texts and serves as a strong basis for paraphrasing, which also plays a vital role in reading comprehension (Faramarzi et al., 2016, as cited in Miranda, 2021).

Students can typically use various strategies and techniques to paraphrase a passage after thoroughly reading it multiple times and gaining a solid understanding of the topic. They often substitute words with synonyms, alter sentence structures, and reorganize ideas, among other methods. The following techniques are outlined by Wilhoit (2016)

2.1.1.1 Changing Words

It is a technique for rephrasing a passage involves substituting the author's words with synonyms. It is important to choose synonyms that are precise, suitable, and effectively express the same idea the author intends to convey.

2.1.1.2 Changing Sentence Structure

Altering the structure of a sentence involves reorganizing the sequence of ideas or switching the placement of dependent and independent clauses.

2.1.1.3 Combining Sentences

When rephrasing long passages, it helps to merge sentences. This allows students to summarize the content into fewer, clearer, and more concise sentences.

2.1.1.4 Unpacking Sentences

When a sentence contains a lot of complex ideas, it might be necessary to rewrite it in two or three sentences to effectively convey the same information.

2.1.1.5 Combining Strategies

When rephrasing a long text that includes multiple sentences, students will probably need to use and integrate all the strategies and techniques mentioned earlier in their writing.

2.1.1.6 Documentation

Plagiarism occurs when paraphrased content is not adequately cited or lacks proper source attribution.

It is right that paraphrasing as a practice has strategies, but it is a complex skill too, because of the previous challenges. Recognizing these challenges makes researchers explore technological expertise to aid in the paraphrasing process. Their efforts focus on developing tools and techniques that can automatically generate paraphrased text (Innayah & Sulistyaningrum, 2021; Ginting & Fithriani, 2022; Fitria, 2022; Ansoorge et al., 2021; Bailey & Withers, 2018; Chen et al., 2013, as cited in Syahnaz & Fithriani, 2023).

2.2 Definition of Artificial Intelligence Paraphrasing Tools

According to Ginting and Fithriani (2022), AI technology is one of the striking recent trends in language courses, particularly in writing courses. Through AI, machines can learn through experience, respond to new inputs, and perform tasks that human beings would do. Technological advancements based on AI can be used to provide new learning and teaching experiences for areas such as assessment, tutoring, content generation, and student and teacher feedback (Kurniati and Fithriani, 2022, as cited in Syahnaz & Fithriani, 2023).

The development of AI has made it possible for students to employ automated paraphrasing tools (APTs) to help them with their academic writing. These tools are computer programs or web applications that modify the original text's structure using algorithms while keeping its meaning intact (Rogerson & McCarthy, 2017).

In this context, students use AI-based technology more popularly recognized as a paraphrasing tool that helps them in the task of paraphrasing. In addition to using online paraphrasing tools to improve their paraphrasing skills, students can also use AI-based

technology in language classes to check their work (Ginting and Fithriani, 2022, as cited in Syahnaz & Fithriani, 2023).

Employing APTs might save students time and effort. However, relying too much on them can lead to subpar writing and a failure to meet the learning objectives of some writing courses. It is crucial to let students know that there is a thin line separating paraphrasing with these tools from plagiarism (Rogerson & McCarthy, 2017).

APTs use sophisticated algorithms for contextual comprehension and key idea identification, allowing them to reformulate text while maintaining original meaning. By analyzing linguistic patterns and leveraging large datasets, APTs enhance their fluency in natural language.

2.3 Algorithms Used by Artificial Intelligence Paraphrasing Tools

As mentioned previously, APTs rely on advanced algorithms and extensive databases of synonyms, phrases, and grammatical rules (*Free Paraphrasing Tool | Powered by AI*, n.d.). Those algorithms use advanced NLP and ML. So, experts work hard on these two techniques because they are the most common techniques that AI paraphrasing tools work with.

2.3.1 Natural Language Processing

NLP is a branch of AI that enables machines to read, comprehend, and interpret human language (Yse, 2022). The field of NLP focuses on how computers engage with human language. This includes the computational analysis of texts and employing mathematical models to grasp various elements of language. However, for AI to be beneficial, it must be able to comprehend and converse in the user's language (Aziz & Hassani, 2024).

2.3.2 Machine Learning

ML refers to the examination of algorithms that enables computers to improve, where their performance is autonomous through experience. This discipline is centered on how computers acquire knowledge from data. It encompasses a wide array of algorithms and

statistical models that allow systems to identify patterns, make predictions, and learn to carry out tasks without needing explicit directions (Aziz & Hassani, 2024).

With the help of NLP and ML, APTs function according to different stages or steps identified by Flying V Group Digital Marketing in 2024.

First Stage: Text Analysis

Text analysis is the ability of online paraphrasing tools to paraphrase text successfully. The software examines the text after dragging and uploading it to determine its main idea and message.

Second Stage: Contextual Assessment

The program would then comprehend and realize the context under which the words or phrases were used. They can sense uploaded text because of this awareness, which also provides the most natural suggestions for form and synonyms.

Third Stage: Generation of Text

The generation of text happens based on contextual and basic concept knowledge. To compose the current in new words and sentences, the tool would use NLP. Although the paraphrased content will not be identical to the original, it will convey the same idea (Flying V Group Digital Marketing, 2024).

2.4 Examples of Artificial Intelligence Paraphrasing Tools

Several applications depend on AI in paraphrasing. Some of them are common because of their wide use among students and even teachers, such as Quillbot, Scribbr, and ChatGPT. The others are less common but they have the same functions of the previous ones, such as Paraphraser.io, wordtune, WordAi, and so on.

2.4.1 Quillbot

Several studies were conducted about paraphrasing to improve this skill in academic life. Researchers, through their studies, also discuss Quillbot as one of the online paraphrasing tools that is still understudied.

2.4.1.1 Definition of Quillbot

Generally speaking, QuillBot is a reasonably priced paraphrasing tool and one of the most used alternatives that employs cutting-edge AI to paraphrase any type of information (Class, 2020, as cited in Fitria, 2021).

More specifically, QuillBot is an online tool that helps writers avoid plagiarism, reduce lengthy phrases, and enhance their grammar to make their work more accurate and professional (Williams & Davis, 2017). In fact, students, authors, bloggers, instructors, and others have all been known to benefit from this application due to its time-saving option and ability to swiftly paraphrase English sentences (Chapelle & Sauro, 2019). Additionally, Quillbot offers a solution by helping paraphrase when teachers and students lack the motivation to do it manually (Kusuma, 2020a).

QuillBot was established in 2017 by Rohit Gupta, Anil Jason, and David Silin, three computer science students. Since then, they have been improving the product's quality every day and introducing new features (Kusuma, 2020b). QuillBot offers a grammar checker answers, summarizing, and paraphrasing tools all at a single platform. There are two versions of this application: the free version and the premium version. In the free version, QuillBot can only paraphrase up to 400 characters at a time. This utility can raise the upper limit to 10,000 characters in the premium version. QuillBot has a lot of functionality due to the two versions.

2.4.1.2 Quillbot's Features

Quillbot has different features that enable it to have different functions. Every feature includes multiple features.

The paraphraser option gives researchers the freedom to paraphrase content without changing the core idea (Hamid, 2025). Additionally, QuillBot's paraphraser takes students' sentences and adjusts them, allowing students to easily rework and rewrite their content (Fitria,2021). It is a perfect option for students and new authors (Hamid, 2025).

The paraphraser option has seven useful features. First, Standard Mode, which balances student-inputted text modifications by avoiding them changing the true meaning of the target text and making it more original (Fitria, 2021).

The second feature is Fluency Mode, which emphasizes using perfect English grammar and makes content appear natural. This feature merely alters the text while maintaining the text's original meaning; The third mode is Creativity Mode, which aims to change the entered text as much as possible. However, this could change the data's overall coherence or meaning. If a writer wants his work to look significantly different from the original, this mode may be helpful (Fitria, 2021).

The fourth is Creative Mode, which is used to make more intuitive and grammatical alterations, like common phrases or sayings; the fifth is Formal Mode, which modifies the text to seem more formal for an audience. The sixth, Shorten mode, which aims to condense the text as much as possible without sacrificing significance, is excellent for students writing in academic or professional settings. The shorten mode is very helpful if students are attempting to minimize the text's word count or overall size (Fitria, 2021).

The seventh option, Expand Mode, aims to extend the length of the text by adding as many words as possible. If users wish to increase their total word count, this mode can be helpful. Standard and Fluency modes are the only ones available to QuillBot free users. Meanwhile, only the premium version has the Creative, Shorten, Expand, and Formal modes (Fitria, 2021). QuillBot is equipped with a range of sophisticated tools beyond its paraphrasing capabilities, including a grammar checker, summarizer, citation generator, and collaborative writing

features. These diverse functionalities can be customized to align with the specific requirements of the author. Notably, during the paraphrasing process, QuillBot incorporates a synonym meter, allowing users to adjust the degree of synonym usage. A higher setting on this meter corresponds to a greater level of lexical variation, which may consequently affect the fidelity of the text's original meaning. (Miranda, 2021).

2.4.2 Scribbr

Scribbr serves as a comprehensive resource for both students and professionals, facilitating effective communication across a diverse range of contexts, from corporate correspondence to social media interactions and academic writing (*Scribbr, 2024*). This extensive applicability allows users to enhance the clarity and stylistic quality of their written work by providing functionalities such as sentence paraphrasing, rewording of entire texts, and synonym exploration, thereby enabling individuals to articulate their perspectives with precision (*Scribbr, 2024*). Furthermore, Scribbr is a sophisticated tool that streamlines the processes of document upload and download while ensuring grammatical accuracy in the final output. The platform accommodates various document formats, thereby broadening its utility and accessibility (*Scribbr, 2024*).

The application serves as a valuable tool for individuals striving to avoid plagiarism and maintain academic integrity. It possesses the capability to assist users in reformulating content while preserving the underlying meaning (*Scribbr, 2024*). Consequently, it supports the generation of original work that adheres to ethical standards. According to Scribbr, the utilization of such software is considered ethically acceptable, provided that proper citation and attribution to the sources are diligently observed (*Scribbr, 2024*).

2.4.2.1 Scribbr Features

Scribbr offers a range of features that make use of advanced NLP, a key element of modern

AIPs. These tools facilitate precise and context-aware rewriting, making them invaluable for diverse applications across academic, professional, and informal writing contexts. Their versatility allows users to adapt information seamlessly to different tones and formats. Moreover, these tools enhance user convenience by supporting multiple document formats, thereby streamlining both input and output processes (Scribbr, 2024).

In addition to generating original content, these tools prioritize grammatical accuracy, ensuring that the revised work is polished, clear, and cohesive. Users can enhance lexical diversity and refine language use through straightforward synonym replacement options. Most importantly, these resources demonstrate a strong commitment to academic integrity by promoting proper citation and source attribution, thereby underscoring the ethical application of paraphrasing practices (Scribbr, 2024).

2.4.3 Chatgpt

A chatbot is a software application designed to simulate human-like interactions by integrating NLP with deep learning technologies, constituting a form of acquired knowledge (Yorio, 2023). Recently, ChatGPT has gained recognition as a tool that aids students in conducting research, studying, and preparing assignments. However, many students participating in surveys have indicated that it also has the potential to be misused for plagiarism (Khalil & Er, 2023; Reyes, 2023, as cited in Lieberman & Grand Canyon University, 2022)

2.4.3.1 Features of Chatgpt

Chatgpt offers a range of impressive features designed to enhance user interaction and provide valuable assistance across various tasks.

2.4.3.1.1 Chatgpt as a paraphrasing tool

ChatGPT allows users to rewrite text using different words without changing its meaning. It shows users how to input content and request a paraphrase. It offers suggestions like providing

specific guidance, choosing a preferred tone or style, and reviewing the output to ensure it remains true to the original message (The How To Cow, 2023).

2.4.3.1.2 Other Features of Chatgpt

ChatGPT enhances user interactions by generating multi-turn responses that are specifically tailored to the user's intent while maintaining contextual continuity from previous exchanges. This continuity facilitates the formulation of coherent and relevant replies, particularly for complex or hypothetical inquiries. The model has undergone refinement through reinforcement learning from human feedback and instruction tuning, allowing it to generalize effectively across a diverse array of tasks and interpret user inputs with greater accuracy (Li, 2023). In evaluating the performance of ChatGPT, this later displays a notable capacity for self-correction and adaptability when faced with user feedback. This functionality allows the system to not only correct errors but also to address ill-formed queries by suggesting logically sound alternatives. The model shows particular strength in creative applications such as copywriting, strategic planning, and refining responses. Its extensive integration into customer support systems and chatbot development highlights its practical utility in these fields (Li, 2023).

Generative AI technologies, exemplified by ChatGPT, have the potential to significantly transform various professions by facilitating content creation across diverse media, including text, audio, and visual formats. User feedback indicates that ChatGPT positively impacts academic achievement, serving as a resource for students and educators in elucidating a broad spectrum of topics. This capability may signify a paradigm shift in educational methodologies, particularly as digital modalities become increasingly prevalent in instructional environments (Li, 2023).

2.5 Artificial Intelligence Paraphrasing Tools vs. Human Paraphrasing

Modern technology has led to many online paraphrasing tools that assist writers in rewriting content. While acknowledging their usefulness, it also presents a contrasting view: that despite

their convenience, these tools are often perceived as falling short compared to the quality, accuracy, and understanding that a human can provide when paraphrasing.

2.5.1 Accuracy and Precision

Even though paraphrasing tools are fast, they often lack the accuracy and precision of human paraphrasers. On the other hand, humans can grasp the context of the text, which ensures that the rephrased material is coherent (Riaz, 2023).

2.5.2 Contextual Understanding

Humans are adept at comprehending the context of the material they paraphrase. They can guarantee that the original meaning of the reworded language is preserved, which is essential for accurately communicating difficult concepts (Riaz, 2023). However, APTs may find it challenging to precisely capture the context. An AI-powered tool might, for instance, completely overlook an analogy or metaphor in a statement or substitute it with something entirely different, which would obscure its meaning or intelligibility (UnFluffer, 2023b).

2.5.3 Plagiarism Concerns

Content produced by paraphrasing tools might occasionally be too similar to the original, which raises questions about plagiarism. However, human paraphrasers can produce completely original material (Riaz 2023).

2.5.4 Time-Consuming

Manual paraphrasing can take a lot of time to discover a qualified paraphraser. Before choosing one, students must shortlist possible candidates, request quotes from them, review their portfolios, compare them, and then work out terms. A significant amount of time may be spent on this. In contrast, APTs save a significant amount of time when compared to manual text editing or rephrasing. As a result, students can avoid wasting a significant amount of time manually looking over each sentence or paragraph and attempting to rephrase it (UnFluffer,2023b).

2.5.5 Quality

One notable disadvantage of using APTs is that they may lead to a decline in quality compared to content created by humans. The software's ability to replicate human writing skills is inherently limited, as is the case with any automated process. In contrast, manual paraphrasing depends heavily on the expertise of the individual doing the task. If their skill level is inadequate, the outcomes may fall short of expectations (UnFluffer, 2023b).

2.6 The Relationship between Artificial Intelligence Paraphrasing Tools and Academic Integrity

Academic Integrity is something important in the field of Academia, which encompasses various values that form its principles, such as honesty, fairness, trust, respect, and responsibility (Lynch and Glaw et al., 2021 as cited in Roe & Perkins, 2022). These values appear in Research work by different methods, one of them is paraphrasing. However, paraphrasing becomes challenging which Most Done by APTs.

APTs threaten academic integrity and language proficiency in different ways. Prentice and Kinden (2018) state that by 2018, there were 3 million results from a search engine query for paraphrasing tools, up from Rogerson and McCarthy's (2017) initial discovery of 550,000 results. Produced results of roughly 4.5 million in November 2021, demonstrating the heightened interest in this topic among academics and the general public. According to Prentice and Kinden (2018), a close examination of some of the top search engine results reveals that some APTs appear to be mirror copies of the same framework and technology, which can be used for free or paid for. These applications include adjustable parameters of replacement at the lexis, phrase, or sentence level. This implies that there can be large gaps in the effectiveness, accuracy, and level of sophistication of the APTs being used (Roe & Perkins, 2022).

APTs that are employed for educational objectives and do not violate the standards of educational integrity are another type of APT. These can be extremely useful resources for teaching paraphrasing as a skill in the context of EFL. For instance, Chen et al. (2015)

successfully developed a corpus-based tool to recommend paraphrases using a parallel ChineseEnglish corpus. They discovered that 75% of the sample (N = 55) thought the tool improved their writing, and 90% of the sample preferred to write using their assistive paraphrasing tool. This illustrates how these APTs can be an effective learning tool for learners practicing writing in EFL. However, these APTs have the potential to confuse students about what is and is not appropriate for formal evaluations if they are encountered and not appropriately contextualized by the teacher. This is made worse by the widespread use of paraphrasing tools in English language classes, which many speakers of EFL may encounter (Roe & Perkins, 2022).

Both the free and commercial versions of APTs typically adhere to a similar framework in terms of usage (except for instructional APTs). The automatically generated output, which theoretically contains and conveys the same essential concepts or message as a different combination of words, is retrieved by users after they enter raw text into an interface and click an action button. However, due to machine translation's inconsistent efficacy, this may produce unintelligible material, also known as "word salad" (Rogerson & McCarthy, 2017, as cited in Roe & Perkins, 2022). else, it can result in a product that keeps the same concepts but uses a new wording, avoiding plagiarism detection software that matches text and passing off the original material as an original work (Roe et al., 2023). However, Individuals may accidentally breach academic integrity guidelines by misusing an APT (Advanced Production Tool). Appropriate usage includes utilizing an APT to receive suggestions or to find alternative ways to express an idea. However, submitting unaltered output without any personal modifications or proper attribution may be viewed as a breach of academic integrity. The use of a thesaurus to explore synonyms is beneficial in language learning, and one could argue that using a digital writing assistant is not significantly different from using a word processor's thesaurus feature.

The key factor is the extent of use: while a single word or a few words might be acceptable, entire sentences or paragraphs likely would not be. Additionally, many institutions may lack specific policies regarding the use of APTs (Roe et al., 2023).

Wahle et al. (2021) explain that there are many areas of debate surrounding APT use, the fact remains that they are a serious and current threat to academic integrity, which can hide plagiarism and help to facilitate collusion (as cited in Roe & Perkins, 2022).

APTs have several effects on high education writing. So, as a first step, more investigation is needed to determine how and why students are utilizing APTs, as well as whether they are aware that their use could result in textual plagiarism. Second, institutional action is required to overcome the "silence" (Dinneen, n.d.) surrounding the permissible use of writing tools in policy. Thirdly, as new technologies continue to emerge, higher Education institutions need to be ready to react quickly while maintaining clarity and consistency, as this could jeopardize academic integrity. Examples of this include artificially intelligent text generators like OpenAI's GPT-3 and new technologies like large language models (Thunström, n.d., as cited in Roe et al., 2023).

2.6.1 Addressing Artificial Intelligence Paraphrasing tools Misuse in Academia

Roe and Perkins (2022) investigate potential strategies to address the escalating challenges to academic integrity presented by APTs. They conceptualize the issue as a technological "arms race," analyzing the development of emerging detection instruments such as Long former, which is designed to identify writing generated by machines, and DSpin, a tool developed by Zhang et al. (2014) that aims to automatically detect spun or paraphrased content. Despite the promise demonstrated by these technological advancements, particularly in the realms of semantic analysis and deep learning, current software tools exhibit significant limitations. It is highlighted by Carter and Inkpen (2012) that human evaluators retain the capacity to

differentiate machine-translated text from human-generated content; however, this discernment may become increasingly challenging as APTs continue to evolve.

Despite advancements in technology designed to fight academic integrity violations, Roe and Perkins (2020) contend that effectively addressing the misuse of Advanced Plagiarism Technologies necessitates a human-centered and educational approach. This is primarily because the detection of plagiarism continues to depend significantly on contextual judgment, as noted by Weber-Wulff (2019). Roe and Perkins (2020) advocate for the implementation of proactive training initiatives rather than solely relying on punitive measures. Supporting this premise, research conducted by Duff et al. (2006) indicates that cross-cultural academic integrity instruction markedly enhances scholarly practices. Furthermore, the findings of Dawson and Sutherland-Smith (2019) illustrate that faculty training plays a crucial role in improving the detection rates of contract cheating. Additionally, Du (2019) has demonstrated that even brief instructional sessions can substantially reduce incidents of plagiarism, while Perkins et al. (2020) underscore the importance of misconduct education in mitigating academic violations (as cited in Roe & Perkins, 2022).

The emphasis on cultural sensitivity and effective institutional communication is paramount in addressing the complexities surrounding academic integrity. It is essential to recognize that Western interpretations of academic integrity are not universally held and may stand in stark contrast to traditions that perceive duplication as a form of respectful homage (Stowers & Hummel, 2011; Roe & Perkins, 2020). Consequently, educational institutions must eschew onesize-fits-all approaches. Instead, they should implement student-centered strategies that delineate between the pedagogical use of Artificially Produced Texts in contexts such as EFL instruction and their inappropriate application in formal academic assessments (Chen et al., 2015 as cited in Roe & Perkins, 2022).

Roe and Perkins (2022) advocate for the demonstration of flawed APT outputs, such as incoherent “word salads,” to illuminate the practical and ethical risks associated with their use (Rogerson & McCarthy, 2017; Ansorge et al., 2021; Nino, 2009). The overarching assertion of the authors is that education, comprehensive training, and culturally informed policy development represent the most viable and sustainable strategies for maintaining academic integrity amidst the rapidly evolving realm of APT technologies.

2.7 The Use of Artificial Intelligence Paraphrasing Tools in Research Writing

The use of AI-powered tools in academic writing and research has gained significant momentum, with a variety of tools being utilized for diverse purposes. APTs are one of the most popular AI-powered tools that affect academic research writing in a good and bad way.

2.7.1 Benefits of Using Artificial Intelligence paraphrasing Tools in academic research writing

These tools provide solutions to some linguistic problems; this means that students who have trouble with paraphrasing benefit from using APTs, which makes EFL students prefer using APTs in their academic writing. In this sense, Inayah and Sulistyningrum (2021) as well as Rahmayani (2018) both stresses the value of APTs in assisting students in producing more cohesive work (as cited in Alammar & Amin, 2023c).

In a similar context, Miranda (2021) discovers that students value the way APTs improve their ability to write and introduce new vocabulary (as cited in Alammar & Amin, 2023c). APTs include techniques for enhancing writing quality, such as reorganizing sentence structures, utilizing synonyms, altering word forms, and alternating between active and passive voice (Fitria, 2021; Inayah & Sulistyningrum, 2021). In this regard, Yan (2023) emphasizes how APTs improve students' writing organization, clarify difficult concepts, and enhance their comprehension of them. Additionally, Prentice and Kinden (2019) as well as Roe and Perkins (2022) state that APTs could rework material by changing syntax without affecting the original

meaning. Moreover, Tran and Nguyen (2022) find that APTs significantly enhance academic writing in terms of task performance, accurate citation, sentence structure, and spelling. Given these benefits, APTs have gained popularity among students as a valuable tool for enhancing writing skills (as cited in Mahmud et al., 2024).

In addition, Miranda (2021), shows that learners express admiration for APTs' capacity to improve their writing skills and teach new language, Fithriani (2022) et al. (2023) state that students react well to QuillBot because it enhances their writing and comprehension of the subject matter. Similarly, Nurmayanti and Suryadi (2023) find that QuillBot improves students' writing engagement and assists them in learning English (as cited in Alammar & Amin, 2023c).

Moreover, these tools aim to assist researchers in tackling writer's block and speeding up the brainstorming process, making them especially helpful for idea generation and structuring intricate arguments (Nurchurifiani, 2025). Furthermore, according to Wei's (2023) using an AI-powered writing tool enhanced students' writing abilities as well as their capacity to produce ideas and arrange their thoughts. In a similar vein, Tran (2024) when investigating the potential integration of AI tools into university-level academic writing instruction, results show that AI tools are successful in improving writing standards and promoting students' autonomy in their assignments (Tran, 2024 as cited in Malon et al., 2024b).

2.7.2 Limitations of Using Artificial Intelligence Paraphrasing Tools in academic research writing

There are notable challenges in the use of AI-powered tools. One significant issue is the accuracy and reliability of generated content. That is, excessive dependence on AI-powered tools may inhibit critical thinking and creativity, which are crucial components of academic writing (Nurchurifiani, 2025). Ethical concerns also arise, with some educators questioning the use of these tools as a form of academic dishonesty, particularly if students use them to generate

entire essays or research papers without proper attribution (Nurchurifiani, 2025). The ethical implications of AI-powered tools extend to the broader academic community, as researchers must be cautious in ensuring that these tools are used to complement, rather than replace, the human cognitive process in research and writing (Nurchurifiani, 2025).

Marzuki et al. (2023) find that although students generally thought APTs are useful, their effects on writing quality are not always favorable. Additionally, issues have been brought up regarding the possibility that these systems could promote plagiarism since students might grow overly dependent on automatic recommendations and neglect to develop their writing abilities (Srivastava & Agarwal, 2024, as cited in Malon et al., 2024b).

According to Bailey and Withers (2018) as well as Prentice and Kinden (2018), students frequently use these tools excessively, which results in poor phrasing and repetitive information. Rogerson and McCarthy (2017) emphasize the need to give original authors credit and caution against the dangers of employing APTs incorrectly without the required citation. Additionally, documents produced by APTs frequently contain inaccurate terminology and lack linguistic precision (Ansorge et al., 2021). Additionally, when students misuse APTs to generate quotes, it can compromise academic honesty in the use of this new technology (Mahmud et al., 2024)

In conclusion, APTs are useful resources for assisting students who struggle with paraphrasing. According to research, APTs are typically seen as helpful for academic writing by EFL students. These tools imitate human paraphrase techniques, including changing sentence structures and substituting synonyms for words. APTs can help with some language-related problems, but students should only use them sparingly. Students can benefit from APTs and improve their writing abilities at the same time by incorporating them into their education without becoming unduly reliant on them and claim to be the creators of other people's work

(Roe & Perkins, 2022).

Conclusion

The current chapter examines a significant topic in academic research writing: AIPTs. It explores the theoretical background of paraphrasing and various strategies employed in this process while providing a detailed analysis of AIPTs, including their definitions and underlying algorithms. Illustrative examples of well-known AIPTs, such as Quillbot, Scribbr, and ChatGPT, are offered to contextualize their application. Furthermore, the chapter contrasts AIPTs with human paraphrasing. A critical discussion on the implications of AIPTs for academic integrity is also presented, focusing on addressing AIPTs misuse within academia. Ultimately, the chapter highlights both the benefits and limitations of AIPTs in research writing, offering a comprehensive overview of their impact in this domain.

Chapter Three
Field of Investigation

Introduction

This chapter is devoted to the practical part of the study. It aims at reporting and analyzing the data collected through students' questionnaire. This later provides insight about EFL learners' views regarding the use of AIPTs in research writing. Which help in answering the research questions. Besides, data analysis and interpretations from students' questionnaire. this chapter includes a general conclusion, suggested pedagogical implications; in addition to some limitations that restricted this research.

3.1 Research Methods and Design

This research was conducted through a quantitative descriptive method. More specifically, a questionnaire has been chosen as a tool to collect the wanted data. It entails to explore students' perspectives about research writing and the use of AIPTs during conducting the research.

3.2 Population and Sample of The Study

The sample of this study is composed of 53 students who were selected randomly from the whole population of second-year Master students of the Department of English at 08 Mai 1945 Guelma University who enrolled in the academic year 2024/2025. The reason behind choosing Master two students as a case study is that they are in the process of writing a research work; Master's dissertation.

3.3 Students' Questionnaire

3.3.1 Description of Students' Questionnaire

The questionnaire is constructed based on the theoretical part. This questionnaire includes 24 questions divided into three sections; the first section is general information, consisting of five questions aimed at collecting information about students, the second section is about EFL research writing, consisting of eight questions aimed at explore learners' experiences, challenges, confidence, and support tools related to writing research papers in English, the third

section which is about AIPs consisting of eleven questions aimed at exploring learners' usage, challenges, problem-solving strategies, and ethical views regarding AIPs in research writing. The questions vary from Likert-style questions, yes or no questions, in addition to multiple choice questions, in which participants are asked to choose from the options provided. Finally, the concluding question is open-ended in order to give students the freedom to write their recommendations and suggestions about the subject under investigation.

3.3.2 Administration of Students' Questionnaire

The questionnaire was distributed to second-year Master's students on the 7th of May 2025. The administration was online via Google documents survey. It took three days for all participants to answer the questionnaire.

3.3.3 Data Analysis and Interpretation

Section one: General information

Question 1: How old are you?

Table 3.1

EFL Students' Age

Options	Frequency	percentages (%)
22-24 years	45	86%
25-30 years	5	10%
31-44 years	2	2%
Total	53	100%

Based on the table 3.1, the majority of students (86%) stated that their age is 22 years old.

Additionally, (34%) of students stated that their age is 23 years old. Whereas, the rest of the participants (22%) said their age is between 24 and 44. This indicates that the majority of students are in their twenties. In addition to master's (20%), students whose age vary from 30 to 44. These students continue to pursue their studies and earn higher degrees despite their age and other responsibilities. This implies that age does not affect their academic career.

Question 2: Is studying English?

Table 3.2

EFL Students' Choice of Studying English

Options	Frequency	Percentages (%)
A-Your first choice	29	54.8%
B-One of your choices	21	39.6%
C- Imposed on you	3	5.6%
D-Others	0	0%

According to the results displayed in Table 3.2, the majority of students (54.8%) claimed that studying English was their first choice. While (39.6%) of students declared that English was one of their choices, and the rest of the students (5.6%) was imposed on them. These results indicate that the majority of students chose to study English on their own, or it was one of their choices. This assumes that pursuing a degree in the English language is a desirable goal.

Question 3: How could you describe your level in English?

Table 3.3

EFL Students' Level in English

Options	Frequency	percentages (%)
A-Very good	16	30.2%
B-Good	27	50.9%
C-Average	10	18.9%
D-Bad	0	0%
E-Very bad	0	0%
Total	53	100%

As indicated in the Table 3.3, Most of students (50.9%) stated that their level in English is good. While (30.2%) of them declared that their level is very good, the rest of students (18.9%) claimed that their level is average. This denotes that the majority of students have positive selfperceptions about their level in English.

Question 4: Do you think learning English is an easy task?

Table 3.4

EFL Students' Opinion in Learning English

Options	Frequency	Percentages (%)
A-Yes	41	77.4%
B-No	12	22.6%
Total	53	100%

As demonstrated in Table 3.4, 77.4% of students reported that they think studying English is an easy task. While 22.6% said the opposite. This infers that English is not a difficult language

to learn. In addition, it may go back to the ease of acquiring the English language compared to other languages that seem more complex and difficult in comparison to English.

Question 5: In which area of study would you prefer to write a research paper?

Table 3.5

EFL Students' Preferred Area of Research

Options	Frequency	Percentages (%)
A-Linguistics	25	47.2%
B-Civilization	21	39.6%
C-Literature	12	22.6%

Drawing from Table 3.5, the majority of students (47.2%) claimed that they prefer to write their research paper in the field of linguistics, while 39.6% of students stated that they prefer civilization. The rest of students (22.6%) responded that they prefer literature to write a research paper. This indicates that linguistics is students' most preferable field for research writing. Linguistics is often perceived as a more accessible field for students, largely due to the abundance of resources available, including a wide array of journals, articles, books, and instructional videos. In contrast, the field of civilization tends to be less favored among students. This preference may be attributed to the complexity of the subject matter and the limited availability of resources. Furthermore, the field of civilization grapples with evolving topics, whereas linguistics remains focused on more stable issues related to language. Conversely, literature attracts those who are drawn to novels and authors and who possess an interest in the artistry of language and the analysis of literary works.

Question 6: According to you, which skill is the most difficult?

Table 3.6

The Most Difficult Skill in EFL

Options	Frequency	Percentages (%)
A-Reading	3	5.7%
B-Writing	25	47.2%
C-Speaking	23	43.4%
D-Listening	11	20.8%

According to Table 3.6, the majority of students (47.2%) chose writing as the most difficult skill, and 43.4% of them stated that speaking is the most difficult skill. Whereas, 20.8% considered listening as the most difficult skill. The rest of students (5.7%) chose reading. These results suggest that students face difficulties with writing and speaking skills, those difficulties can be due to the demanding nature of these skills (being productive skills) as well as a lack of ideas, limited vocabulary, and a lack of knowledge about writing techniques and strategies. In addition to fear, anxiety, fluency, and accuracy, issues with the pressure of immediate response, and lack of confidence, when it comes to speaking.

Section Two: EFL Research Writing

Question 7: Have you ever written a research work in English?

Table 3.7

EFL Students' Research Writing

Options	Frequency	Percentages (%)
A-Yes	49	94.3%
B-No	3	5.7%

On the basis of Table 3.7, almost all students (94.3%) stated that they had written a research in English, and about 5.7% of students declared that they had never written a research paper before. This implies that the majority of students are familiar with writing a research paper, which indicates that they have experience and background knowledge about academic research through their academic journey and being a university student.

Question 8: If yes, what type of research paper have you written?

Table 3.8

Types of Research Papers Written

Options	Frequency	Percentages (%)
A-Essays	46	92%
B-Reports	19	35.8%
C-Articles	9	17%
D-Others, specify	4	7.5%

Based on Table 3.8, the majority of students (92.5%) stated that they had written essays, while 35.8% declared that they had written reports, and (17%) said they had written articles, and the remaining (7.5%) claimed that they had written different works like: stories, monologues, and master dissertations. Based on the results, the most majority of students had written essays, which go back to their academic journey, where they were required to write essays as homework. This assumes that they were exposed to writing and experienced academic research. Also, this means that they had experience and information to compose a research paper.

Question 9: How confident do you feel about your ability to write research in English?

Table 3.9

EFL Students' Confidence in Their Research Writing Abilities

Options	Frequency	Percentages (%)
A-Very confident	4	9.1%
B-Somewhat confident	26	49.4%
C-Neutral	17	32.1%
D-Somewhat unconfident	4	9.4%
E-Very unconfident	0	0%

According to Table 3.9, 9.1% of students admitted they have very confident in their ability to write a research paper, while 49.4% stated they feel 49.4% somewhat confident about their ability to write a research. Whereas, 32.1 % declared they are neutral. However, 9.4% are somewhat unconfident in their ability to write a research paper. Based on these results, Students exhibit varying levels of confidence when it comes to writing a research paper. Those who are highly confident often refer back to their training to refine their skills. In contrast, students who feel somewhat confident may understand the writing rules but might struggle with vocabulary or grammar. On the other hand, students who somewhat unconfident typically have limited experience in writing research papers. Lastly, those who select a neutral stance indicate that they do not have a definitive opinion on their abilities in this area.

Question 10: Which part of writing a research paper do you find most challenging?

Table 3.10

The Research Part That EFL Students' Find Challenging

Options	Frequency	Percentages (%)
A-Literature review	30	56.6%
B-Methodology	13	24.5%
C-discussion of results	12	22.6%
D-citing and referencing	19	35.8%

As Table 3.10 shows, the majority of students (56.6%) stated that they find the literature review section as the most challenging part of a research paper, whereas 35.8% stated that citing and referencing are the most challenging part, 24.5% of students chose the methodology section. And finally, 22.6% chose the discussion section. According to these results, it appears that students consider all parts of research to be challenging. Concerning, literature review section it could be challenging for several reasons: difficulty in finding relevant sources, data gathering difficulties, struggling to paraphrase information, and weakness in academic writing skills...etc when it comes to citing and referencing this refers to fear of plagiarism, lack of knowledge on referencing styles, and the methodology related to hardships in choosing sample or reach out difficulties in forming questionnaire and interviews, finally the discussion section choosing to be the most challenging part due to the limited techniques of critical thinking and interpreting data that students know.

Question 11: Have you faced any difficulties in writing a research work?

Table 3.11

Difficulties in Writing a Research Paper

Options	Frequency	Percentages (%)
A-Yes	50	96.2%
B-No	3	3.8%

As Table 3.11 demonstrates, the majority of students (96.2%) stated that they had faced difficulties in writing a research work, while the rest of students (3.8%) claimed that they had not face any difficulties. This implies that researchers deal with different problems concerning language or other challenges while conducting research work, while those who had not

encountered difficulties in writing research work means that they are knowledgeable and capable of writing a research work.

Question 12: If yes, what are these difficulties?

Table 3.12

Difficulties Faced by EFL Students

Options	Frequency	Percentages (%)
A-Writing and structuring the research work	18	36%
B-Language and grammar issues	7	13.2%
C-Finding credible sources	31	58.5%
D-Citing sources and avoiding plagiarism	24	45.3%
E- All of the above	11	20.8%

Based on Table 3.12, 58.5% of participants assessed that finding credible sources to be the difficult thing they faced, whereas 45.3% of students declared that citing sources and avoiding plagiarism was the difficulty they go through. 36% stated that writing and structuring the research work is the difficulty they face, and about 20.8% students chose all options as difficulties. Lastly, 13.2% of participants chose language and grammar issues. These results imply that students face different difficulties based on their research abilities, concerning finding difficulty of credible sources, which may be due to the limited access to articles, books this prevent students from gathering reliable materials. when it comes to citing and avoiding plagiarism difficulty it can be due to students' lack of familiarity with citation rules plus weakness in paraphrasing skills. Whereas writing and structuring the work can be due to lack of research skills, weak writing skills, and poor guidelines. All these difficulties affect the work and weaken the research, and language and grammar issues were chosen by a few participants

who had weak language, a lack of knowledge of grammar rules, a lack of vocabulary, and poor writing skills. Overall, students have to work and find a feasible solution based on their difficulty.

Question 13: What tools or resources do you use to assist with research writing?

Table 3.13

Tools and Resources that EFL Students' Use

Options	Frequency	Percentages (%)
A-Research information and Gathering	32	60.4%
B-University resources	10	18.9%
C-Writing assistance	16	30.3%
D-Citation and Bibliography help	24	45.3%

As Table 3.13 demonstrates, the majority of students (60.4%) claimed that they assist their research writing by using research information and gathering tools, 45.3% of students chose citation and bibliography help. 30.2% of respondents stated that they rely on writing assistance tools. Finally, 18.9% use university resources. This assumes that research information and gathering tools are considered the most helpful tools students use to gather data, collect information, and find sources. Citation and bibliography help is the second tool students use. This refers to referencing styles, correct citation, and mentioning all works used during this work to avoid any plagiarism or might be other problems. Lastly, university sources are the last resource students use in their work this because of limited university resources and hardships of accessing them. All these indicate that each tool or resource provides a specific solution to a specific problem or challenge.

Section Three: AIPTs

Question 14: Are you familiar with AI paraphrasing tools?

Table 3.14

EFL Students' Familiarity with AI Tools

Options	Frequency	Percentages (%)
A-yes	50	96.2%
B-No	3	3.8%

As indicated Table 3.14, it can said that the majority of students (96.2%) are familiar with AIPTs. While the rest (3.8%) of students claimed that they are not familiar with AIPTs. This implies that these students are well knowledgeable about APTs, which means that they may have used these tools in their academic journey.

Question 15: How often do you use AIPTs?

Table 3.15

EFL Students' Usage of AI Tools

Options	Frequency	Percentages (%)
A-Always	11	20.8%
B-Frequently	18	35.5%
C-Sometimes	16	30.2%
D-Rarely	6	13.2%

As demonstrated in Table 3.15, the majority of students (35.5%) claimed that they frequently use AIPTs, while 30.2% stated that they use them sometimes. Fewer participants (20.8%) claimed that they always use them. However, the rest of students (13.2%) declared that they

rarely use these tools. These results indicate that the majority of students overuse APTs and are reliant on them in their writing process, which can reflect their lack of paraphrasing skills in addition to the lack of confidence in paraphrasing, as these tools act as a safety net.

Question 16: What APTs do you use?

Table 3.16

AIPTs Used by EFL Students'

Options	Frequency	Percentages (%)
A-Quillbot	29	56.6%
B-Chatgpt	32	60.4%
C-Scribbr	3	6.7%
D-Grammarly	17	32.1%
E-Paraphraser.ai	4	9.4%
F-others, specify	21	41.5%

Concerning the data displayed in Table 3.16, the majority of students (60.4 %) chose chatGPT as their preferred APTs. 56.6% opted for Quillbot, while 32.1% chose Grammarly. The rest of students chose Scribbr (6.7%) and paraphraser.ai (9.4%). Many students (41.5%) also mentioned other APTs like: Humanizer, Deepseek, Gemini, para ai, perplexity. This implies that the majority of students rely on ChatGPT and Quillbot to a high degree may be because of their easy access and the language that they use that can be understood by all students. In addition to that, Quillbot and chatgpt save the exactly meaning of the original text with few change in structure and language.

Question 17: Which tool do you find more effective?

Table 3.17*AIPTs EFL Students' Find Effective*

Options	Frequency	Percentages (%)
A-Quillbot	24	45.3%
B-Chatgpt	19	35.8%
C-Scribbr	2	3.8%
D-Grammarly	12	22.6%
E-Paraphraser.ai	2	3.8%
F-Others	5	9.4%

Regarding the data displayed in Table 3.18, the majority of students (45.3%) claimed that Quillbot is the most effective APT, while 35.8 % chose ChatGPT, followed by Grammarly that is considered effective by 22.6%. Scribbr, and paraphraser.ai are less common because they are chosen by 7.6% from the whole participants. While The rest of students (9.4%) suggested other effective tools like: perplexity, deepseek, gemini, and humanizer. This implies that the preference of chatgpt and quillbot in high degree suggests that students may receive suitable paraphrasing that serves their needs. This also indicates that students find these two tools provide high quality paraphrasing, easy to use and have easy access. Also, the different choices of APTs suggest that the students are aware of these tools and have used them before.

Question 18: Do you trust the output generated by these tools?

Table 3.18

EFL Students' Output Trust in AI Tools

Options	Frequency	Percentages (%)
A-Yes	29	56.6%
B-No	23	43.4%

According to Table 3.18, the majority of students (56.6%) reported that they trust the output generated by AIPTs. By contrast, 43.4% of students stated that they did not trust the output generated by these tools. These results indicate that students who trust the output of AIPTs know that the exact meaning of any text is saved, but they may not be aware of some risks that can appear in the content, like plagiarism. Those who do not trust AIPTs' output may be aware of the risks of using AIPTs. This implies that most students took the results of AIPTs as it is, without revising and checking the output.

Question 19: Do you face any difficulty while using these tools?

Table 3.19

EFL Students' Facing Difficulties in Using AIPTs

Options	Frequency	Percentages (%)
A-Yes	42	79.2%
B-No	11	20.8%

As illustrated in Table 3.19, a significant number of students (79.2%) stated that they face difficulties in using AIPTs, while 20.8% stated that they do not face any difficulty in using

AIPs. From these results, it is clear that most of students who face difficulties while using AIPs may know these difficulties but do not know how to fix them. However, the students who do not face difficulties in using AIPs know how to use these tools and how to manage these difficulties.

Question 20: If yes, what are these difficulties?

Table 3.20

Difficulties EFL Students' Face with AIPs

Options	Frequency	Percentages (%)
A-Loss of original meaning	14	26.4%
B-Overuse of synonyms out of context	17	32.1%
C-Plagiarism	21	39.6%
D-Sentence's structure errors	15	28.3%
E-Others, specify	7	13.2%

Table 3.20 illustrates that the majority of students (38.6%) chose plagiarism as a difficulty. 32.1% of students claimed that the overuse of synonyms out of context is the difficulty that they face, while 28.3% of participants declared that their difficulty is in sentence structure errors. Additionally, 26.4% see that their obstacles in using AIPs are the loss of original meaning. Notably, only a few participants (13.2%) face other difficulties like: AIPs use the general language of AI, deviated meaning, provide wrong information about certain sources, lack of fluency, and difficult words. This indicates that AIPs are not ethical enough to rely on them because they do not give the accurate output that a cognitive human can provide.

Question 21: When facing the previously mentioned difficulties, do you try to fix them?

Table 3.21*EFL Students' Fixing Difficulties*

Options	Frequency	Percentages (%)
A-Yes	49	92.4%
B-no	4	7.5%

The data illustrated in Table 3.21 above shows that 92.5% of the sample work on fixing difficulties facing them in using AIPTs. While only 7.5% of participants claimed that they do not fix AIPTs' difficulties. This denotes that AIPTs are not perfect tools to completely rely on as they continue flaws that can mislead their users and affect academic integrity, which the researcher must keep in his research.

Question 22: If yes, how do you fix them?

Table 3.22*Ways of Fixing Difficulties*

Options	Frequency	Percentages (%)
A-Citation and References	11	22.4%
B-Re-reading and fixing structure	30	61.2%
C-Changing synonyms	32	65.3%
D-Changing meaning	7	14.2%

As indicated in Table 3.22, the majority of students (64.2%) stated that they fix AIPTs difficulties by rereading and fixing the structure. While 60.4% of students stated that they change synonyms to fix such difficulties. 20.8% of participants claimed that they use citations

and references. Lastly, fewer students (13.2%) said that they change the meaning. The majority of students who chose rereading and fixing structure, and changing synonyms may know that the common difficulties of AIPTs are these two previous ones, because AIPTs use algorithms reliant on the same language as AI. Which is general language, i.e., it uses different synonyms for one word, the synonyms may not be suitable in the context. Also, AIPTs change the structure that can lead to a change in the whole meaning, This makes students try to fix the sentence structure by omit or edit so this can change the meaning through change the structure. This implies that daily use of AIPTs, students become aware of these difficulties and know how to fix it. as long as they use AIPTs to facilitate the process of paraphrasing with taking consideration to the obstacles.

Question 23: Do you believe using these tools is ethical in writing any research paper?

Table 3.23

EFL Students' Opinion about AIPTs

Options	Frequency	Percentages (%)
A-Yes	40	75.5%
B-No	13	24.5%

The data in Table 3.23 reflects a divided perspective on the ethicality of AIPTs in a research paper. 75.5% see that AIPTs are ethical in writing a research paper. By contrast, 24.5% of students see that AIPTs are not ethical in writing a research paper. In this question, students give different opinions to defend their answers, and students who see that APTs are ethical said that

“paraphrasing by AIPTs can help learners avoid plagiarism when using them to assist their thinking”.

“clarifying complex texts. Improving grammar”. others said “it is ethical because we are in an era of technology, it is created to help researchers maintain a good writing style and save time”.

Students who said it is not ethical did not defend their answers. This indicates that students are not aware of their potential problems and do not focus whether this tool is ethical or not they just take what can save their time regardless of whether these tools give relevant information or not.

Question 24: Any further information about the topic is welcome!

The questionnaire is concluded by asking students to share any additional insights on the topic. All of the students (100%) answered this question, some took this opportunity to offer suggestions, and some just wished us the best of luck. Some of their answers are summarized as follows:

“Using AIPs requires the use of plagiarism detection tools and making necessary changes to avoid plagiarism”.

“AIPs are beneficial”.

“Hope that our use of AI will diminish in the future. Years ago, we used to suffer with many activities that are much easier to do today thanks to AI; however, they were at least our products that we poured our efforts, knowledge, blood, sweat, and tears in. Previously, we were able to proudly announce "this is my product!", but today everything is done via AI, and while using AI, I can't say that this is my achievement, etc., because it's not mine. Somehow, everything is losing its real meaning and value as our use of AI is increasing”

“Well, AI tools are a blessing when used ethically, despite the controversy of using them in research, I'd still use them anyway”.

“I believe overreliance on AI tools for writing is going to negatively affect your mental capacity to write on your own in the long term. If you keep avoiding learning how to

write effectively and frequently resort to AI tools, you will never learn how to formulate a proper paragraph independently.”

“The use of AI is completely ethical in my opinion, and instead of trying to find ways to detect it, it is better to raise the bar and update the methodology to suit the current technological developments.”

3.3.4 Summary of Results and Findings

The findings obtained from students' questionnaire show that students have enough experience in studying English, and that this latter was their first choice at university or one of their choices. These students claimed having good level in English. However, they stated that writing and speaking are the most difficult skills in the English language. Besides, students admitted that they had written different research works during their academic journey like; essays, reports...etc. and the major of them feel somewhat confident about their abilities in writing research in English, according to the majority of them literature review is the part they find most difficult in writing a research work. In addition, they declared that they face difficulties while conducting a research such as; finding credible sources, citation and avoidance of plagiarism.

The participants stated that they use different AIPTs; Quillbot, Chatgpt, Grammarly, Paraphraser.ai and more. Moreover, students find these tools beneficial and effective, however, some of them declared that they do not trust the output generated by these tools. In addition, the majority of respondents admitted that they face many difficulties while using these tools like; plagiarism, overuse of synonyms, and loss of original meaning. Therefore, students try to fix these difficulties they face by re-reading and fixing structure or changing synonyms, Following that, majority of students believe that using these tools is considered ethical because AIPTs save time and facilitate life, these students added that as long as; they cite the sources or use the tools to generate and clarify ideas, and edit the writing style, , it is ethical to work with these tools. However, the rest of students believe that it is not ethical to rely on these tools to

write research work because AIPTs lead to plagiarism and unethical behaviors. These tools provide closed sources or even out of topic responses and cannot be trusted. Finally, these students added that they should rely on themselves and not use AIPTs because they want to keep their work ethical and with an original touch.

Conclusion

Based on the information gathered from the students' questionnaire, it can be stated that when EFL students conduct an academic research, they tend to use AIPTs frequently and rely on them to assist their work as they find them effective, even though they may face difficulties while using these tools yet, they try to fix them, Furthermore, the majority of students have a positive view on the ethicality of those tools , as they provide them with ideas, organize arguments, save time and facilitate the writing process. Thus, it can say that EFL students use AIPTs in all aspects of conducting a research work, which adequately answers the research questions and confirms the research hypothesis.

General Conclusion

When conducting a research EFL students deal with some difficulties during their writing process such as; language and grammar issues, writing and structuring the work. For this reason, students tend to use AIPTs to assist them and fix the difficulties they face, as they believe using these tools is ethical and beneficial.

The current research is conducted for the aim of investigating EFL learners' opinion about the use of AIPTs while writing their research. In order to reach this end, the study relied on quantitative descriptive method, in which a questionnaire was administrated to Master two students from the Department of English at Guelma University. Unsurprisingly, the analysis of the questionnaire shows that majority of students tend to frequently use AIPTs to assist them on their research writing. Furthermore, most of the them have positive attitude towards the ethicality of these tools. As they believe that they are beneficial and helpful. However, even when using AIPTs, students still face some obstacles while conducting a research and this prevents them from fully relying on these tools and use them throughout their process of research writing. Following that, it can be concluded that the research hypotheses which assume that students have positive attitude towards the use of AIPTs is confirmed.

Pedagogical Implications and Recommendations

In the light of the data gathered, this study confirms that EFL students use AIPTs while conducting a research to facilitate the writing. However, students should not rely on these tools completely and should depend on themselves and improve their writing and research skills.

Other recommendations that this study could suggests for EFL students, is that they should use their spare time effectively by reading more about the topic of research and gather sources,

also they can access university sources as DSPACE and read old studies related to their topic of research. In addition, there are international libraries and data bases that publish academic works and scholarly sources that they can benefit from. Students have to get in touch with their supervisor and ask for help and guidance when needed. Furthermore, students must improve their research skills as well as their writing skills. Students got to learn how to appropriately create references list and cite all sources. They should access international websites that provide the agreed-on citation (APA, MLA, Chicago style... etc.) and use it as a guide.

Students can use AI tools to generate outline for their research and edit it according to their needs. They should not use AIPs without checking the outcome and fixing any mistakes, as these tools can generate out of topic answers and cause meaning loss. Moreover, they have to organize their time and set realistic and attainable goals about their research. They should follow a defined process to finish these goals and review them from time to time for achievement or lack of achievement.

Limitations of The Study

Writing a research is a long and challenging journey full of obstacles and issues that may effect the process of conducting it. Likewise, this research did face some difficulties, some of which are:

- Not being able to physically administrate the questionnaire to master two students and making sure that they provide accurate responses and relevant information.
- AI is still considered new topic, not many reliable sources were available to gather data.
- Having to undergo a training period in middle school while also writing this research caused lack of time and facing some obstacles with deadlines meeting which effected analysis and depth exploration.
- Lack of experience when it comes to conducting a research and fear of failure.

-Being overwhelmed with the professional training, paper submitting, inability to meet the students.... etc. All this obstacles and issues had effect on the process of conducting this research.

Suggestions for Further Studies

The current research tried to investigate the use of AIPTs on EFL research writing and get students opinions and perspectives on the matter. Therefore, the following few suggestions might pave the way to further studies:

- It is best to study a larger sample, and get different levels perspectives and opinions.
- Investigate teachers' opinions on the use of AIPTs by their students while varying data gathering tools.
- Academic research is a deep field of study, future researches may investigate different aspects of research and research writing.

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USING AI TOOLS IN PARAPHRASING THE ORIGINAL WORK AND THE PATCH

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Appendix

Students' Questionnaire

Dear students,

This questionnaire is a data collection tool for a research study that aims to investigate the use of AI paraphrasing tools in EFL research writing. We would be grateful if you could answer the following questions to provide us with information about your research writing practices and your use of AI paraphrasing tools. Your responses are highly valuable for the successful completion of this study.

Please mark (X) the box that best represents your choice and add any additional information where necessary.

FADEL Loubna

KACHI Sirine Chahrazed

Department of Letters and English language

University of 8 Mai 1945 Guelma

Section 01: General Information

1-How old are you?

Years.

2- Is studying English

a-Your first choice	
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b-One of your choices	
c-Imposed on you	
d- Others	

3-How could you describe your level in English?

a-very good	
b-good	
c-average	
d-bad	
e-very bad	

4-Do you think learning English is an easy task?

a-Yes	
b-No	

5- In which area of study would you prefer to write a research paper?

a-linguistics	
b-civilization	
c-literature	

Section Two: EFL Research Writing

6-According to you which skill is the most difficult?

a-Reading	
-----------	--

b-Writing	
c-Speaking	
d-Listening	

7- Have you ever written a research work in English?

a-yes	
b-no	

- If yes, what type of research paper have you written?

a-essays	
b-reports	
c- articles	
d-others , specify	

9- How confident do you feel about your ability to write research in English?

a-very confident	
b-somewhat confident	
c-neutral	
d-somewhat unconfident	
e-very unconfident	

10- Which part of writing a research paper do you find most challenging?

a-literature review	
b-methodology	

c-discussion of results	
d-citing and referencing	

11- Have you faced any difficulties in writing a research work?

a-yes	
b-no	

12- If yes, what are these difficulties

a-writing and structuring the research work	
b-language and grammar issues	
c- finding credible sources	
c-citing sources and avoiding plagiarism	
d- All of the above	

13- What tools or resources do you use to assist with research writing?

a-research information and gathering	
b-university resources	
c-writing assistance	
d-citation and bibliography help	

Section Three: AI Paraphrasing Tools

14- Are you familiar with AI paraphrasing tools?

a-yes	
-------	--

b-no	
------	--

15-How often do you use AI paraphrasing tools?

a-always	
b-frequently	
c-sometimes	
d-rarely	

16-What AI paraphrasing tools do you use?

a-Quillbot	
b-Chatgpt	
c-Scribbr	
d-Grammarly	
e-Paraphraser.ai	
d-Others, specify	

17-Which tool do you find more effective?

a-Quillbot	
b-chatgpt	
c-Scribbr	
d-Grammarly	

e-Paraphrser.ai	
f- Others	

18-Do you trust the output generated by these tools?

a-yes	
b-no	

19- Do you face any difficulty while using these tools?

a-yes	
b-no	

20-If yes, what are these difficulties?

a-loss of original meaning	
b-overuse of synonyms out of context	
c-plagiarism	
d-sentence's structure errors	
e-others, specify	

21- When facing the previously mentioned difficulties, do you try to fix them?

a-yes	
b-no	

22-If yes, how do you fix them?

a-Citation and references	
b-rereading and fixing structure	
c-changing synonyms	
d-changing meaning	
e-others, specify	

23-Do you believe using these tools is ethical in writing any research paper?

a-yes	
b-no	

Please justify:

.....

.....

.....

.....

.....

24- Any further information about the topic, are welcome!

.....

.....

.....

.....

.....

Thank you for your time and cooperation

Resume

La présente étude vise à examiner les perspectives des étudiants de Master 2 concernant l'utilisation des outils de paraphrase basés sur l'intelligence artificielle au département d'anglais de l'Université de Guelma. Rédiger une recherche en anglais comme langue étrangère représente un défi majeur pour les étudiants, dont beaucoup rencontrent des difficultés à la fois en écriture et en recherche, les poussant à recourir à des outils d'intelligence artificielle pour les aider. Parmi ces outils, les outils de paraphrase basés sur l'IA sont de plus en plus utilisés par les étudiants dans la rédaction de leurs recherches. Cette étude émet l'hypothèse que les étudiants ont une attitude positive vis-à-vis de l'utilisation de ces outils dans la rédaction académique. Pour tester cette hypothèse, une méthode quantitative descriptive a été adoptée. Un questionnaire structuré a été choisi comme outil de collecte de données et a été distribué à 53 étudiants de Master 2. Les résultats de l'étude indiquent que la majorité des étudiants connaissent les outils de paraphrase basés sur l'intelligence artificielle et les utilisent fréquemment, notamment ChatGPT et QuillBot. Toutefois, les résultats révèlent également que certains étudiants rencontrent des difficultés lors de leur utilisation. Sur la base de ces résultats, l'étude recommande que les étudiants soient conscients des limites de ces outils, qu'ils s'efforcent de devenir plus autonomes dans leurs travaux académiques et qu'ils réduisent leur dépendance excessive à ces outils.

المخلص

تهدف هذه الدراسة إلى استكشاف آراء طلبة السنة الثانية ماستر حول استخدام أدوات إعادة الصياغة المعتمدة على الذكاء الاصطناعي في قسم اللغة الإنجليزية بجامعة قلمة. إن كتابة بحث باللغة الإنجليزية كلغة أجنبية تشكل تحديًا كبيرًا للطلبة، حيث يعاني الكثير منهم من صعوبات في مهارات الكتابة والبحث، مما يدفعهم إلى الاعتماد على أدوات الذكاء الاصطناعي للمساعدة. ومن بين هذه الأدوات، أدوات إعادة الصياغة بالذكاء الاصطناعي التي يعتمد عليها الطلبة بشكل متزايد عند كتابة بحوثهم. تفترض هذه الدراسة أن الطلبة لديهم مواقف إيجابية تجاه استخدام أدوات إعادة الصياغة بالذكاء الاصطناعي في الكتابة البحثية. لاختبار هذه الفرضية، تم اعتماد منهج وصفي كمي. وتم اختيار استبيان منظم كأداة لجمع البيانات، ووزع على 53 طالبًا من السنة الثانية ماستر. تشير نتائج الدراسة إلى أن غالبية الطلبة على دراية بأدوات إعادة الصياغة بالذكاء الاصطناعي ويستخدمونها بكثرة، خصوصًا ChatGPT و QuillBot. ومع ذلك، أظهرت النتائج أيضًا أن بعض الطلبة يواجهون صعوبات في استخدام هذه الأدوات. وبناءً على هذه النتائج، توصي الدراسة بضرورة وعي الطلبة بعيوب أدوات إعادة الصياغة بالذكاء الاصطناعي، والسعي إلى تحقيق مزيد من الاستقلالية في أعمالهم الأكاديمية، والتقليل من الاعتماد المفرط على هذه الأدوات.