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Title

**Investigating the Effect of Using Grammarly Artificial Intelligence
Application on EFL Learners' Writing Skills**

Case Study of MASTER TWO Students at Biskra University

Dissertation Submitted to the Department of Foreign Languages as Partial Fulfillment of the
Requirements for the Degree of Master in Sciences of Language

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Declaration

I, LABIDI Abdeslem, hereby declare that this submitted work is my original work and has not previously been submitted for any institution or university for a degree. I also declare that all of the cited and quoted sources in this work are put forward in the references list. This work was certified and completed at Mohammed Khider University of Biskra, Algeria.

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Dedication

I dedicate this work

To my beloved parents, you are the reason for what I have become now. Thank you for your continuous care and support.

To my beloved brothers and sisters for being with me when needed.

To my dear friends and classmates, who made this experience so exciting.

And to everyone who helped me to carry this work...

Thank you

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Abstract

The present study investigates the effect of using Grammarly artificial intelligence (AI) application on EFL learners' writing skills for master's two (M2) students of English at Mohamed Khider University of Biskra. More precisely, it investigates the impact of the Grammarly program on students' writing skills. It aims at providing an overview of artificial intelligence, the Grammarly program specifically, concept and illustrates its application in the context of teaching academic writing to improve students' attitudes towards this module by optimizing practice and promoting learners' autonomy. We hypothesized that the use of the Grammarly program would enhance a sense of autonomy among learners in terms of error detection and correction. To accomplish the planned objectives of the present investigation, we opted for the descriptive approach, which comprised two data collection tools; a students' questionnaire, which targeted master two EFL learners (n=10) who were a focus group. In addition, a structured interview has been conducted with five supervisors (N=5) in the same department. The findings revealed that both teachers and students acknowledged the integration of artificial intelligence and the Grammarly program could yield a better understanding of the concept being learned by shifting focus from theory toward practice inside the classroom.

Keywords: Artificial intelligence, M2 EFL learners, academic writing, writing skills.

List of Abbreviation and Acronyms

AI: Artificial Intelligence.

AIEd: Artificial Intelligence in Education.

AW: Academic Writing.

CALL: Computer-Assisted Language Learning.

EFL: English as a Foreign Language.

ICT: Information, Communication, and Technology.

TELL: Technology-Enhanced Language learning.

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General Introduction

Introduction

Written expression is recognized as a necessary subject in the study of a second or foreign language. In order to make the learning process exciting and thought-provoking for students and teachers alike, English as a foreign language, educators have focused on developing new techniques for teaching language and enhancing the learner's writing skills.

Academic writing (AW) can be a problematic, affective, and complex process (Rahimi and Zhang, 2018). Unfortunately, very little is being done in higher education to equip graduate students. Monitoring the writing process and offering valuable productive feedback to students is too time-consuming, labor-intensive, and subjective (Lim and Phua, 2019, p.03). The computer-based applications are increasingly becoming alternatives to facilitate writing using automated writing evaluation

Information, Communication, and Technology (ICT) in the teaching and learning process refers to the use of computers, applications, and internet; the main goal of ICT in the academic context is to improve and promote learners' productivity, connectivity, and creativity.

One of the most significant goals of artificial intelligence is to create automated devices that can understand their surroundings and perform tasks in the same way that humans do. New writing applications are being combined to provide the Automated Writing Evaluation, Automated Essay Scoring, and Automated Written Corrective Feedback functions in one integrated program, which could offer versatile and time-saving enhancements to the writing curriculum (Koltovskaia, 2020).

1. Statement of the Problem

Writing has proved to be a complex skill in EFL teaching and learning due to the obstacles that learners face in the process of accomplishing their assignments or studies such as essays, articles, research papers, and dissertations. In the light of artificial intelligence many programs and applications have been developed to help learners achieve a better understanding

to the academic writing concepts, and its usage has risen in recent years. Therefore, this study investigates the effect of artificial intelligence on the learners' writing skills.

2. Aim of the study

The purpose of this study is to investigate the effectiveness of AI on the written materials of 2nd year master students and explore Grammarly's effects on the context of academia. In addition, the present research examines Grammarly's effects on the writing skills and autonomy of EFL learners.

3. Research Questions

RQ1: What is the EFL learners' attitude towards the use of artificial intelligence applications in academic writing?

RQ2: How effective is Grammarly to the context of academia?

RQ3: How does the use of Grammarly impact the writing skills and autonomy of EFL learners?

4. Research Hypothesis

H1: If we use the Grammarly program in the context of academic writing, it will enhance a sense of autonomy among learners in terms of error detection and correction.

5. Significance of the Study

In fact, the use of Artificial Intelligence (AI) has seen a significant increase in the last years. It is primordial to figure out its effect on the learner and to investigate into how does Grammarly affect the writing skills of the learner. Studies that examined AI and writing skills may serve as a guide for language learning in terms of helping them improve the writing process. Therefore, the present study may add a valuable stone to the field of education in general.

6. Methodology

The researcher intends to focus on the use of Grammarly as a guide to enhance the writing skills. Also, the use of mixed-method design to collect data for the present study for data collection tools, a questionnaire is designed and administered to master two students at Mohamed Khider University of Biskra to elicit their attitude toward academic writing as a subject and to check their opinion about the use of Grammarly. The second data collection tool is an interview with supervisors after they check the deference between students' work with and without Grammarly.

7. Population and Sample

The population of this study comprises master two supervisors and a focus group of ten (10) students as a sample from master two students at the department of English at the Mohamed Khider University, Biskra. The sample was chosen on purpose because learners at this level conduct a research and prepare their dissertation before the end of the second semester.

8. Structure of the Dissertation

This dissertation composes of an independent variable which is artificial intelligence, and a dependent variable, which is academic writing. The overall framework of this dissertation is divided into two sections: theoretical and practical. Therefore, the theoretical section includes a review of the literature on the two variables. The practical section represents the study's fieldwork.

The first chapter provides a theoretical basis for Information and Technology instruction, identifying its fundamental branches. It also limits the scope of their relationship to the learners' skill set, teachers' methods, and benefits when integrated. Furthermore, the chapter defines AI, offers a theoretical base for this technology, and analyzes how such implementation

can give learners more practice time during class. Finally, this chapter provides an overview about Grammarly also its definition, benefits, and drawbacks.

Chapter two, on the other hand, is devoted to a theoretical examination of academic writing in terms of its definitions and relevance to MA students. Later on, the focus narrows to writing skills and student competency. Following that, it goes into the main steps of conducting research as well as the obstacles that come with them.

The third chapter is mostly concerned with the practical part. Its goal is to discuss sample and data collection methods, data processing, and interpretations of results.

Finally, the work ends with a general conclusion, references list, appendices, and the abstract in Arabic.

Chapter One:

Artificial Intelligence

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Introduction

In the 21st century, education has witnessed huge advancements in the light of Artificial Intelligence use which got educators thinking about how they could use these new technologies to improve learning and teaching. Also, these advancements led programmers to develop new applications that could simplify the learning and teaching process. Some of the programs that got educators' and learners' attentions are Grammarly and Proofreader. The goal of this chapter is to provide readers with a historical overview of artificial intelligence in the context of language learning. It also narrows the scope to establish the theoretical foundations of the Grammarly application, define the application, and highlight some of its benefits as well as some of its flaws. Finally, the chapter discusses how Grammarly affects the learning process.

1. Theoretical Background of Information, Communication, and Technology in Education

ICT integration in education refers to the incorporation of computer-based communication into the daily classroom teaching process. Teachers are viewed as essential players in employing ICT in their daily classes, in addition to preparing students for the modern digital environment. This is due to ICT's capacity to provide a dynamic and proactive teaching-learning environment (Arnseth & Hatlevik, 2012, P.267). While the goal of ICT integration is to increase the quality, accessibility, and cost-effectiveness of instruction delivery to students, it also refers to the advantages of networking learning communities to solve the difficulties of present globalization (Albirini, 2006, p.6).

ICT is the use of digital technology to enable individuals and institutions to use, exchange, and access information at any time and any place. According to UNESCO (2018), the ICT Competency Framework for Teachers is a response to recent technological and pedagogical innovations in the field of ICT and Education, and it combines in its framework inclusive values of non-discrimination, open and equitable information access, and gender

equality in the delivery of technology-assisted education. It addresses the effects of recent technological advances on education and learning, such as Artificial Intelligence, Mobile Technologies, the Internet, and Open Educational Resources, in order to enable the creation of inclusive Knowledge Societies.

1.1. Computer-Assisted Language Learning

The use of computers in language teaching dates back to the 1960s. Initially, it was only available to students at universities. Project PLATO at the University of Illinois was considered as a turning point in the development of Computer Assisted Language Learning (CALL) (Marty, 1981). In the 1970s, when personal computers (PCs) became more widely available, there was a rush in CALL program development. CALL is an interactive approach of instruction that allows learners to work at their own pace and capacity to attain their learning objectives. In this method, computer technology is employed in all stages of the teaching/learning process, including presentation, practice, and feedback (Kumar & Sreehari, 2009, p.3). To summarize, CALL makes use of computer programs and the internet to accelerate and facilitate language learning; it is a significant and continuously evolving field that may be used to present, reinforce, and assess the subject being learned.

1.2. Technology-Enhanced Language Learning

The difference between CALL and Technology-Enhanced Language Learning (TELL) is that the computer becomes less visible yet more prevalent. The shift in focus from computer to technology places a greater emphasis on the media of communication enabled by the computer, which is often unseen, rather than the computer itself (Kranthi, 2017, p.30). TELL and CALL is a key research publication that examines the impact of technology on language education and the use of technology in language learning courses, including foreign and second

language learning. Artificial intelligence, teacher preparation, and distance learning are among the topics covered (Zou & Thomas, 2020). In recent years, technology has been used to both assist and enhance language learning. Teachers have used a variety of technological tools to help them support their teaching, engage students in the learning process, provide authentic examples of the target culture, and connect their classrooms. Besides that, some technology tools allow teachers to distinguish instruction and adapt classroom activities and homework assignments, thereby improving the language learning experience (Patel, 2017).

1.3. E-Learning

E-learning is made up of two parts: "E" and "learning." "E" stands for electronic, and "learning" refers to the process of acquiring knowledge. Several researchers provided detailed definitions of the term. According to Garisson and Anderson (2003), as cited in Rais and Yusup (2004, p. 50), E-learning is defined as network or online learning that occurs in a formal setting and makes use of a variety of multimedia technologies. It is an online (synchronous) or offline (asynchronous) learning system that is supported by digital hardware and software. Downes (2005) stated that E-learning had been around for about ten years in its current form. During that time, it has progressed from a radical concept whose efficacy had yet to be proven to something widely accepted as mainstream. It is at the heart of many business plans, and most colleges and universities provide it as a service. We deduce from the above concepts that E-learning is the Internet and the computing environment. CD-ROMs, software, documents, audio, and video stored on computers will benefit students who do not have access to the internet. They can, however, use communicative skills to transfer information and share knowledge and experiences via the internet. In order to achieve the best teaching/learning outcomes, it also incorporates other forms of learning, such as media and broadcasting.

2. Artificial Intelligence

Artificial Intelligence (AI) is a rapidly growing technological field that has the potential to change every aspect of our social interactions. In the field of education, AI has begun to develop new teaching and learning solutions that are currently being tested in a variety of settings.

2.1. Definition of Artificial Intelligence

According to Copeland (2021), AI is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. Tucci (2021) defines AI as the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition, and machine vision.

It is the science and technology of constructing intelligent machines, particularly intelligent computer software. It is similar to the task of using computers to understand human intelligence, and yet AI does not have to limit itself to biologically observable methods (McCarthy, 2007, p. 02).

2.2. Types of Artificial Intelligence

Petersson (2021) explained how modern artificial intelligence has progressed from simple categorization and pattern recognition tasks to systems that can make predictions based on historical data. Deep learning is causing a revolution. In the twenty-first century, machine intelligence has advanced rapidly, resulting in such ground-breaking products as self-driving

cars and virtual assistants Alexa and Siri. The four types of AI described in Petersson's article are listed below.

2.2.1. Reactive Artificial Intelligence

The algorithms used in this early type of AI have no memory and are reactive, indicating that the output is always the same given a specific input. This type of AI-powered machine learning model performs well for simple classification and pattern recognition tasks. They can process large amounts of data and appear to be intelligent. However, they are incapable of analyzing situations that include incomplete data or require historical knowledge. An example of Reactive AI is the famous IBM Chess program that beat the world champion, Garry Kasparov.

2.2.2. Limited Memory Machines

The basic algorithms in limited memory machines are designed to mimic the way our neurons connect and are focused on our comprehension of how the human brain works. This type of deep learning machine can manage complicated tasks and make predictions based on historical data; it can also complete complex tasks such as automated driving. Limited memory machines are classified as having narrow intelligence because they lag behind human intelligence in other ways, despite their ability to far outperform typical human performance in certain tasks. They need a lot of data to learn tasks that humans can learn with just a few examples. For example, self-driving cars use sensors to identify civilians crossing the road, steep roads, traffic signals, and so on to make better driving decisions.

2.2.3. Theory of Mind

This type of unrealized AI is defined as being capable of comprehending human motives and logic and, as a result, delivering personalized results based on an individual's motives and needs. Theory of mind is also known as artificial general intelligence. AI can learn from fewer examples than limited memory machines, contextualize and generalize data, and extrapolate

knowledge to a wide range of problems. Artificial emotional intelligence, or the ability to identify and empathize with human feelings, is being developed, but current systems lack theory of mind and are a long way from self-awareness, which is the next step in AI's evolution.

2.2.4. Self-Aware Artificial Intelligence

This type of AI is conscious of not only the mental states of other units but also of its own. Artificial super intelligence, also known as self-aware AI, is defined as a machine with intelligence on an equal level with general human intelligence that is competent of far overtaking human cognition by creating more intelligent versions of itself.

2.3. Applications of Artificial Intelligence in Education

Artificial intelligence is used in a variety of ways in today's society. It is becoming increasingly important in today's world because it can efficiently solve complex problems in a variety of industries, including healthcare, entertainment, finance, and education. Our daily lives are becoming more comfortable and efficient as a result of artificial intelligence (Zawacki-Richter et al., 2019).

AI in Education (AIEd) is primarily concerned with the development of computers that perform cognitive tasks, such as learning and problem-solving, that are typically associated with human minds. AIEd has become a field of scientific research for more than 30 years. It focuses on understanding and optimizing the adoption of AI techniques for educational purposes is greater than ever, not only in academic institutions but also in government agencies (Chen *et al.*, 2020, p. 2).

3. Grammarly

Grammarly checker software is an application that is used as a writing aid to support writers in checking for various types of language errors or grammar errors in English. It is an application that controls, maintains, and maintains writing production to look right.

3.1. Overview of Grammarly

Shevchenko, Lider, and Lytvyn founded an English writing help company in 2009. They tried to define a new technological space from the beginning. Although it was a long journey, the mission was clear from the start. Their previous company, MyDropBox, had developed a product to help students avoid plagiarism in their writing. This prompted to consider a serious underlying question: why do people plagiarize in the first place? Is it possible that they were having trouble expressing themselves in their own words? The theory was first put to the test by launching an online editor as a paid subscription service. The company became cash-flow positive very quickly. Then the name "Grammarly" was established. The main focus in these early days is to correct grammatical errors to assist students with their writing. The assist with the basic building blocks of the English language with the mechanics of writing helped people have more confidence in their work and not feel the need to lift text from other sources (Lytvyn, 2021).

Grammarly is free to use by copying and pasting text into a box on the website, and so it is free to add to Chrome. There is also a seven-day free trial if you want to try out all of the Grammarly features that come with the paid version before deciding whether or not to buy it. Grammarly is a subscription-based service that offers monthly and annual plans. The cost of the paid full version of the Grammarly app in 2020 will be determined by the length of your subscription.

- Monthly Subscription Plan: \$29.95
- Quarterly Subscription Plan: \$59.95
- Annual Subscription Plan: \$139.95

3.2. Definition of Grammarly

According to Doyle (2020), Grammarly is a "writing assistant" that proofreads and edits documents for job seekers, writers, and other professionals. It detects over 250 different types of spelling, grammar, and punctuation errors, as well as improving vocabulary usage.

According to Charles University, Grammarly is a digital writing tool using artificial intelligence and natural language processing that checks for spelling, grammar, punctuation, clarity, engagement, and delivery errors across multiple platforms. Also, it tries to identify and find a suitable replacement for the error it discovers.

3.3. The Use of Grammarly in Academia

Since most international journals and conferences require papers or articles to be written in English, it is essential for EFL students to focus more on mastering the language in their writing. Thus, before submitting a piece of writing, a writing evaluation is required to make the writing clearer and more understandable without creating unclear meaning or misunderstanding information. Because technology is rapidly evolving, Grammarly was created to assist language learners in improving their language skills. It is a computerized program that uses an online checking system to automatically evaluate and rate writing. It embraces a computational linguistics-developed artificial intelligence to rate and score writing submitted to the program by analyzing it on lexical, syntactic, discourse, and grammar levels and providing diagnostic feedback and correction to the user. As a result, the user can preview their evaluation result by looking at the system's feedback and corrections, then begin revising the writing based on their own evaluation, saving time in checking and evaluating the writings (Nova, 2018, p.81).

Grammarly, as one of the Automated Writing Evaluation programs developed in the twenty-first century, has been considered as a simple tool that can assist students and academics with their writing by checking for spelling, grammar, and punctuation errors and provides

related and useful feedback, including correction and recommendations to make the writing more readable, clear, precise, effective, mistake-free, and impactful, all while maintaining a high rate of accuracy and evaluation speed (Grammarly, 2017). Nonetheless, there are only a few studies that have taken its claim into account and evaluated the Grammarly program's evaluation process. As a result, the user's perspective must be considered to see if using this program provides the benefits that it claims or if it causes any difficulties or confusion in the evaluation process.

3.4. Benefits of Grammarly

Grammarly's popularity has risen dramatically in recent years for a variety of reasons. These are just a few of the many advantages that this writing software provides.

Grammarly is easy to use, so you don't have to be a software engineer to use it. All can be done by any person. Also, it is quick in monitoring and checking the small works and gives understandable feedback, which helps learners to track their mistakes and correct them manually. Furthermore, Grammarly is highly accurate, which makes its judgment reliable, and it encourages the use of active voice. Moreover, Grammarly comes with a plagiarism checker in its premium version. Finally, Grammarly does improvements every time relaying on users' feedback (Dembsey, 2017, p.67)

3.5. Drawbacks of Grammarly

While Grammarly has some fantastic features, there are some areas where it could be improved. First, the free version is very limited, and it has only one function, which is correcting grammar and spelling. Also, it creates a huge lag when dealing with large texts and takes so much time. Moreover, it does not always work perfectly. As we said, its accuracy is not 100%

guaranteed, so the learner needs to check always before making adjustments. Furthermore, the overuse of Grammarly may affect the learner badly and make his talent disappear (Shim, 2022).

Conclusion

In academia, AI is a novel learning strategy aimed at meeting the needs and expectations of 21st century learners while also encouraging the development of higher-order cognitive skills and mastery learning. Grammarly focuses on improving and correcting the learners' writing skills. As a result, learners can track their errors and the proper way to correct them. Additionally, the correction process may take less time. Grammarly also encourages students to improve their grammar and autonomy. This chapter established the theoretical foundation of the approach, its definition, as well as the advantages and disadvantages of using it.

Chapter Two: Academic Writing

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Introduction

Academic writing is the most advanced form of communication, in which the writer's thoughts and ideas are transformed into a high written form. Therefore, improving academic writing abilities is an essential part of tertiary education. Furthermore, mastering academic writing necessitates more effort, practice, and knowledge of its main characteristics in order to produce an effective academic written product. This chapter provides a general overview of academic English and definitions, approaches, characteristics, and genres of academic writing.

1. Definition of Writing

In its broadest sense, writing is defined as converting sounds into a combination of letters. According to Byrne (1988, p.01), writing is the process of arranging graphic symbols according to certain conventions responsible for the formation of words. Similarly, words are arranged in a specific set to produce a sequence of sentences linked to one another, resulting in the creation of a coherent text. White and Arndt (1991) indicated that writing is more than just translating language into written symbols; it is a thoughtful process that takes time and mental effort. As a result, we can conclude that writing is more than just putting words and sentences together; it is a complex process that requires a high level of thinking skills and effort to produce a well-written piece.

2. Definition of Academic Writing

Academic writing (AW) refers to the process of writing dissertations, articles, essays, and research papers under academic requirements. According to Hood (2010, p. 04), AW is about how we position ourselves in interactions with knowledge. Where explicit guidance is given in the management of interpersonal meaning. In other words, academic writing is writing that minimizes subjectivity and emphasizes objectivity to a large extent. Accordingly, Bowker (2007, p. 2) says, “academic writing does many of the things that personal writing does not.” He claims that AW necessitates the use of structure and a specialized vocabulary. It also deals

with the proper use of mechanics like transitions, connectors, and punctuation, which enable the reader to interpret the writer's intended meaning.

3. Academic Writing Processes

Academic writing is a complicated process that even native English speakers find difficult to master because a well-written product requires the completion of several stages. These stages emphasize that writing is more about the process than the outcome. According to McGarrell and Brillinger (2008), while the act of writing is enjoyable, following the stages of the writing process can help the writer think more clearly about a topic. The main stages of the writing process are pre-writing, planning, drafting, revising, editing, and publishing.

3.1. Pre-Writing Stage

The pre-writing stage is the first step, and it includes all of the work that must be completed before the final written product can be produced. According to Kelly (2018), the pre-writing stage is the most crucial stage, in which the student generates ideas and organizes them using a variety of techniques, including brainstorming, freewriting, mind maps, drawing, questioning, and outlining. It is an essential and effective strategy that teachers should consider because involving students in this stage makes writing much easier.

3.2. Planning

Planning is one of the most important stages in the writing process because it helps students organize themselves. According to Wilkinson and Hommes (2010), The goal of planning outline is to organize and present ideas in a logical order. Making an outline during the planning stage, on the other hand, keeps the student on track with his or her paper and prevents him or her from becoming distracted by irrelevant information.

3.3. Drafting

The writer's second step in the writing process is drafting, which entails putting the ideas gathered during the prewriting stage into sentences or paragraphs without regard for grammar or spelling errors. According to Dymoke (2003), drafting is purely a technical process that students use to obtain a complete final copy. Regarding the teachers' role in the drafting stage, Dymoke suggests that teachers should encourage students to improve their writing skills by teaching them how to plan and organize their thoughts before discussing the quality of those thoughts with their classmates or teachers. In a nutshell, this is the stage at which students write their first draft based on their notes, without regard for organization or accuracy.

3.4. Revising

Revising is the stage that comes before editing, and it involves the student critically rereading their writing to remove inappropriate ideas or change word placement. According to Skye (2016), writing is a process, and revision is the magic of that process; however, when someone writes knowing that they will be able to change everything in the revising stage, it allows for an infinite amount of creativity. According to Fulwiler (1988, p.167), revision is a type of conceptual work in which students reread, rethink, and rewrite their ideas on paper until they match what they are thinking in their heads. Rethinking their approach, topic, argument, evidence organization, and conclusion, as well as experimenting with change, is what revising entails.

3.5. Editing

Editing is the step before the final step in the writing process, where the student prepares his or her work for publication. This stage requires the student to ask himself some questions about proper punctuation, capitalization, and tenses to improve a draft and make it

more accurate, interesting, and convincing. According to Fulwiler (1988, p. 167), editing is more about changing language than it is about changing ideas. After they have decided what they want to say, writers usually edit it, checking each word or phrase to see if it is necessary, accurate, and correct. The editing stage is more concerned with the surface and formatting errors than the content.

3.6. Publishing

The final stage of the writing process is publishing, in which students present and share their final written work. According to The Audiopedia (2016), publishing is the process of creating and disseminating literature, music, or information to the general public. This refers to distributing the finished text to the intended audience or teachers. There are a variety of reasons why students choose to publish their work. Murray (2005) mentions the following as some of the reasons:

- Career progression.
- Personal satisfaction of completing a new goal.
- Learning how to write to a higher standard.
- Helping students to gain recognition for their work.

4. Academic Writing Approaches

Teaching writing is becoming increasingly important and popular. Significant changes in writing instruction have occurred in the last two decades, resulting in paradigm shifts in the field. Various approaches to writing instruction have circulated over time. However, over the last few years, the focus and discussion have been on the gaps between the four main approaches: product-based, process-based, genre-based, and process genre. As a result of the

fact that discussion frequently introduces different ideas and often conflicting perspectives on teaching writing,

4.1. The Product Based Approach

The product approach is one in which the teacher focuses more on the final product and the form than on the content and how the writing process is carried out. On the one hand, Wood (1994) claims that receiving instructions on aspects of writing such as grammar, punctuation, and so on will improve students' writing quality and that in this approach, the teacher is the only one who has the opportunity to read the student's piece of writing because the focus is on the completion of the written product.

On the other hand, Tuffs (1993, p.702) points out some of the approach's flaws, stating that one flaw of the product-based approach is that it does not exemplify how the writer arrives at the final product. This demonstrates that the product approach does not influence a student's writing progression, in contrast to the process approach, which focuses on the steps students must take to achieve the desired final product.

4.2. The Process Approach

The process approach has played an important role in the evolution of writing instruction and learning. Namouchi (2014, p. 43) acknowledges that the process approach's main goal is to teach students how to produce writing ideas, plan these ideas, consider the audience, draft, and redraft to produce a completed written paper. According to Tuffs (1993), the process approach focuses more on the stages that good writers go through before completing their final work. In addition, he investigates the process approach's promoting role in L2 writing, concluding that the process approach highlights students' ability to produce comprehensive written text and can be used as a tool to foster language development. Overall,

using the process approach as a tool in teaching and learning writing, particularly academic writing, which necessitates this approach, may be beneficial for effective writing.

4.3. The Genre Approach

The genre approach is where the writers should have specific knowledge of the genre. They are required to process something related to. According to Tuffs (1993, p.706), the genre approach aims to identify the characteristics of successful writing within a specified genre and then teach these characteristics to students. Finally, Hasan and Akhand (2010) assert that a genre-based approach is focused on the context in which the text is delivered and the intended audience in the selected population, and it addresses writing as a sociocultural practice. This means that this approach concentrates on specific aspects of the text or discourse that would be used in a piece of writing.

4.4. The Process-Genre Approach

The process-genre approach proposes a diverse structure for teaching writing by combining the strengths of both the process and genre approaches and implementing them in the classroom. According to Badger and white (2000), the process-genre approach focuses on writers in a situation assigning a specific genre to it. This enables the students' schemata and allows them to assume the structural features of that genre.

5. Academic Writing Characteristics

Academic writing, as previously stated, has different characteristics that distinguish it from other types of writing in many ways. For example, academic writing has characteristics such as passive voice, complex grammar, specific vocabulary, nominalization, and fluency and accuracy, which make it objective and easy to assess and evaluate. Academic writing also has many other characteristics that many scholars and researchers have mentioned.

5.1. Coherence and Cohesion

According to Poudel (2018, p.1), the essential properties of texts in academic writing are cohesion and coherence, which refer to intra-text connectedness and the contextual fitness of the ideas. Therefore, students should ask themselves some questions to achieve coherence and cohesion, such as: are my ideas interconnected? Is the meaning of my arguments clear? Asking some of these questions could help keep the text together and make it easier to understand.

Coherence is seen as an in-text quality, according to Poudel (2018, p.1). “The contextual appearance of the utterances in the text. More specifically, it is the contextual fitness in the text that contributes in understanding the meaning or message”. This means that coherence may be seen in the flaws of links between concepts inside a text. Meanwhile, cohesion is defined by (Yule, 2008). “It is the part of the system of a language; a type of intra-sentence relation of an item with either the preceding or following item/s in the text.” It shows the relationships that occur at the grammatical structure and vocabulary levels, where grammatical cohesion comprises reference, substitution, ellipsis, and conjunction.

5.2. Cautious and Formal writing

Academic writing is formal, which means that idiomatic and colloquial expressions should be avoided. By using hedging verbs and expressions, cautious writing means avoiding judgment and not being overly direct. According to Jordan (1999, p.88), academic writing is formal in an objective style (often using impersonal pronouns and phrases); cautious language is frequently used in reporting research and making claims, and vocabulary appropriate for specific academic contexts is used.

According to Gillet, Hammond, and Martala (2009), taking a position on a topic is critical in any type of academic writing. The writer has to be certain of the validity of his statements. He must avoid making broad claims that do not allow for exceptions, so careful wording is required in academic writing. Ziebuhr et al. (1998, p.126) maintain That “formal writing emphasizes the importance of its subject and the exactness of its information. Its tone is dignified, and it maintains a certain distance between writer and audience.” he defines Formality as the avoidance of personal speech (the usage of I and you). The sentence structure was complicated. It also employs advanced, technical, and abstract terminology.

5.3. Audience and Purpose

Academic writing is intended for a specific audience, such as students or specialists, and it has a specific goal to achieve. Academic writing is most commonly used to defend, compare, or introduce a research project or scientific work. According to McGarrell and Brillinger (2008), students should consider the audience when writing, and their writing should correspond to the audience's expectations. In other words, students should learn what is known about the subject and what they want the audience to understand.

Academic writing is often used to demonstrate knowledge in general and explain, enlighten, and convince in particular. However, according to Monippally and Pawar (2008), this sort of writing is also utilized to document study findings. In fact, the objective is determined by the chosen issue, the manner in which it will be developed, and the intended audience. It might also entail examining, modifying, and assessing a subject of study.

5.4. Language and Style

Since academic writing has its audience and purpose, the language used should be appropriate for academic purposes. Blanpain (2006) believes that students should be conscious

about the structure of sentences and the terminology used in authentic English contexts to avoid using unnatural and translated language. Furthermore, Kane (2000, p. 11) defines style as the sum of all the writer's decisions about words and their arrangements. Style can be good or bad in this sense, good if the choices are appropriate to the writer's purpose, and bad if not. The Oxford Companion to the English Language (1994, p.8) indicates that the register of English used by intellectuals and scientists; is a high and frequently complicated language associated with care for truth, impartiality, and dispassionate commentary.

To summarize, efficient academic writing requires linguistic features such as vocabulary, grammar, mechanics, and origins and aspects of academic style such as avoiding personal pronouns, contradictions, and personal adverbs.

6. Academic Writing Genres

We have discussed various characteristics of academic writing, such as audience and purpose, which influence the various academic writing genres, such as essays and compositions, theses and dissertations, press and laboratory reports, etc. Students in higher education may use essays, research papers, theses, and dissertations as their primary genres. However, this is not an exhaustive list; other genres exist, depending on specific disciplines, and they differ from one university to another.

6.1. Essays

At university, essays are the most commonly used genre of writing. They are based on question-and-answer sessions, which are usually based on what students have learned in class, to assess and motivate EFL students who write effectively and academically, whether for a classroom or exam assignment. According to Your Dictionary (2019), An essay is a short literary composition that is analytical, interpretive, or reflective in nature, dealing with its

subject in a non-technical, limited, and often temporary manner and usually expressing the author's perspective and personality. According to Soles (2009), as cited in Saihi (2015, p.6), An academic essay is a written text on a topic related to a course taught at a school, college, or university that is rarely less than 500 words long or more than 5000 words long. This definition specifies the approximate number of words in the essay as well as the various topics that relate to what was discussed in class. The structure of an essay is as follows: introduction (usually with a thesis statement), body paragraphs, and conclusion. They are written for various purposes, including identifying, exploring, informing, and even persuading.

6.2. Research Papers

A research paper is a short piece of research submitted by students to fulfill a specific area of a course, and it may be used as a tool of assessment. According to Serria College (2013), A research paper is a long essay in which students demonstrate what they have learned from the course through their own ideas. Students may use several sources simultaneously, such as articles, books, etc., but they must be precise and concise because they are working on a paper of a certain length. However, Winkler and Metherell (2010, pp.3-4) define it as a printed paper, also known as a term paper or library paper, that is usually between five and fifteen pages long and must follow the rules of scholarly writing. They claim that while many students despise writing research papers, they are still a useful tool for learning about a subject that students usually choose. Writing a research paper encourages students to seek out information and exposes them to the rigors of the research process. Overall, it familiarizes them with the "learning by doing" method.

6.3. Thesis and Dissertation

Postgraduate students are required to submit a thesis or dissertation as they near the end of their studies. However, Kennedy (2014) believes that these two terms are interchangeable because some universities, like ours, refer to doctoral works as dissertations and master's works as theses, while others believe the opposite. Indeed, a thesis is defined by Merriam Webster as a dissertation containing the results of original research and particularly substantiating a specific viewpoint written by a candidate for an academic degree.

Fisher (2010, p.3) defines a dissertation as a report on a significant piece of primary research (typically between 15,000 and 20,000 words long) that describes a student's investigation into a specific issue, analyzes the research, and presents the findings.

To summarize, each university and program has its own set of requirements for what should be included in a thesis or dissertation. However, despite their differences, they share a similar basic structure, conventions, and goals.

Conclusion

Academic writing is becoming more popular, and more studies are being conducted in this area. Academic writing research is conducted both within and across disciplines. However, because academic writing is such a broad and large subject, we have broken it down into more specific topics. It appears that academic writing necessitates a variety of critical thinking skills, such as analyzing, synthesizing, and evaluating valid arguments and claims. Furthermore, the description of academic writing teaching approaches implies that different concepts of knowledge and mastery of fundamental language skills are required.

**Chapter Three:
Analysis and Discussion of
the Results**

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Introduction

The current study investigates the effect of using the Grammarly artificial intelligence program on the writing skills of EFL students. As a result, this chapter is devoted to fieldwork and discusses the reason for the method used. It also outlines the research concept, research strategy, data collection equipment and devices, and sample methodologies. Finally, the chapter displays the data that has been collected and analyzed in order to assess the validity of the study hypotheses and derive logical conclusions and interpretations.

1. Research Design

We opted for a descriptive design to answer the study questions. The main goal of the investigation was to see if utilizing the Grammarly program could help learners improve their writing skills. Henceforth, the current study collected data using a mixed-method approach. Because of the nature of the investigation, a thorough understanding of the situation and its causes is required. According to Creswell (2014, p. 215), "This "mixing" or blending of data, it can be argued, provides a stronger understanding of the problem or question than either by itself." To put it another way, researchers combine/mix qualitative and quantitative methodologies to counteract the flaws of both approaches, increasing the credibility and validity of the findings while minimizing biases in the data obtained and analyzed.

2. Population and Sample

The population targeted in the present study comprised master two students at the University of Mohammed Khider Biskra. The reason behind choosing this population is that students at this level are required to produce their own theses papers; this work serves as a real-world demonstration of students' understanding of artificial intelligence and their writing abilities. In other words, master students are expected to put what they have learned about academic writing (AW) throughout the years into practice.

To collect data from the students, a focus group sampling strategy was utilized; this technique allows for examining the problem from many perspectives while minimizing bias in the results. Finally, ten (10) master two students, each one from a different supervisor, were chosen to have one of their chapters corrected using Grammarly premium, after which they were requested to complete a questionnaire. After reviewing the AI program's work, six (6) of the students' supervisors were invited to participate in the interview.

3. Data Collection

Data collection tools employed to achieve the defined objectives, test the research hypotheses and solve the research questions included a questionnaire provided to students to elicit students' views regarding AW and the concept of the Grammarly program. Furthermore, we have interviewed supervisors whose candidates' chapters were revised by the Grammarly program to inquire about the currently used program, the main benefits associated with using Grammarly, and their perception of the AI programs.

3.1. Students Questionnaire

3.1.1. Description of Students' Questionnaire

The questionnaire was designed for Master two EFL students (Applied linguistics major) at the University of Mohamed Khider – Biskra. We opted for a sample that contained ten (10) students amongst the population, which comprised a total of (141) students. This questionnaire aims to discover students' attitudes towards AW, highlight some of the difficulties students have with this subject, and check students' perceptions of the concept of the Grammarly program.

The questionnaire was semi-structured (See Appendix A), and it was divided into two main sections that comprised open-ended and closed-ended questions; regarding the closed-ended questions, students were supposed to pick an answer based on a Likert scale or tick

Yes/No. Whereas, Open-ended questions were used to allow students to provide justifications or explanations about their responses.

Section one: Students' attitude towards Academic Writing in language learning.

The first section of the questionnaire included six main questions about AW. At first, the participants were asked about the importance of learning AW and why they think it is essential. Furthermore, we have asked students about their implications of the concepts they learned. Also, the questionnaire addressed the participation of students in AW class. Moreover, responders were asked to name some of the difficulties pertaining to learning AW. Finally, we asked students about complexities/confusion related to AW during the process of conducting research.

Section Two: students' perception of the Grammarly Program

The second section consisted of seven main questions about the Grammarly program. First, participants were asked if they were familiar with the concept of Grammarly. If their response was yes, they were asked to tell the source of their information. Later, we asked responders about their attitudes towards the integration of ICT inside the classroom. Furthermore, we asked students about what they usually focus on while using Grammarly and how often they use it. Finally, the last question in this section aimed to elicit students' attitudes towards the concept of Grammarly.

3.1.2. Validity of Instruments

Prior to the actual administration of the students' questionnaire, it was forwarded to the supervisor to get some feedback/suggestions concerning the items included within the questionnaire. Eventually, the supervisor proposed some insightful comments and suggested piloting the questionnaire with some participants to evaluate its clarity in terms of content,

functionality, delivery, level of difficulty, and the layout of items. Consequently, some questions that seemed repeated and ambiguous to the participants were excluded from the final version of the questionnaire.

3.1.3. Administration of the Questionnaire

The final version of the questionnaire was designed using Google forms; then, it was administered online to the target sample via email on May 19th, 2022; Submitting the questionnaire online was the only option. Hence, Master two students were unavailable during the second semester.

3.1.4. Analysis of Students' Questionnaire

The questionnaire contained thirteen (13) multiple-choice questions, four of which were measured on a five-point Likert scale. We also asked participants to provide a brief explanation for their replies in order to detect common responses. After validating and piloting the questionnaire, it was sent out to the desired sample of (10) master two students through email. Ten (10) students eventually completed the questionnaire.

Section one: Students' attitude towards Academic Writing in language learning.

Item 01: Do you consider academic writing an essential subject in your academic journey?

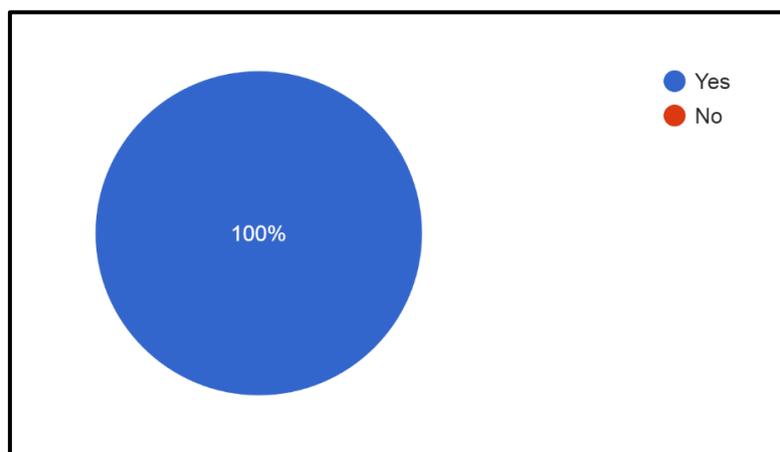


Figure 1: Students' Awareness about the Importance of Academic Writing.

Figure 1 reveals that all the students responded positively to this question, which makes them consider AW as an essential subject in their academic career because it is an effective way to transfer ideas and information to the reader. Also, AW is a tool to persuade, analyze, and inform readers about the target subject. Furthermore, through the mastering of academic research and writing, it sharpens reading, listening, and speaking skills.

If yes, why?

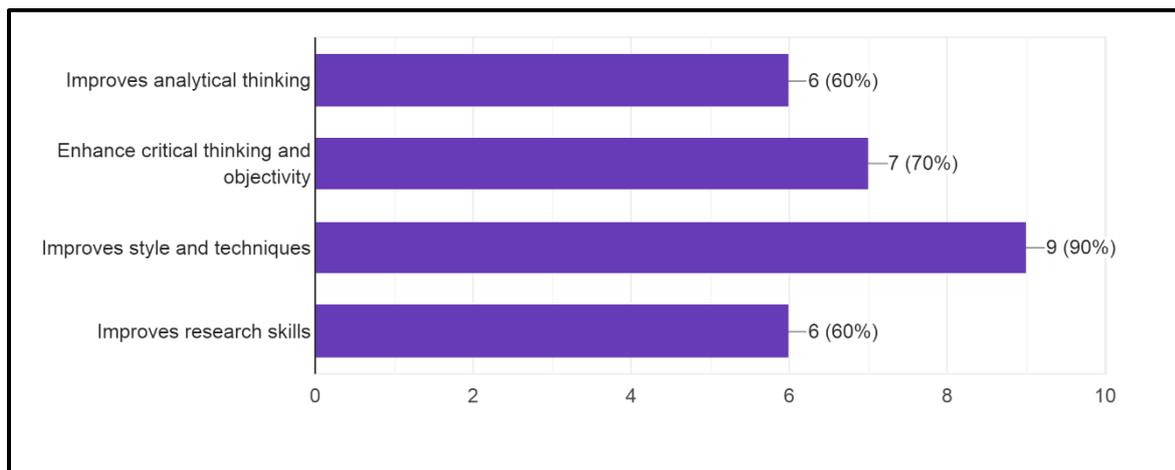


Figure 2: Reasons of Academic Writing Importance

Figure 2 describes why students think that AW is an important subject. We can notice that the respondents have more than one reason. A great number of the students with (90%) rate picked improving style and techniques, followed by enhancing critical thinking and objectivity with (70%) rate. Whereas improving analytical thinking and improving research skills came last with an equal rate of (60%). This goes back to their need for AW in their learning and academic career. Also, it helps the writer provide a well-understood piece of work to the reader because AW is different from other forms of writing, and the main focus is on style and technique.

Item 02: How often do you practice concepts you learned in academic writing inside the classroom?

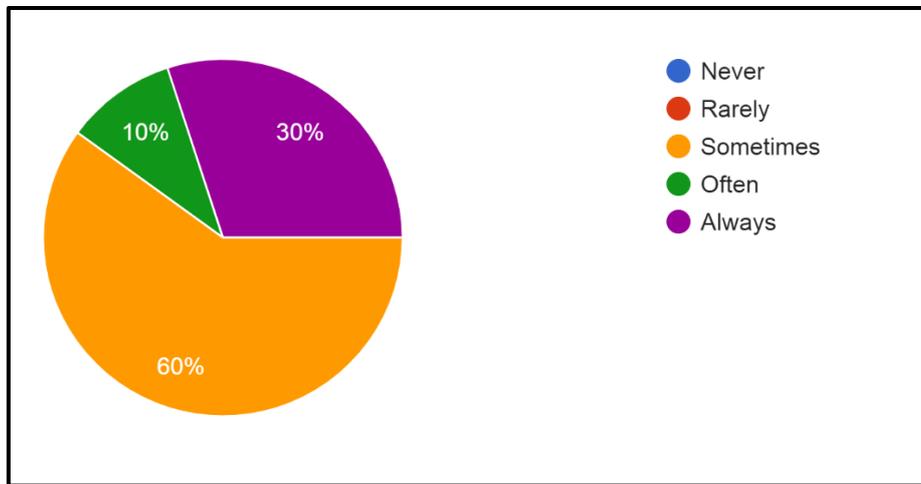


Figure 3: Practice Frequency inside the Classroom

The question was measured on a frequency Likert scale. As seen above, 60% of the students have claimed that they sometimes practice inside the classroom, whereas 30% of the respondents have reported that they always practice under the supervision of their teacher. And only 10% pointed out that they often have practice inside the classroom. These results illustrate that most of the students are satisfied with the amount of supervised practice they have inside the classroom. And this indicates that the time devoted to AW is sufficient for both the teacher to explain the lesson and the students to get a supervised implication of the learned lesson inside the classroom. Also, the learning instruments used to teach and practice AW in class raises the students' passion about the module.

Item 03: How often do you participate in academic writing class?

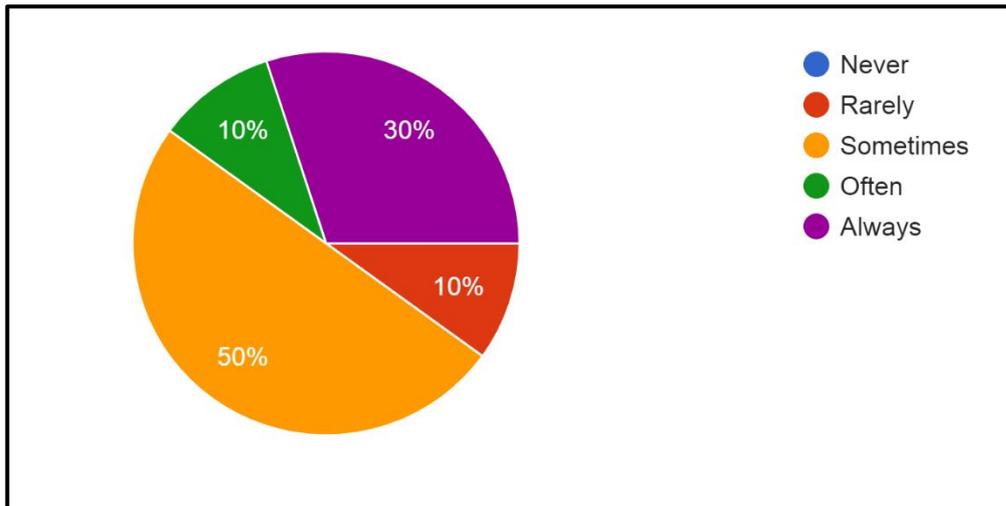


Figure 4: Students' Participation Frequency

According to Figure 4, only a few students rarely engage during research methodology sessions (10%). In comparison, the same number (10%) of the participants reported that they often participate during the sessions, 30% of the participants participate always, and the rest of the students, who represent 50%, stated that they participate sometimes. This discrepancy in responses denotes a variety of attitudes towards AW, and the students' interactions differ according to their anxiety levels. Also, the curriculum of AW is in level for most of the students, which allows them to understand, participate and acquire the concepts learned during the session.

Item 04: Do you believe that practice is essential to master academic writing?

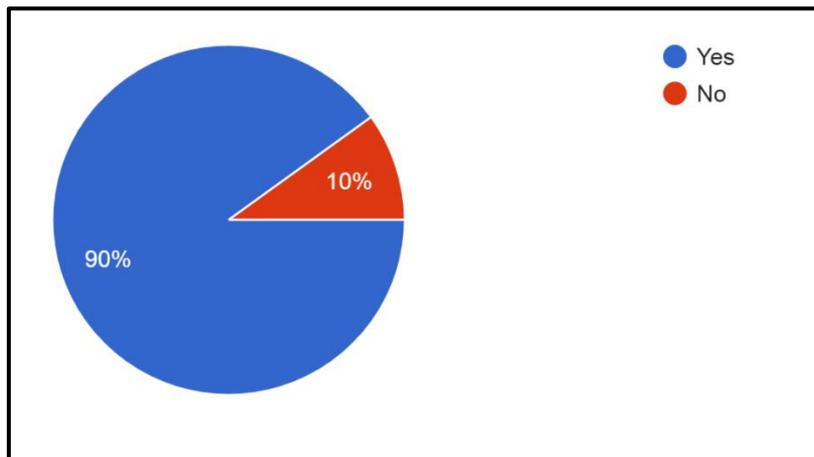


Figure 5: The Importance of Practice in Academic Writing

As shown in Figure 5, most of the students have reported that they believe that practice is essential to master AW. The data presented on the diagram illustrates that 90% agree that practice makes perfect. In comparison, only 10% of the participants have reported that they believe the opposite, i.e., they disagree with the statement which says practice in AW makes perfect EFL writers. The figure indicates that conducting concepts students learn in class makes them establish better acquirement of AW. Since AW serves as a tool of communication that acquire knowledge in its concepts and the target field, the practice is essential to get to level that allows students produce a well-written product.

Item 05: What are the difficulties you face in academic writing?

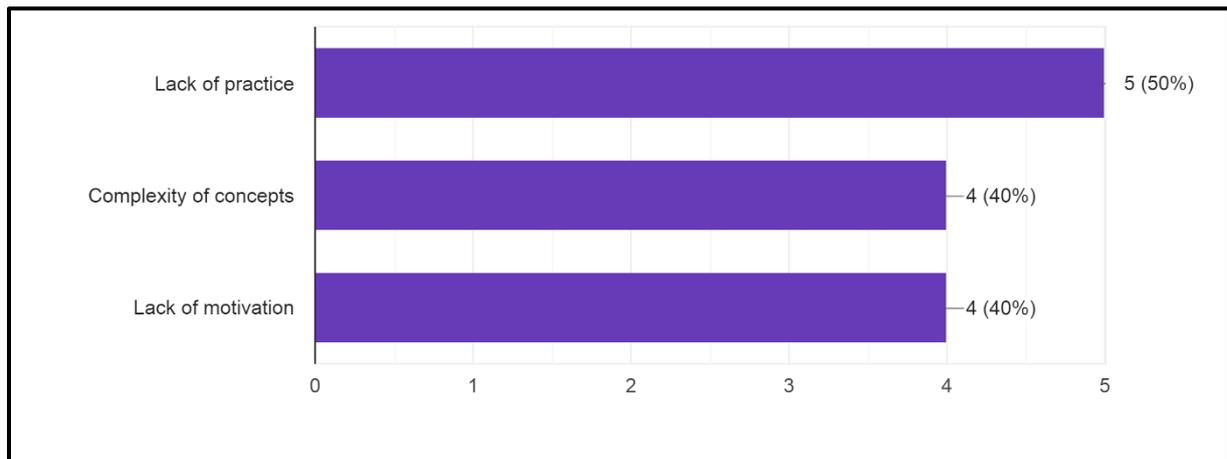


Figure 6: Difficulties Students Face in Academic Writing

As shown in Figure 6, the most selected option on this checklist was “Lack of practice,” with a rate of 50%; most of the participants have asserted that the amount of practice they get on this particular subject is inadequate. Furthermore, 40% of the participants have stated that "lack of motivation" is the reason that influences their willingness to learn about AW, whereas 21% of the participants have claimed that the complexity of the presented topics constitutes a hurdle for them when learning writing. Students also added some obstacles that they have faced, mainly they have agreed on their lack of vocabulary and lack of awareness toward lexical and grammatical relationships. Mainly, problems students face are not well maintained in the curriculum. Otherwise, the lack of focus on these aspects, whether while studying the lesson or while practicing, affects their level badly.

Item 06: Do you face any complexities/confusion related to academic writing during the process of conducting your research?

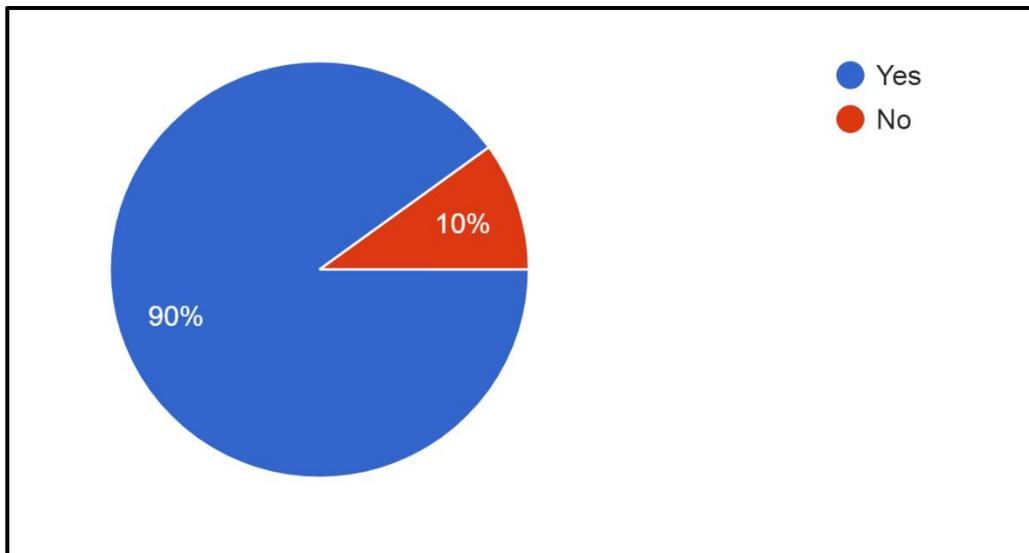


Figure 7: Frequency of Students' Issues Pertaining to Academic Writing

Figure 7 shows that most of the students have reported that they face difficulties related to AW; The data presented in the figure illustrates that 90% of the participants in our sample have encountered issues related to writing during the process of carrying out their studies. In comparison, only 10% of the participants have reported that they did not face any complications related to this subject. This return to the variety of AW concepts and the lack of knowledge about academic research since this is the first time they are required to present a dissertation. Also, lack of practice and attention in the previous years about the AW module gives students a hard time applying lessons into the present work.

If yes, mention them

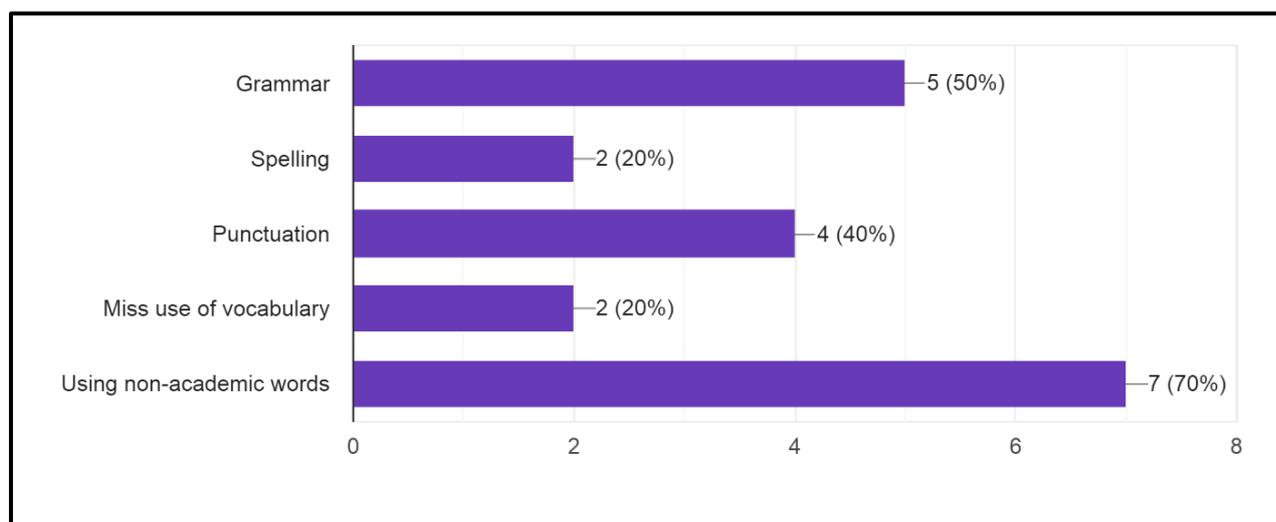


Figure 8: Frequency of Students' Issues Pertaining to Academic Writing

The result in figure 8 shows that the main difficulty students face in AW is using non-academic words with a rate of 70%, which denotes that many students have serious problems when it comes to academic knowledge and language. However, 50% of the respondents find difficulties in grammar, which is considered as one of the most important aspects in writing. On the other hand, 40% face problems concerning punctuation. Finally, 20% is rated for both spelling as well as miss use of vocabulary since they are not native speakers. Most of these problems can be explained by the negative interlanguage and intralingual transfers. Students still affected by their mother tongue, which affects badly the product in the target language. Also, the exposure to movies, games, and publications in non-academic language causes problems with the use of vocabulary in the academic context.

Section Two: students' perception of the Grammarly Program

Item 07: Are you familiar with the concept of "Grammarly"?

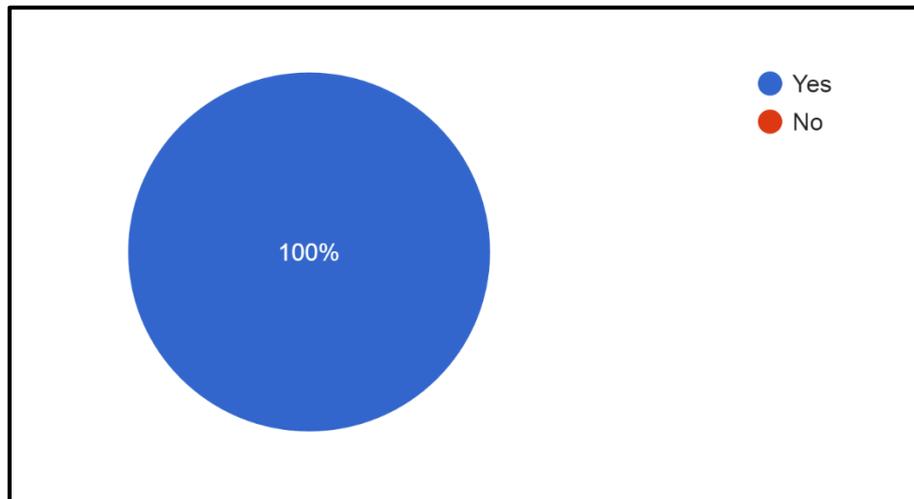


Figure 9: Students' Awareness of Grammarly Program

According to figure 9, with the rate of 100%, all the students are familiar with the concept of Grammarly. Due to its' effectiveness in correcting spelling and grammar, enhancing writing and style, and checking plagiarism. Grammarly became known between learners and teachers.

If yes, from where?

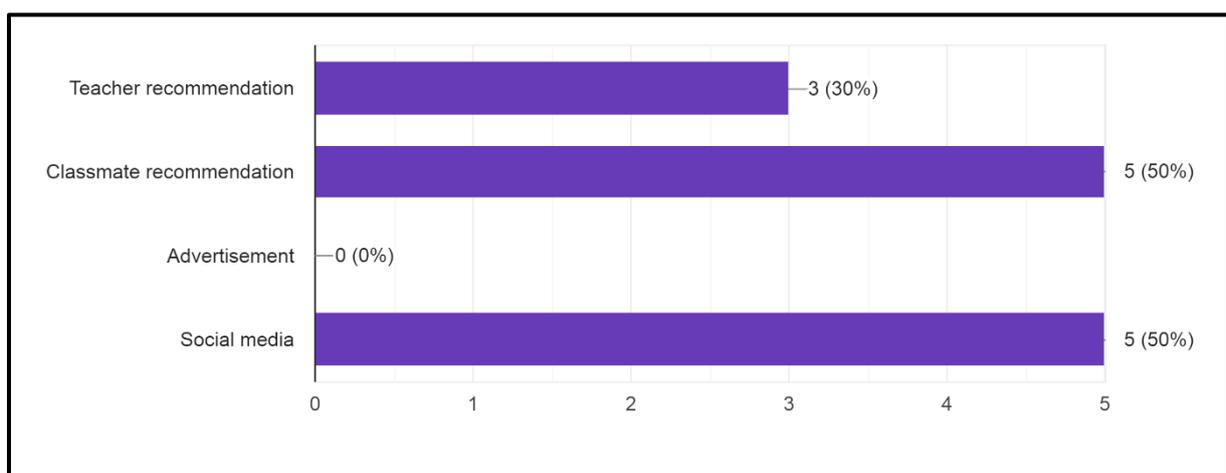


Figure 10: The Way Students Knew Grammarly

Figure 10 reveals that students' knowledge about Grammarly came from different places. 50% is the rate of both classmate recommendation and social media. And the rest gained

knowledge about the program from their teachers' recommendations. The spread of Grammarly was vast due to its success. Students are addicted to social media, which bridges for easy and quick share among users. This last one made users recommend it to other friends.

Item 08: As a 21st century learner, what is your attitude towards using ICT inside the classroom? Can you explain why?

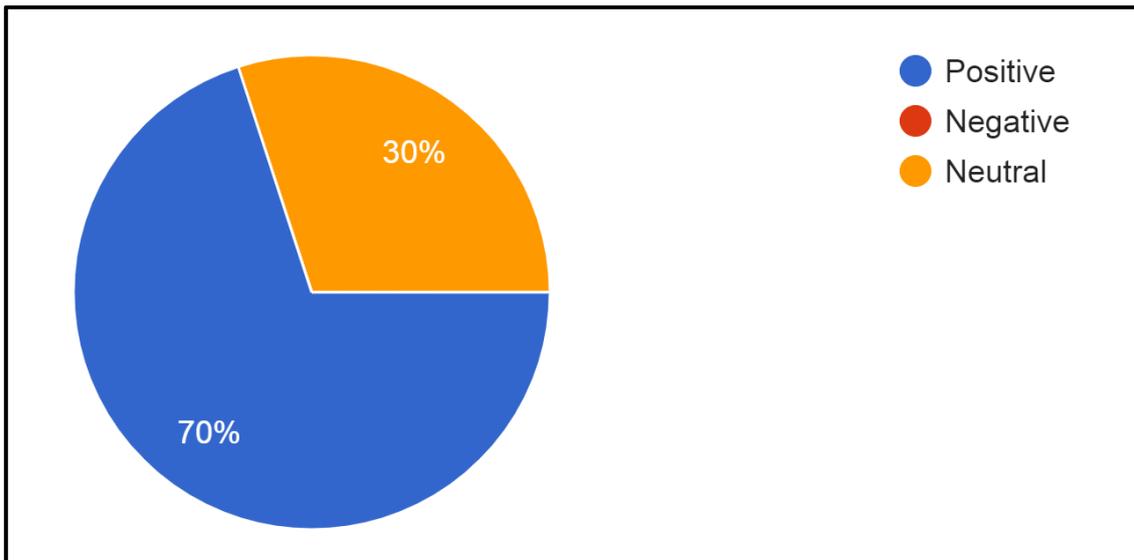


Figure 11: Students' Attitude Toward ICT Inside the Classroom

As shown in this graph, most participants (70%) have elicited a positive attitude towards integrating ICT in their learning. However, only (30%) have chosen a neutral attitude towards this concept. Furthermore, the students' agreed that the practice inside the classroom using ICT tools gives more room to practice and better acquirement of writing skills, especially for those who do not have personal computers and cannot get access to use technology. Also, the use of ICT in classroom gives the opportunity to get a better knowledge of the use of technology and enhances students' engagement.

Item 09: Do you think that prioritizing practice using Artificial Intelligence would yield a better acquirement of academic writing concepts?

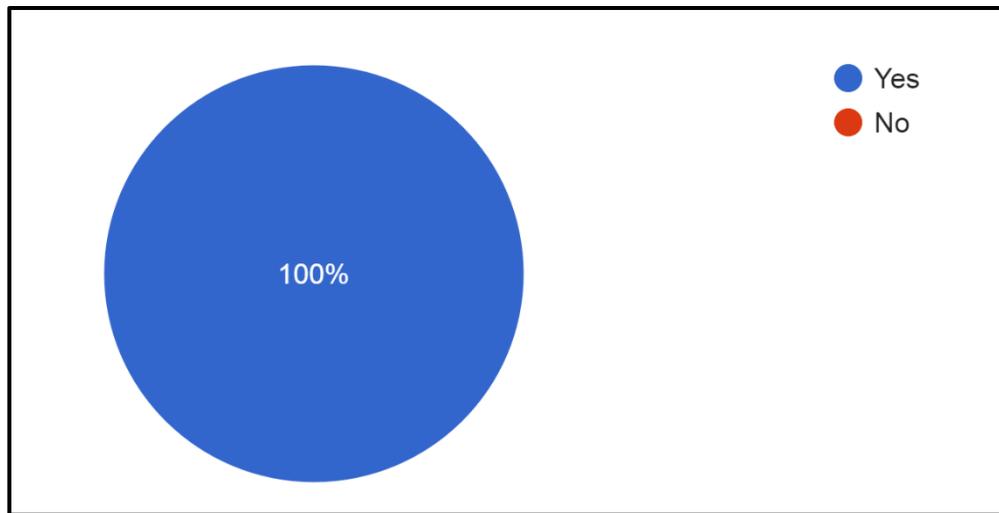


Figure 12: Students' Attitude Toward the Concept of Artificial Intelligence

As illustrated in this graph, all participants have agreed that prioritizing practice using Artificial Intelligence inside the classroom has a significant impact on students' perception. It has the ability to detect weaknesses in various spheres of a training course. Also, it helps them take complex tasks to solve faster and easier. Furthermore, the development of AI in the academic field brings more advantages for schools and teachers because it facilitates creating the educational program from scratch and searching for the needed materials. The system processes training materials thusly, improving the effectiveness of a teacher.

Item 10: What do you usually focus on while using Grammarly?

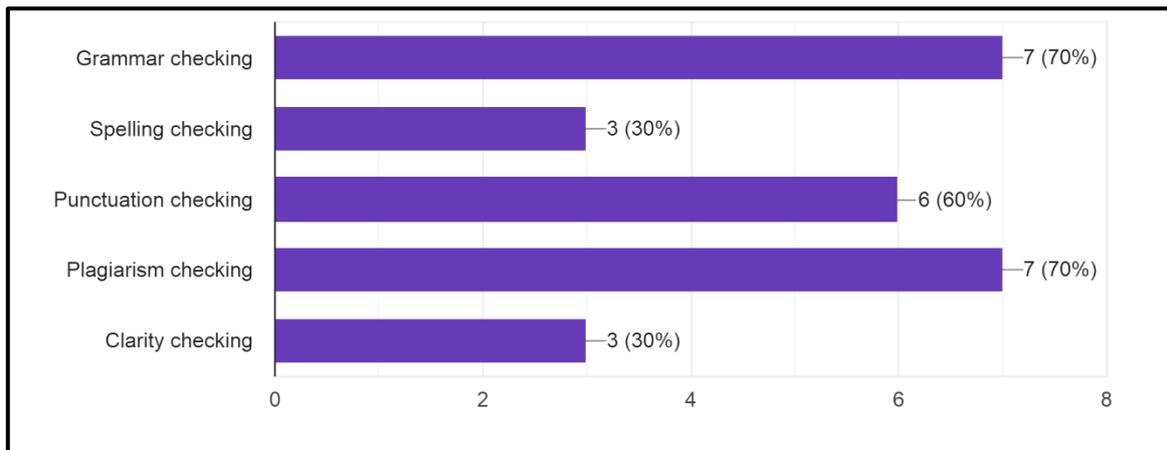


Figure 13: Students' Focus on Grammarly

As shown in Figure 13, the main focus of the students comes with 70% for both grammar checking as well as plagiarism checking. After that, with a 60% rate, punctuation checking is one of the students' common problems. Finally, spelling and clarity checking with the rate of 30%. This difference is due to the different needs of students and their perception of AW concepts. Mainly, checking for grammar, punctuation, and spelling returns to the lack of practice among students and the poor acquirement of concepts learned in class. For plagiarism checking, most of the students use other peoples' work as if it is their own, so they check for matching phrases and paragraphs in order to avoid getting caught.

Item 11: How often do you use Grammarly to support your learning?

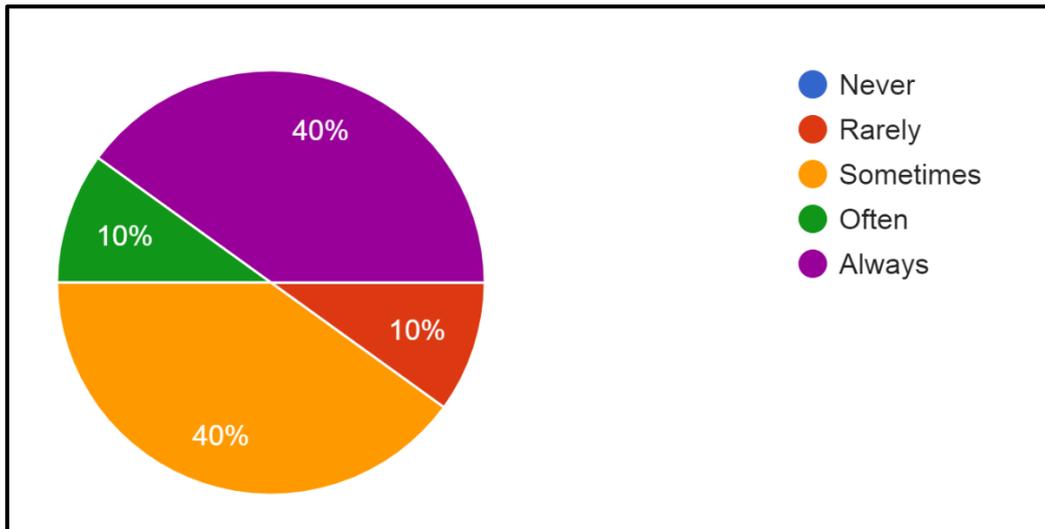


Figure 14: Frequency of Using Grammarly

According to Figure 14, 40% of students always use Grammarly to support their writing. With the same rate (40%) we find that some students use it sometimes. On the other hand, 10% is the rate of both rarely and often. These results reveal students' positive attitudes towards using Grammarly in supporting their works, and this diversity is due to the quality of the work and their writing capabilities. As seen from students' responses, most of them face problems with writing due to several reasons. The use of the Grammarly program helps them correct all these errors and get beneficial feedback about their mistakes.

Item 12: How much time does it take to check your work using Grammarly?

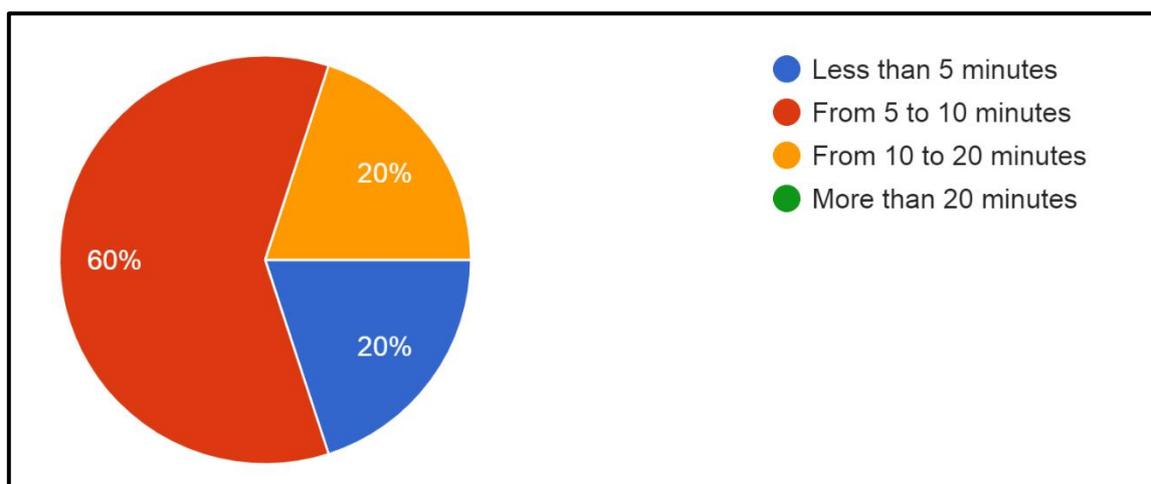


Figure 15: Students' Timing on Grammarly

The data summarized in the figure above indicates that 60% of the sample spent from 5 to 10 minutes checking their work using Grammarly. Meanwhile, 20% spend from 10 to 20 minutes, while the rest spend less than five minutes. In essence, these results establish a criterion for the timing needed to check the work and correct it using Grammarly. This indicates that checking the work by the Grammarly program saves a lot of time for the students. Also, it saves time for teachers and allows them to pay more attention to the content.

Item 13: Do you find Grammarly effective? Explain

This question was designed to check whether students find Grammarly effective to help them in AW or not, and how does it help.

The result showed that 100% of the students find Grammarly effective. Mainly, students say that it helps them with grammar, punctuation, and vocabulary. These are the main aspects Grammarly helps them master. Also, a student finds that this program may replace the supervisor's feedback concerning the form of the writing piece. Finally, students saw that Grammarly is a timesaver because checking does not take that much of a time compared to the size of the product they wrote.

3.2. Teacher's Interview

3.2.1. Description of Teachers' Interview

A structured interview (see appendix B) was employed to examine the research problem from the teachers' perspective. Hence, the purpose of this interview was to get in-depth insights about Grammarly's effect. The interview had five (5) questions. These questions try to get information about the teachers' knowledge about AI, the main programs and software they use in their academic career, and their opinion about Grammarly. Finally, their observations about students' writings with and without Grammarly.

3.2.2. Administration of the Interview

The interview targeted teachers of English who are supervising master two students at the University of Mohamed Khider – Biskra; Furthermore, the interview took place from Mai 22nd to June 6th, 2022. Indeed, the scope of this research was narrowed to the supervisors of our sample. Each interview lasted about 5 to 10 minutes, which was sufficient to cover most of the points we intended to discuss.

3.2.3. Analysis of Teachers' Interview

The questions and answers in this section are examined separately and thoroughly. Because we only had only five questions. I had the opportunity to interview five (5) teachers, which was enough due to time limitations. Still, all of our interviewees had more than five years of teaching and supervising experience in the field, which ensured in-depth insights into the problem from different perspectives.

Question 01: Are you familiar with the use of artificial intelligence programs that helps with correcting and giving feedback about a person’s writing in the academic field?

The rationale for this question is to highlight the teachers' awareness of AI in education. Most importantly, introduce the topic to the interviewee.

Teacher A: *“Yes, I am.”*

Teacher B: *“Yes, of course. Although the use is not widespread in our country but still some people are trying to use it or use some application or software related to language learning.”*

Teacher C: *“Yes, I am.”*

Teacher D: *“Actually, yes, I am familiar with it, and I am using some of these programs.”*

Teacher E: *“Yes, I am a bit.”*

As observed in those responses, all the interviewees are aware of the use of AI in academia. As “Teacher B” stated, the use is not widespread in Algeria. The awareness of teachers about AI in academia provides a high chance for teaching/learning development in the future. This last helps teachers get access to more sources and develop their teaching program and materials. Also, it provides more time to assess the needs of the learners.

Question 02: What are the main programs that you use in your work?

This question aims to inquire about programs and software that teachers use in their academic career.

Teacher A: *“there are a lot, but mainly I use Grammarly, ref-n-write. In addition to citation programs such as Zotero and Mendeley.”*

Teacher B: *“usually, when it comes to research, I use some software specialized in statistical analysis and grammar checker. As for teaching, I do not use a lot, but I try to use platforms*

such as Moodle and some software to create materials. Basically, we use it for the sake of learning because we face some problems applying it in the classroom.”

Teacher C: *“Grammarly, Quill Boot, and Write Right.”*

Teacher D: *“Mainly, I use Grammarly. Also, I use Google and electronic dictionaries.”*

Teacher E: *“Grammarly in particular.”*

According to the teachers’ responses above, we noticed that the use of programs, software, and platforms differs between teachers. This last is because of the needs of each teacher, which differ due to the module they teach and the work they are conducting. Also, their different preferences toward the concept of these programs. Despite these differences, the majority share the use of Grammarly.

Question 03: What is your opinion about the Grammarly application?

Teacher A: *“It is very helpful. Especially, For non-native users of the language.”*

Teacher B: *“I think it is very efficient when it comes to language or word choice and punctuation. However, it is not available for everyone. That is the only problem it is expensive, and students cannot afford spending 30\$ a month. Even the yearly plan is expensive. There are other alternatives, but they are not as efficient as Grammarly.”*

Teacher C: *“Although I am using the free version, I find it good and interesting.”*

Teacher D: *“In fact, Grammarly is a very good program because it detects all types of mistakes and propose help by giving options to correct or give other solution. As I said, it is a wonderful program. Even I did not work the premium version, I am sure it is better than the free one, but maybe since I am a teacher, basic options are enough for me.”*

Teacher E: *“I find it effective and reliable at a great extent. It helps save time and effort in checking mistakes in grammar, spelling, punctuation, and helps polish a piece of writing, especially for students. As a teacher and supervisor, I use it often to check plagiarism. Even though it is not 100 percent reliable, it greatly helps in detecting plagiarized works.”*

This question aids in eliciting teachers’ perception of using Grammarly as a tool to assist their and the students’ writing outside of the classroom. From the responses presented above, we find that all the respondents find Grammarly as an effective tool to work with. Due to its ability to check the form of the written piece easily and effectively. Although this positive perspective, most of them think that the negative point in Grammarly is that it is very expensive and not available in its full version for free. Which indicates that with all the positive sides Grammarly has, it also has some negative points that could be taken into consideration in order to get a better experience with a better price.

Question 04: In my practical part, I have worked with your candidate (the candidate’s name), where I have corrected his 2nd chapter using Grammarly Premium before your correction. What are the differences you have noticed between the 1st and 2nd chapter?

This question addressed the issues that has been corrected using Grammarly in the students’ works according to the supervisor’s perspective.

Teacher A: *“Lots of improvement. I mean that our students do not have a good mastery of the target language in general, and the use of such a program facilitates the correction process in terms of many aspects as grammar, punctuation, and word choice.”*

Teacher B: *“Grammarly does not check the content because the content cannot be checked easily by AI. When it comes to grammar, punctuation, and vocabulary, I think it lifts so much burden on supervisors and teachers.”*

Teacher C: *“The program helps both teachers & students since it sheds light on spelling mistakes, grammar errors, syntactic structure of the sentences, & punctuation.”*

Teacher D: *“The main difference I have noticed is a lot of correction concerning style, and this is how their writing should be. And fixed a lot of mistakes like repetition, problems with the use of articles and wordiness those main problems found in students writing through this program we can detect and correct them easily.”*

Teacher E: *“Your corrected version of the chapter revealed that the application corrected many spelling mistakes (e.g., deferent was corrected into different) also it corrected some punctuation problems (e.g., addition of commas in lists and after transitions...). And it corrected some capitalization in titles mainly. Some long sentences have been split to be made more logical. All in all, after comparison, “Grammarly” fit my own corrections concerning many points, especially of spelling, grammar, and punctuation.”*

As seen above in the teachers’ responses, all of them agree that Grammarly played an effective role in correcting common mistakes such as grammar, spelling, punctuation, and vocabulary. Also, as “Teacher D” pointed out, Grammarly focuses on style and makes it more academic. Students should pay more attention to develop their level and give a well-formed work. Finally, “Teacher B” added that Grammarly reduces the supervisor’s work and makes checking the students’ work easier. From these responses, we can say that Grammarly is a helpful program and a timesaver not only for students but also for teachers and supervisors.

Question 05: What are the advice you can give to teachers and students about Grammarly use?

This question was put forward to draw further suggestions and advice that teachers believe would ameliorate the outcomes of writing skills using Grammarly.

Teacher A: *“I invite them to use this program because it accelerates and facilitates the work for them.”*

Teacher B: *“If it was available, I would recommend all my learners and colleagues to use it. Especially for students who are developing their thesis because the teacher will recommend it based on many things. I am not saying that it will only make my work easier, but if I keep focusing on this kind of mistake, I will miss important things such as methodology and content.”*

Teacher C: *“If any researcher can have it, please do since it is time-consuming.”*

Teacher D: *“Simply, I want to say use it, and if they can use the premium version, it would be better. Such a program based on AI is like having a bank of data based on the most important mistakes found in students writing by time you can gain better knowledge about these mistakes.”*

Teacher E: *“That it is a very good tool that facilitates students’ and teachers’ works. It is easily accessible, easy to use, it is free (but for more accurate versions, monthly payment is necessary). Also, it is fast; it saves time and energy, especially for supervisors who would focus on correcting the content. Students can adopt for a more autonomous learning as it locates and eliminates grammar errors, and fix spelling and punctuation errors. In short, students’ productions will be polished and, therefore, students obtain instant feedback and correction without the help of the teacher.”*

All the interviewees advise their colleagues and students to use Grammarly, especially if they can have access to the premium version. The experience they had with this program made them believe that it has the opportunity to develop the writer skills. Also, the ability of this program to reduce the time needed to check the work by the students is significant and can provide more time to teachers checking the content of the work, knowing that the form has been dealt with perfectly by the Grammarly program.

4. Synthesis and Discussion of the Findings

This section of the study summarizes the main findings of the students' questionnaire and teachers' interviews. As a result, our hypotheses which stated that the use of Grammarly in the context of AW enhances a sense of autonomy among learners in terms of error detection and correction, have been confirmed.

4.1. Students' Questionnaire

First, since AW emphasizes the theoretical aspects of a subject over its practical application, students face a number of challenges while attempting to undertake their research and write in the appropriate academic format for that specific piece of work. Furthermore, focusing solely on the theoretical side can cause students to develop a negative attitude toward AW and obstruct their ability to improve writing skills. Second, the poor implementation of ICT in the course of AW has a significant impact on students' perception of the module; As the practical facet of AW necessitates the use of ICT tools. For instance, grammar checking, academic language, and academic research. Third, the data highlighted students' positive attitudes toward utilizing Grammarly as an instructional tool, implying that students value the idea of offering educational programs outside of the classroom. Finally, students had optimistic feelings about using Grammarly to improve their writing skills, since they felt that emphasizing practice will improve the quality of their writings.

4.2. Teachers' Interview

The researcher was able to interview six supervisors out of 10, and some significant findings resulted from the interviews with the teachers. Upon examination of our interviewees' responses, the researchers discovered three common themes. The first theme is concerned with the importance of AI in academia, in that teachers should continuously update and adopt fresh teaching methods using AI programs in order to target the needs of today's students. The second theme has to deal with the Grammarly program. The relevance of this last point was emphasized

by all of our interviewees, who believe that using it familiarizes students with AW techniques and makes work easier for them and their supervisors. Moreover, the third theme addressed the use of the Grammarly program in AW, such as master's dissertations, as it is essential in teaching students how to apply theory to practice. Finally, the respondents agreed that the Grammarly program can meet the expectations of today's technology-native learners while also maximizing their learning potential.

Conclusion

In conclusion, the main goal of this chapter was to analyze, present, and discuss the data acquired from the students' questionnaire and the supervisors' interviews. To recap, the questionnaire was administered to Master two students of applied linguistics at the English department of the University of Mohamed Khider – Biskra. The purpose of the questionnaire was to highlight some of the challenges associated with learning AW from the perspective of students. Moreover, the questionnaire's second goal was to elicit students' attitudes toward the Grammarly program's concept. Whereas the purpose of the teacher's interview was to gain a deeper understanding of the usage of AI programs, particularly Grammarly, in the academic setting, inquire about the program's impact, and to address some of the issues associated with writing a dissertation.

General Conclusion

General Conclusion

The present study investigates the Effect of Using Grammarly Artificial Intelligence Application on EFL Learners' Writing Skills. Issues related to the aforementioned subject are prevalent. Thus, this study attempts to elucidate the set of challenges that both EFL teachers and learners encounter with regard to this module. As well as clarify the rationale behind AI and its application in this specific context.

This study used a mixed method to collect data, where we have corrected candidates' works using the Grammarly program, the supervisors of those candidates were interviewed, and a questionnaire was designed for the focus group. The population of this study comprises master two supervisors (N=5) and a focus group of ten (n=10) students as a sample from Master Two students at the department of English at the University of Mohamed Kheider, Biskra. In the end, this research helped to confirm the hypothesis of the research that says, "The use of the Grammarly program in the context of academic writing will enhance a sense of autonomy among learners in terms of error detection and correction."

On the whole, the findings of this inquiry illustrated that the Grammarly program can be a useful way to accomplish the practical objectives of the course of AW in the EFL context. As it promotes constant feedback provision, optimizes the amount of practice, and targets the needs of nowadays students.

Limitations of the Study

While carrying out this research study, we came across a number of limitations as follows:

- ❖ Initially, we intended to work with more students and interview more teachers to have further insights into the problem, yet due to the change of the academic schedule and

the sanitary conditions because of the global pandemic of COVID-19, we were not able to.

- ❖ Although the concept of the Grammarly program was widespread between teachers and students, the available version was limited. Also, the access to the premium version was too expensive.

Pedagogical Implications and Recommendations

This study aimed to investigate the Effect of Using Grammarly Artificial Intelligence Application on EFL Learners' Writing Skills. The findings of the present investigation have important implications for the betterment of enhancing EFL learners' writing skills, including the following:

- ❖ An experimental study based on the findings of this one could be implemented to examine the issue further.
- ❖ Teachers of AW give more importance to the practical aspect of the subject in order to familiarize students with the concept of AI and Grammarly in particular.
- ❖ Responsible of the university provides an adequate infrastructure that allows for the integration of ICT in teaching AW.

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Appendices

Appendix A

Mohamed Khider University - Biskra

Department of Literature and Foreign Languages

English Department

Students' Questionnaire

Dear students,

You are kindly asked to answer the following questionnaire, which attempts to collect data for the accomplishment of a master dissertation under the title “Investigating the Effect of Using Grammarly Artificial Intelligence Applications on EFL Learners Writing Skills”.

The data gathered through this questionnaire is used for research purposes only.

Thank you for your time and contribution.

Section One: Students' attitude towards Academic Writing in language learning.

Q01. Do you consider academic writing an essential subject in your academic journey?

Yes No

If yes, why?

Improves analytical thinking

Enhance critical thinking and objectivity

Improves style and techniques

Improves research skills

Q02. How often do you practice concepts you learned in academic writing inside the classroom?

Never Rarely Sometimes Often Always

Q03. How often do you participate in academic writing class?

Never Rarely Sometimes Often Always

Q04. Do you believe that practice is essential to master academic writing?

Yes No

Q05. What are the difficulties you face in academic writing?

Lack of practice

Complexity of concepts

Lack of motivation

Other

.....
.....

Q06. Do you face any Complexities/Confusion related to academic writing during the process of conducting your research?

Yes No

If yes, mention them

Grammar

Spelling

Punctuation

Miss use of vocabulary

Using non-academic words

Other

.....
.....

Section Two: students' perception of the Grammarly Program

Q07. Are you familiar with the concept of “Grammarly”?

Yes No

If yes, from where?

Teacher recommendation

Classmate recommendation

Advertisement

Social media

Others?

.....
.....

Q08. As a 21st century learner, what is your attitude towards using ICT inside the classroom?

Positive Neutral Negative

Can you explain why?

.....
.....

Q9. Do you think that prioritizing practice using Artificial Intelligence would yield a better acquirement of academic writing concepts?

Yes No

Q10. What do you usually focus on while using Grammarly?

Grammar checking

Spelling checking

Punctuation checking

Plagiarism checking

Clarity checking

Other?

.....

.....

.....

Q11. How often do you use Grammarly to support your learning?

Never Rarely Sometimes Often Always

Q12. How much time does it take to check your work using Grammarly?

Less than 5 minutes

From 5 to 10 minutes

From 10 to 20 minutes

More than 20 minutes

Q13. Do you find Grammarly effective? explain

.....

.....

.....

.....

Thank you for your time & contribution.

Appendix B

Teachers' Interview

Interview request

Dear

My name is Labidi Abdeslem, I am a master two student at UMKB. I'm currently carrying out a study about "the effect of Grammarly artificial intelligence program on EFL learners' writing skills", I would wholeheartedly appreciate your help with a chapter from one of your candidates to correct using Grammarly premium, and do a brief interview about the subject. If you are willing to participate, I would like to schedule a confidential, interview at your convenience. The interview will be recorded (Audio-only) for transcription purposes.

Questions

Q1. Are you familiar with the use of artificial intelligence programs that helps with correcting and giving feedback about a person's writing in the academic field?

.....
.....

Q2. What are the main programs that you use in your work?

.....
.....

Q3. What is your opinion about the Grammarly application?

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

Q4. In my practical part, I have worked with your candidate (His Name), where I have corrected his 2nd chapter using Grammarly Premium before your correction. What are the differences you have noticed between the 1st and 2nd chapter?

.....

.....

.....

.....

Q5. What are the advice you can give to teachers and students about Grammarly use?

.....

.....

.....

.....

Appendix C

Chapters' analysis on Grammarly

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Introduction

Writing is a crucial skill for learning and teaching process. It is considered as the foundation stone of the academic field. Moreover, writing is a skill that students use to express their ideas, information, and knowledge to enhance their understanding. Also, it is used as a tool of communication. **Students use their hands to write their ideas and share it.** In this chapter, we will deal with a general overview of writing which includes the definition of writing skill and its importance. Additionally, we will spot light on handwriting skill its definition, importance we will cover its types and the effect of poor and good hand writing on pupil's writing.

1.1 General Overview of writing

Writing is a productive skill that used to transform and express knowledge and information into language and it is essential for every student teacher researcher to express his thought in all domains of human interest and it is classified as the difficult skill to be mastered (Suyanto,2008p. 68) . In the same vein(Ken Hyland, 2009 p.2)stated that " writing is

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1.2.3 Writing as Process

Writing as a process describes as a series of physical and mental actions that peoples take when they produce any kind of text by using physical and digital tools: pencils, keyboards...ets. In addition, Zamel (1982) stated that writing is a process in which colleges can discover their thoughts. Furthermore, Nunan (1999) considered writing as a complex, cognitive process that demand sustained intellectual effort over a specific period of time. Reis Alues (2008) proved that process writing may be "a more effective method of teaching writing as it helps students to focus on the process of creating text through the various stages of generating ideas, drafting, revising and editing."(p. 05).

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by their authors as supportive of the CPH, have determined the age when the critical period closes as 9 years (Dollmann et al. 2020) and 17 years (Hartshorne et al. 2018)—a difference of no less than 8 years.

2.2. critical period hypothesis in second language acquisition :

The critical period hypothesis was first proposed by Penfield and Roberts (1959), who proposed that there is a critical period that lasts until the age of nine. Lenneberg (1967) popularized the concept by claiming that the ability to learn a language spontaneously by simply being exposed to it will fade away at puberty, and that foreign languages must be taught and learned "through a conscious and hard effort" in order to be learned (p. 176). He also asserted that after puberty, it is difficult to get rid of one's foreign accent. Many respected scholars and researchers have backed the Critical Period Hypothesis (CPH) since then, although agreement on the exact offset of the critical period has been difficult to come by. The general period ranges from birth to puberty but different versions of the CPH suggest different onsets and offsets for it. This could be one of the reasons for many researchers to find empirical evidence to falsify

Grammarly

- CORRECTNESS: SPELLING
language → language
If you don't want *language* to be marked as misspelled in the future, you can add it to your personal dictionary.
- puberty, · Remove the comma
- He also asserted that... · Rewrite for clarity
- difficult · Choose a different word

215 All issues

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5.1.4. Determine the order and mechanism of presenting each activity: the ultimate stage within the planning process is to put all the three previous steps together and draw the course.

5.2. Blended learning materials designing and developing: in designing the materials step, instructors should diversify the provided materials so all learners accomplish, following that, the teacher prepares and develop the designed materials which may take the form of papers, online tools, collaborate activities, videos, movies.

5.3. Uploading the materials to the online learning platform: uploading the learning process materials to the online platform is the last step in course design.

The teacher should provide the students with the syllabus and the course plan and arrange a simple communication mechanism with these students to give them the chance to ask about their difficulties.

6. Advantages of Blended Learning:

Grammarly

Correctness: 60 alerts

- , following · Correct the comma splice
- which · Add a comma
- CORRECTNESS: SPELLING
collaborate → collaborative
The word *collaborate* doesn't seem to fit this context. Consider replacing it with a different one.

60 Correctness issues

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Introduction

Blended learning is an approach that is adopted recently in our universities which encompasses online and traditional learning. This section shows the different related elements to this approach. Starting from the blended learning definition moving to its three components: media, learning environment, and the instructional component. Considering blended learning as a system that includes more than one possible situation of studying, this chapter presents the four models of blended learning, beginning with rotation the first model with its four distinct manners, then flex, a la carte, and the enriched model. The next element is under the title of the blended learning techniques which includes the two different techniques asynchronous and synchronous learning. Course design as an important part of blended learning that has four main steps to get an effective curriculum is also included in the chapter. In addition, the advantages of this approach and the possible challenges that may face EFL students during their blended learning. Finally, this section presents how we can implement this approach in EFL classes in the appropriate way to have positive incomes.

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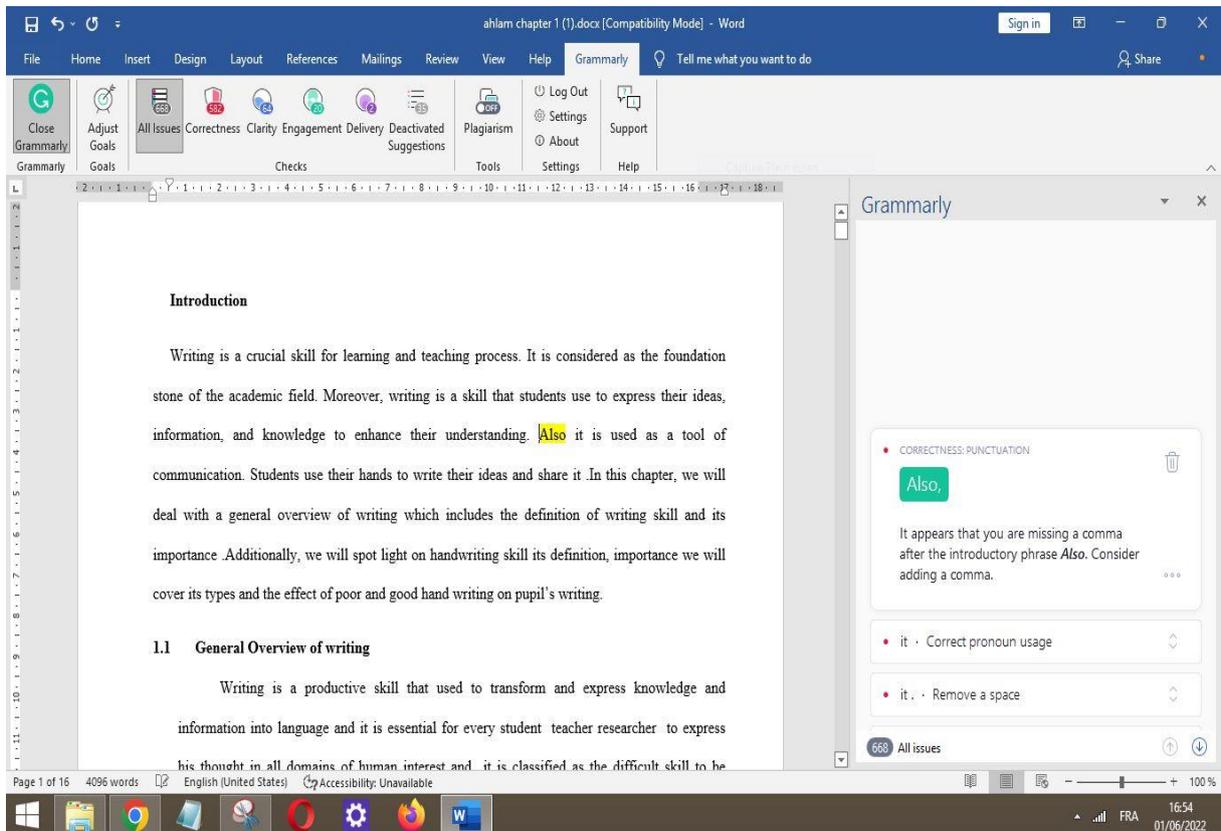
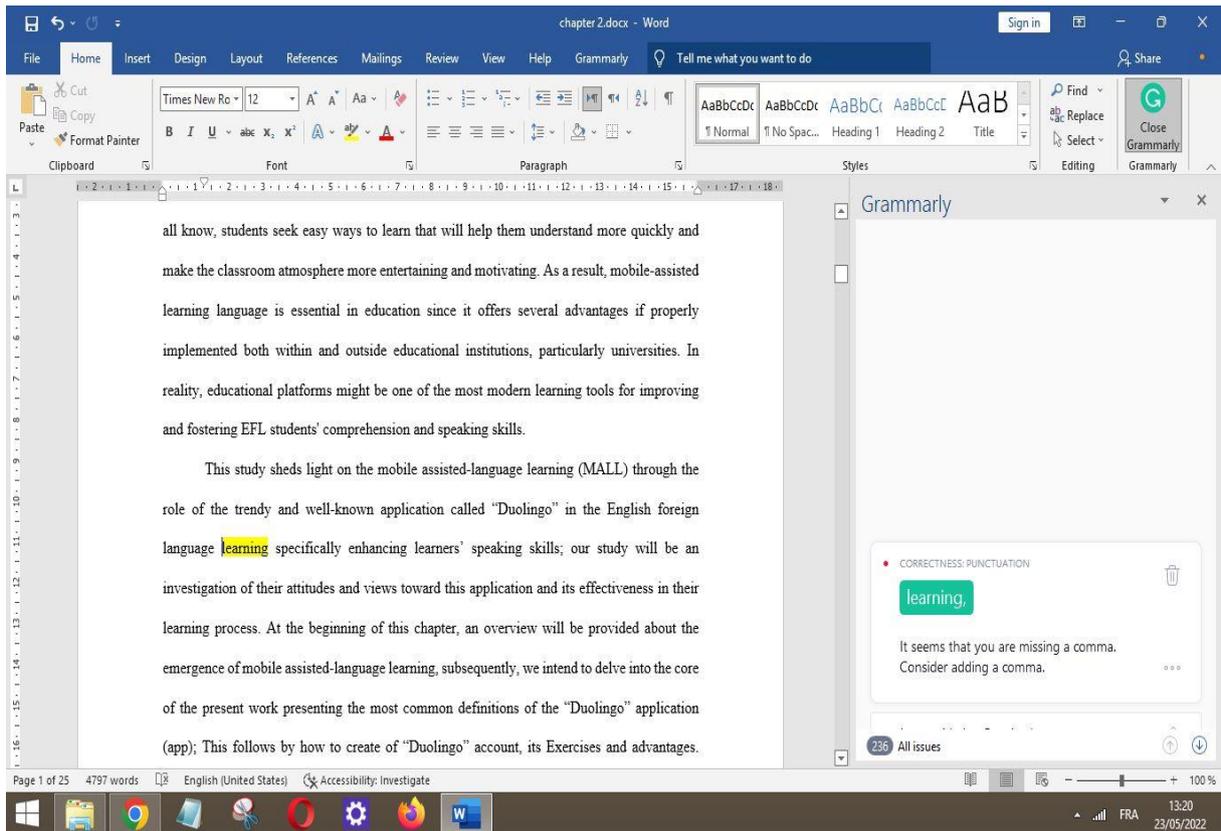
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learners. First, the key challenge of blended learning for EFL students is that they must be self-disciplined in order to accomplish their learning from anywhere. EFL students need to be given the necessary tools during their blended learning process, and they should be inspected and verified by their instructors regularly to make sure that they are progressing as planned. The other challenge that may face the student is the absence of contact. Disconnection can be a challenge in the case of studying away from the university. In this system, students are more vulnerable to loneliness and which may affect their educational program. Furthermore, offering assistance and support is another possible obstacle that may students face during their online learning. When instructors are on the same site with students, they are available to understudies to support and aid them. However, during the blended learning or online learning system. This could end up more troublesome. Such as battling to urge in touch with their teachers when they are away from campus. The last possible challenge that may face the students during their blended learning is the quality of education. Shifting to online learning as a part of blended learning has the lacks of education quality. Students have a strong belief that they are not

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quality of the educational methodology in use. As a consequence, the instructor should first concentrate on giving the appropriate instruction inside the classroom. It is worth mentioning that a single and specific type of teaching material offers each objective in a blended learning classroom. "Designing constructivist learning environments recommends that students are provided with a range of different tools and resources to support their problem-solving" (Dalsgaard & Godsk, 2007, p. 31). Therefore, instructors should employ a variety of instructional materials and actively engage understudies in games and activities such as individual/ group tasks, presentations, group conversations, **and so on.**

3.2. Technology and promote learning:

Emerging technology provides new avenues for exploration and discovery. Virtual reality allows EFL students to access almost anything in real-time. Furthermore, technology is beneficial for learning. The emerging e-learning system implements various forms of media, making courses more interested for the students. The traditional and online learning techniques

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Grammarly

Delivery: Slightly off

DELIVERY: FORMALITY

and so on in formal writing

The use of *and so on* in formal writing is generally frowned upon. Consider rewriting the sentence.

5 Delivery issues

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Introduction

Blended learning is an approach that is adopted recently in our universities which encompasses online and traditional learning. This section shows the different related elements to this approach. **Starting from the blended learning definition moving to its three components which are media, learning environment, and the instructional component.** Considering blended learning as a system that includes more than one possible situation of studying, this chapter presents the four models of blended learning, beginning with rotation the first model with its four distinct manners, then flex, a la carte, and the enriched model. The next element is under the title of the blended learning techniques which includes the two different techniques asynchronous and synchronous learning. Course design as an important part of blended learning that has four main steps to get an effective curriculum is also included in the chapter. In addition, the advantages of this approach and the possible challenges that may face EFL students during

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Grammarly

that is - Remove the phrase

is - Correct verb tense

CLARITY

Your sentence may be unclear or hard to follow. Consider rephrasing.

Starting from the blended learning definition moving to its three components **which are media, media, learning environment, and the instructional component.**

Replace with this version

Highlight changes

120 All issues

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Figure 1. A matching exercise

Listening and Speaking Exercises.

In this activity, Students must first listen to the word and then write it down. The audiolingual approach is used in this exercise, which emphasizes productive and receptive speech skills, and drills help students put what they have learned into practice. This approach is characterized by the following: memorized words, word consolidation, good pronunciation, and no grammar rules (Brown, 2006). Students must preserve an appropriate environment for listening that trigger their potentiality to participate, which serves in ameliorating their pronunciation (Mart, 2013). Thus, current practice will aid learners in their learning process by scaffolding language construction through repetition and listening.

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Grammarly

CLARITY

Your sentence may be unclear or hard to follow. Consider rephrasing.

Students must preserve an appropriate environment for listening that trigger their potentiality to participate, which serves in ameliorating their pronunciation (Mart, 2013).

Replace with this version

Highlight changes

80 All issues

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Figure 2. A pairing exercise

When the learners accomplish a daily goal, Duolingo rewards them with surprising and upbeat sounds and pictures, making the learners feel like they have accomplished something big (see Figure 7). If the learners do not sign into their Duolingo accounts to complete their daily goals, Duolingo sends a push notification to their phones and reminds them to do their exercises and meet their daily goals; usually, these daily practice reminders are accompanied by promotional statements such as 62.5 million people are learning languages using Duolingo to spur the learners into action. Duolingo does this by notifying learners at a specific time every day; however, if the learners are busy during that specific time every day (are at work, running errands, sleeping), they can tell Duolingo when to remind them, for example 07:00 PM, and if by 07:00 PM they still haven't reached their daily goals, they receive these daily practice reminders.

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Grammarly

DELIVERY: FORMALITY

haven't → have not

Contractions such as *haven't* may be too informal for this writing style. Consider replacing it with an uncontracted form.

68 All issues

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geographical background. According to Wardhaugh (2006, p.49), dialect includes two kinds, namely regional dialect, and social dialect.

- Firstly, regional dialect refers to a dialect that varies according to a geographical area; it is a variety that indicates where a person is from, and the differences can be in terms of pronunciation, choice of words, and syntax.
- Secondly, social dialect is defined by Peter Trudgill as "a variety which is thought of as being related to its speakers' social background rather than geographical background". It refers to a kind of dialect that identifies the social class of the speaker.

The Effects of EFL Learners' Native Dialects on The Pronunciation of English Language

Romaine (2000, p. 2) described the two saying "Social dialects say who we are, and regional

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is a relative rather than an absolute phenomenon. (Suleiman. 1985, p. 3).

1.2.2 Multilingualism

The term multilingualism is a matter of constant debate; it is a situation that arises at its most basic level, from the need to communicate across multiple speech communities. Richard (1999) explains multilingualism by stating, "It is the use of two or more languages, either by an individual speaker or by a community of speakers." Then multilingualism refers to the capacity of an individual speaker or a community of speakers to communicate effectively two, three or more languages; it is distinct from bilingualism, the use of two languages. In this viewpoint, bilingualism is seen as a special case of multilingualism, instead of vice versa.

Cenoz (2013, p.14) highlights the fact that multilingualism is not "a simple addition of languages but a phenomenon with its own characteristics". Therefore, multilingualism is an interdisciplinary phenomenon that can be studied from both an individual and a societal standpoint, and they are not totally separated.

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المخلص

تهدف هذه الدراسة لإستكشاف تأثير إستخدام تطبيق الذكاء الإصطناعي Grammarly على مهارات الكتابة لدى متعلمي اللغة الإنجليزية كلغة أجنبية ، خصيصا طلبة الثانية ماستر في اللغة الإنجليزية بجامعة محمد خيضر بسكرة. بتعبير أدق ، يبحث عن تأثير برنامج Grammarly على مهارات الكتابة لدى الطلاب. تهدف هذه الدراسة إلى تقديم نظرة عامة على الذكاء الاصطناعي ، برنامج Grammarly على وجه التحديد ، مفهومه وتوضيح تطبيقه في سياق تدريس الكتابة الأكاديمية لتحسين نظرة الطلاب تجاه هذه الوحدة من خلال تحسين الممارسة وتعزيز إستقلالية المتعلمين. إفتراضنا أن إستخدام برنامج Grammarly سيعزز الشعور بالإستقلالية بين المتعلمين فيما يتعلق بإكتشاف الأخطاء وتصحيحها. ولتحقيق الأهداف المخططة لهذا البحث ، إعتد الباحث المنهج الوصفي ، والذي إشتمل على أداتين لجمع البيانات متمثلة في إستبيان الطلاب ، الذي إستهدف طلاب السنة الثانية ماستر لشعبة اللغة الإنجليزية من خلال تقنية أخذ عينة مخصصة. بالإضافة إلى ذلك ، تم إجراء مقابلة منظمة مع خمسة مشرفين في نفس الجامعة لنفس الطلبة. كشفت النتائج أن كلا من المعلمين والطلاب أقروا بأن دمج الذكاء الإصطناعي وبرنامج Grammarly يمكن أن يؤدي إلى فهم أفضل للمفهوم الذي يتم تعليمه من خلال تحويل التركيز من النظرية إلى الممارسة داخل الفصل الدراسي.

الكلمات المفتاحية: الذكاء الإصطناعي ، طلبة اللغة الانجليزية كلغة اجنبية ، الكتابة الأكاديمية ، مهارات الكتابة.