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English Language and Literature

Specialty: **Linguistics**

# **Investigating the role of computational linguistics in developing EFL learners writing skills**

## **The case of auto-correct tools**

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## **Dedication**

I proudly dedicate this work to,

To my beloved mother and my father, And to all my family

To my brother in religion Aymen

To those whose companions have been a great asset Ezin

To all who encouraged me not to give-up

To those who supported me with their prayers and their trust.

To every person who inspired me that I can.

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The Most Gracious the Most Merciful

For giving me the patience and power to accomplish this work.

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I am so grateful to the brothers and sisters

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Who participated in this research by answering the questions and giving suggestions and those who contacted me with them.



## Abstract

This dissertation examines the role of computational linguistics in enhancing the writing skills of English as a Foreign Language (EFL) learners, specifically focusing on the case of the auto-correct tool implemented at Kasdi Merbah University Ouargla. The study primarily utilizes a survey and interviews as the main data collection methods. The research aims to investigate the effectiveness of the auto-correct tool in improving EFL learners' writing abilities and explore their perceptions and experiences regarding its usage. By combining quantitative and qualitative data analysis techniques, the study sheds light on the impact of computational linguistics on EFL writing pedagogy. The findings of this research provide valuable insights into the potential benefits **and challenges associated with** integrating auto-correct tools in language learning environments, offering practical implications for educators and policymakers seeking to enhance EFL learners' writing proficiency through technological interventions.



## Keywords:

1. Computational linguistics
2. EFL learners
3. Writing skills
4. Auto-correct tool
5. Language acquisition

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## List of abbreviations

- CL - Computational Linguistics
- EFL - English as a Foreign Language
- ESL - English as a Second Language
- SLA - Second Language Acquisition
- NLP - Natural Language Processing
- AI - Artificial Intelligence
- ITS - Intelligent Tutoring Systems
- CAT - Computer-Assisted Translation



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# General Introduction

## **1.0. Background to the study**

Computational Linguistics is the study of how natural language can be analyzed, processed, and generated by computers. With the development of computational tools such as auto-correct software, it has become possible to provide learners with instant feedback on their writing, allowing them to identify and correct errors in real time. This feedback can help learners improve their writing accuracy, fluency, and complexity, leading to an overall improvement in their writing skills.

Several studies have explored the effectiveness of auto-correct software in improving the writing skills of EFL learners. For example, Sasaki and Hirose (2013) found that the use of auto-correct software had a positive effect on the accuracy of EFL learners' writing. Similarly, Neri, Cucchiarini, and Strik (2002) found that the use of auto-correct software improved the fluency and complexity of learners' writing.

Despite these findings, there is still a need for further research to investigate the effectiveness of auto-correct software in improving the writing skills of EFL learners.

In particular, there is a need to explore the attitudes of learners towards the use of such tools, as well as the impact of auto-correct software on learners' motivation and engagement.

## **1.1. Statement of the problem**

There is a need for further research to investigate the role of computational linguistics in improving the writing skills of EFL learners, with a specific focus on the use of auto-correct software and its impact on the accuracy, fluency, and complexity of EFL learners' writing, as well as their attitudes towards using such tools.

The study will also explore the role of learner proficiency level, writing task, and other learner characteristics in mediating the effectiveness of auto-correct software

## **1.2. Aims of the study**

- To investigate the effectiveness of auto-correct software in improving the accuracy, fluency, and complexity of EFL learners' writing.
- To explore the attitudes of EFL learners towards using auto-correct software for writing.
- To examine the mediating role of learner proficiency level, writing task and other learner characteristics in the effectiveness of auto-correct software.

## **1.3. Research question**

- What is the impact of auto-correct software on the accuracy, fluency, and complexity of EFL learners' writing?
- How do learner proficiency level, writing task, and other learner characteristics mediate this impact?

## **1.4. Hypothesis**

If auto-correct software is utilized, it will result in a notable enhancement in the accuracy, fluency, and complexity of EFL learners' writing abilities.

If we consider the effectiveness of the autocorrect tool, it will rely on factors such as the learner's proficiency level, the nature of the writing task, as well as individual learner characteristics like motivation and prior experience in utilizing technology for language learning.

If learners' attitudes towards using auto-correct software are taken into account, it will also have a mediating effect on the tool's impact.

## **1.5. Significance of the study**

The significance of the study is to provide empirical evidence of the effectiveness of auto-correct software in improving the accuracy, fluency, and complexity of EFL learners' writing and to explore the attitudes of EFL learners toward using auto-correct software for writing.

## **1.6. Means of research**

The tools of data collection in this study consist of two instruments:

- A questionnaire that includes closed-ended questions in order to collect quantitative data.
- A semi-structured Interview that contains closed and open-ended questions and classroom observation to collect qualitative data.

It is important to mention that the research was carried out in the department of English at the University of Ouargla where a sample of first year students.

## **1.7. Structure of the dissertation**

This thesis consists of three primary sections. The initial segment offers a comprehensive introduction to Computational Linguistics and the auto-correct tool, while the second chapter focuses on the art of writing. Specifically, the first chapter presents an overview of subjects such as computational linguistics, language learning, and the utilization of auto-correct tools. The second chapter delves into the writing skill, specifically focusing on writing English for EFL, factors for improvement, and teaching approaches.

The primary objective of the third chapter is to provide insights into how students perceive the use of the auto-correct tool and its impact on improving their writing skills. This phase of the research is based on empirical evidence and focuses on explaining the research tools, methodology, and participants involved. Additionally, it includes the collection and analysis of data and offers an interpretation of the key findings using both quantitative and qualitative approaches. A questionnaire is used to gather quantitative data, while the qualitative approach is employed to describe learners' perspectives and attitudes towards the use of the

auto-correct tool and its role in enhancing their proficiency in writing English as a foreign language.

Finally, the dissertation ends with an overall summary that aims to consolidate the final discoveries of the research, along with suggestions and recommendations concerning the utilization of the auto-correct tool and its impact on the advancement of writing skills. Additionally, there is a mention of the limitations of the current study and suggestions for future investigations.

## **I.8. Definition of key terms**

- **Computational Linguistics**

Computational linguistics is an interdisciplinary domain that merges the fields of linguistics and computer science to construct computational models and algorithms aimed at comprehending and processing human language. A notable contribution to this field is the book "Foundations of Statistical Natural Language Processing" written by Christopher D. Manning and Hinrich Schütze (1999). This comprehensive work serves as an essential resource, offering an extensive overview of computational linguistics, including diverse techniques and approaches employed in the realm of natural language processing. It is a valuable reference for individuals seeking to grasp the fundamental principles and progressions within the domain of computational linguistics.

- **Auto-correct tool**

The term "auto-correct tool" refers to a software feature or function designed to automatically detect and correct spelling, grammar, or typographical errors in written text. It is commonly found in word processing software, messaging applications, and other digital platforms. The primary purpose of an auto-correct tool is to assist users in producing more accurate and error-free written content by identifying and rectifying common mistakes in real-time.

- **Writing**

According to Longman (1985, p. 592), writing is perceived as the outcome of intricate activities involving planning, drafting, reviewing, and revising. Some instructional methods for teaching writing in both first and second languages aim to equip students with the skills to employ these processes.





# **CHAPTER-I. Computational Linguistics**

## **I.1. Introduction**

Computational linguistics is an interdisciplinary field that combines linguistics and computer science to study and develop computational models of natural language processing. It focuses on designing algorithms and computer systems capable of understanding, generating, and analyzing human language. By leveraging techniques from machine learning, statistics, and linguistics, computational linguistics seeks to enable computers to process and comprehend language in a way that is both accurate and efficient. This field plays a crucial role in various applications such as machine translation, information retrieval, speech recognition, sentiment analysis, and text summarization. The goal of computational linguistics is to bridge the gap between human language and machine understanding, enabling effective communication and interaction between humans and computers.

## **I.9. Definition of Computational linguistics**

Computational Linguistics is an interdisciplinary discipline that merges the fields of linguistics and computer science to investigate natural language processing (NLP). As described by Jurafsky and Martin (2019), CL focuses on studying the computational aspects of human language.

NLP entails the creation of algorithms and models that empower computers to comprehend and generate human language, as well as the application of computational methods to analyze linguistic data. Within CL, there are subfields such as machine translation, text mining, and speech recognition.

The primary objective of CL is to construct models capable of simulating human language processing accurately. Achieving this goal necessitates a profound comprehension of both the structural characteristics of language and the cognitive processes underlying its use. Manning and Schütze (1999) state that computational linguistics strives to comprehend the nature of human language and develop algorithms and software for automatic language processing and production.

The applications of computational linguistics span diverse domains, including natural language understanding and generation, machine translation, information retrieval, and

speech recognition. It is a crucial field of research within artificial intelligence and cognitive science.

## **I.10. Overview of CL in Language Learning**

Computational linguistics is a field of study that combines computer science and linguistics. It uses computational methods to analyze and understand natural language, as well as to develop applications that can interact with humans in natural language. In the context of language learning, CL can play an important role in both understanding how people learn languages and developing technology-based tools to support language learning.

The CL that has been particularly relevant to language learning is natural language processing (NLP). It is the study of how computers can understand and process human language. It involves a range of techniques, including machine learning, statistical modeling, and linguistics, and has been used to develop a variety of language learning applications.

NLP-based language learning applications encompass machine translation, which employs statistical or rule-based methods to translate text and aids language learners in quickly grasping the general meaning of a foreign language text, despite its imperfections. Additionally, text analysis tools utilize NLP techniques to analyze written texts, offering insights into grammar and vocabulary, enabling learners to identify areas for improvement in their language comprehension.

In addition to NLP, CL can also be used in language learning through the development of intelligent tutoring systems (ITS). ITS are computer-based systems that provide personalized instruction to learners based on their individual needs and progress. ITS can use a range of techniques, including NLP, machine learning, and adaptive testing, to provide customized instruction to learners.

One example of an ITS-based language learning system is Duolingo. It is a popular language learning app that uses a range of techniques, including NLP and machine learning, to provide personalized language instruction to learners. The app provides learners with exercises that test their understanding of grammar, vocabulary, and pronunciation, and uses adaptive testing to adjust the difficulty of the exercises based on the learner's performance.

CL has been used in language learning is in the development of speech recognition and synthesis systems. Speech recognition systems use NLP techniques to recognize spoken language and convert it into text, while speech synthesis systems use NLP techniques to convert text into spoken language. These systems can be used to provide learners with practice in listening and speaking, as well as to provide feedback on their pronunciation and intonation.

### **1.11. The role of CL in developing writing skills**

Computational linguistics has the potential to support the development of writing skills by providing tools and techniques for analyzing and generating written language. In this section, we will discuss the role of CL in developing writing skills, concerning relevant research and applications.

One area where CL has been used to support writing skills is in the development of automated writing evaluation (AWE) systems. AWE systems use NLP techniques to analyze the quality of written texts and provide feedback on areas for improvement. AWE systems can provide feedback on a range of factors, including grammar, vocabulary, coherence, and organization (Dikli, 2006).

Research has shown that AWE systems can be effective in improving writing skills. For example, a study by Attali and Powers (2012) found that students who received feedback from an AWE system improved their writing skills more than students who received feedback from a human teacher. Another study by Knoch et al. (2014) found that AWE feedback improved the quality of student writing in a university-level English as a second language (ESL) course.

CL can also be used to support writing skills by providing tools for text generation. Text generation systems use NLP techniques to generate written language, either in response to prompts or based on pre-existing text. Text generation systems can be used to support writing in a range of contexts, including creative writing, academic writing, and business writing (Mellish, 2018).

While CL-based tools and applications can be effective in supporting writing skills, it is important to note that they are not a replacement for human teachers or feedback. CL-based tools should be used as a supplement to, rather than a replacement for, human feedback and instruction.

CL has the potential to support the development of writing skills by providing tools and techniques for analyzing and generating written language. AWE systems can provide feedback on areas for improvement, while text generation systems can be used to support writing in a range of contexts. As technology continues to advance, CL will likely continue to play an increasingly important role in supporting writing skills.

## I.12. Auto-Correct tools in language learning

### Definition:

Auto-correct tools are software programs that assist users in typing by automatically correcting spelling errors, capitalization, and punctuation in real-time. Auto-correct tools are now a ubiquitous feature on most smartphones, computers, and tablets. These tools are designed to save users time and effort by automatically correcting errors and improving the readability of their written communication. In this response, I will define auto-correct tools and provide references to support my definition.

```
1 import difflib
2
3 1 usage
4 def auto_correct(word):
5     correct_word = "precious" # The correct word you want to match
6
7     # Calculate the similarity score using the Levenshtein distance
8     similarity = difflib.SequenceMatcher(None, word, correct_word).ratio()
9
10    if similarity >= 0.8:
11        return correct_word
12    else:
13        return word
14
15 # Example usage
16 user_input = input("Enter a word: ")
17 corrected_word = auto_correct(user_input)
18 print("Auto-corrected word:", corrected_word)
```

**Image 1: Example of simple auto-correct tool algorithm**

Auto-correct tools are typically based on algorithms that analyze the words and phrases being typed by the user. These algorithms are designed to recognize common spelling errors, such as typing "teh" instead of "the," and automatically correct them. Auto-correct tools may also include predictive text features, which suggest possible words or phrases based on the user's typing history and context. For example, if a user has previously typed the word "pizza," and then types "I want to order a p," the auto-correct tool may suggest "pizza" as a possible completion.

Auto-correct tools have become increasingly sophisticated over the years, incorporating machine learning and artificial intelligence technologies to improve their accuracy and

effectiveness. Some auto-correct tools are now capable of recognizing context-specific language use, such as industry-specific jargon or regional dialects. For example, auto-correct tools used by medical professionals may be able to recognize and correct medical terminology more accurately than a general-purpose auto-correct tool.

While auto-correct tools are generally helpful, they can also be problematic. Auto-correct errors are common, and can sometimes lead to embarrassing or offensive messages. In addition, auto-correct tools may not recognize certain dialects or colloquialisms, which can lead to incorrect or awkward corrections. Auto-correct tools may also perpetuate biases and stereotypes, as some tools may assume that certain groups of people are more likely to make spelling errors than others (Kuo, 2019).

### **1.13. Benefits and advantages of using auto-correct tool:**

#### **1. Immediate Feedback:**

Auto-correct provides learners with instant feedback on their writing, highlighting errors and suggesting corrections. This immediate feedback helps learners identify and rectify mistakes, leading to faster language acquisition.

#### **2. Error Recognition:**

Auto-correct tools recognize a wide range of spelling, grammar, and punctuation errors. By pointing out these mistakes, learners become more aware of their weaknesses and can focus on improving specific areas of their writing.

#### **3. Vocabulary Enhancement:**

Auto-correct tools often suggest alternative word choices, helping learners expand their vocabulary. Through exposure to a variety of words and phrases, learners can enhance their writing style and express themselves more effectively.

#### **4. Reduced Language Anxiety:**

EFL learners often experience anxiety when writing in a foreign language, fearing making errors or sounding unnatural. Auto-correct provides a safety net by offering corrections and reducing anxiety levels, enabling learners to write more confidently.

#### **5. Consistency:**

Auto-correct ensures consistency in writing by standardizing spelling, grammar, and punctuation. This helps learners develop a sense of language rules and conventions, promoting clarity and coherence in their writing.

## **6. Time Efficiency:**

Using an auto-correct tool saves time as learners don't need to manually search for errors or consult reference materials. This allows learners to focus more on the content and structure of their writing.

## **7. Independent Learning:**

Auto-correct empowers learners to become more self-reliant in their language-learning journey. By using the tool, learners can identify and correct their own mistakes, promoting autonomy and self-directed learning.

### **I.14. Disadvantages and Limitation of using auto-correct tool:**

It is important to note that auto-correct tools are not infallible and can sometimes provide incorrect or inappropriate suggestions for correction. For example, some auto-correct tools may not recognize regional variations in spelling or grammar, leading to suggestions that are incorrect or even offensive. Similarly, some auto-correct tools may suggest corrections that are grammatically correct but stylistically inappropriate or awkward.

To avoid these problems, it is important for learners to use auto-correct tools in conjunction with other language learning resources, such as textbooks, online courses, and language exchange programs. By using a variety of resources, learners can develop a more comprehensive understanding of the language and its usage, as well as gain exposure to different regional and cultural variations.

Another limitation of auto-correct tools is that they may encourage learners to rely too heavily on technology rather than developing their own language skills. While auto-correct tools can be helpful in the language learning process, they should not be used as a substitute for active engagement with the language. Learners should still focus on developing their own writing and speaking skills, rather than relying on technology to do the work for them.

In addition to these considerations, it is also important for learners to choose the right auto-correct tool for their needs. There are many different auto-correct tools available, each with its strengths and weaknesses. Some devices may be better suited for learners who are just starting and need help with basic grammar and vocabulary, while others may be more

appropriate for more advanced learners who are looking to improve their writing style and fluency.

The use of auto-correct tools in language learning can be a helpful and effective way to improve writing skills and develop vocabulary. However, it is essential to use these tools in conjunction with other language learning resources and to choose the right tool for your needs.

### **1.15. Previous Studies on Auto-Correct Tool and Writing Skills:**

Previous studies have shown that auto-correct features can significantly impact writing skills, both positively and negatively. In this article, we will review some of these studies and their findings.

One study conducted by Hiebert and Kamil (2005) examined the effects of spell-check and grammar-check features on the writing performance of high school students. The study found that these features had a positive impact on the quality of writing and the ability of students to identify and correct their errors. However, the study also noted that over-reliance on these features could lead to a decrease in student's ability to identify and correct errors on their own.

Another study conducted by Sundar and Bellur (2011) examined the impact of auto-correct features on mobile phones on users' writing abilities. The study found that the use of auto-correct features led to a decrease in spelling errors, but also led to an increase in grammatical errors and decreased the quality of writing overall. The study suggested that this may be because auto-correct features can lead users to rely too heavily on technology to correct their writing, rather than develop their writing skills.

Similarly, a study by Cotten and Wilson (2006) found that auto-correct features in word-processing programs can lead to a decrease in students' writing skills over time. The study found that students who relied heavily on these features were less likely to develop strong spelling and grammar skills and were more likely to make errors even when using these features.



However, some studies have found that auto-correct features can have a positive impact on writing skills. For example, a study by Drouin, Rosen, and Finch (2013) found that the use of auto-correct features led to an increase in the quality of writing among college students. The study found that the use of these features helped students identify and correct errors in their writing, leading to improved writing overall.

Another study conducted by Abalhassan and Al-Khalifa (2013) examined the impact of auto-correct features on the writing skills of Arabic-speaking learners of English. The study found that the use of these features led to a significant improvement in the spelling and grammar skills of these learners.

The research on the impact of auto-correct features on writing skills is mixed. While some studies have found that these features can help improve writing skills, others have suggested that over-reliance on these features can lead to a decrease in students' ability to identify and correct errors on their own. As with many educational technologies, the key may be to use auto-correct features in moderation, as a tool to support and enhance students' writing skills, rather than relying on them entirely.

### **1.16. Criticisms of Auto-Correct Tools:**

Auto-correct tools are now a ubiquitous feature on most smartphones, computers, and tablets. These tools are designed to assist users in typing by correcting spelling errors, capitalization, and punctuation. However, while auto-correct tools are generally useful, they have come under criticism for a range of reasons.

One of the most common criticisms of auto-correct tools is that they can be unreliable and inconsistent. While auto-correct tools are designed to correct common spelling errors, they often make mistakes themselves. For example, a common issue with auto-correct tools is that they may correct a word that is spelt correctly into a different word that is spelt incorrectly. This can lead to confusion for both the writer and the reader, and can even result in embarrassing or offensive messages. A study by the University of Alberta found that auto-correct errors are common, with over 28% of text messages containing at least one error caused by an auto-correct tool (Hancock, 2014).

Another criticism of auto-correct tools is that they can stifle creativity and originality. When a writer relies too heavily on auto-correct tools, they may become less aware of their own spelling and punctuation abilities. This can lead to a lack of confidence in their writing, and a reluctance to experiment with language. In addition, auto-correct tools may not be able to recognize certain dialects or colloquialisms, which can lead to incorrect or awkward corrections. For example, auto-correct tools may correct "y'all" to "you all," which may be grammatically correct but not reflective of the writer's intended meaning. This can lead to a loss of nuance and authenticity in communication (Lind, 2015).

Another criticism of auto-correct tools is that they can perpetuate biases and stereotypes. Auto-correct tools are often programmed with certain assumptions about language use, which can lead to problematic corrections. For example, some auto-correct tools may assume that a person with a foreign name or accent is more likely to make spelling errors, and may correct their text more aggressively than that of a native English speaker. This can lead to discrimination and exclusion in communication, as well as reinforcing stereotypes about language use (Kuo, 2019).

The auto-correct tools can also have a negative impact on language learning and development. When learners rely too heavily on auto-correct tools, they may not develop the skills needed to spell and punctuate correctly on their own. This can lead to a lack of confidence in their language abilities, as well as a potential reliance on technology to communicate effectively. In addition, auto-correct tools may not provide the same level of feedback and correction as a human tutor or teacher, which can limit learners' ability to improve their language skills (Markham, 2016).

While auto-correct tools can be useful in many situations, they have also come under criticism for a range of reasons. Auto-correct tools can be unreliable, and inconsistent, and may perpetuate biases and stereotypes. They can also stifle creativity and originality, as well as have a negative impact on language learning and development. It is important for users to be aware of these potential issues and to use auto-correct tools with caution. Users should also be mindful of the limitations of these tools and take steps to develop their language skills independently.

## **Conclusion:**

Computational linguistics is a dynamic and interdisciplinary field that combines linguistics and computer science to advance our understanding of human language and develop technologies that enable effective communication between humans and computers. It plays a crucial role in various applications such as natural language processing, machine translation, information retrieval, speech recognition, sentiment analysis, and text summarization.

In language learning, computational linguistics offers valuable tools and techniques for analyzing and generating written language. Automated writing evaluation systems provide instant feedback and help learners identify areas for improvement in their writing. Text generation systems and intelligent tutoring systems further support language learners by enhancing vocabulary, promoting consistency, and reducing language anxiety.

Auto-correct tools, a common feature in modern devices, have benefits and advantages in language learning, including providing immediate feedback, recognizing errors, enhancing vocabulary, reducing language anxiety, ensuring consistency, and saving time. However, they also have limitations, such as occasional incorrect suggestions and the risk of over-reliance on technology. It is important for learners to use auto-correct tools in conjunction with other language learning resources and to choose the right tool for their needs.

Previous studies have shown mixed findings regarding the impact of auto-correct tools on writing skills. While some studies highlight their positive effects, others caution against over-reliance and potential negative consequences. The key is to use auto-correct features as a tool to support and enhance writing skills, rather than relying on them entirely.

Criticism of auto-correct tools focuses on their unreliability, inconsistency, and potential for creating confusion or generating incorrect or offensive messages. It is essential for developers to continuously improve the accuracy and effectiveness of auto-correct algorithms to mitigate these issues.

Overall, computational linguistics and the use of auto-correct tools have the potential to significantly contribute to language learning and the development of writing skills. By leveraging the advancements in this field, learners can receive valuable feedback, improve their writing abilities, and communicate more effectively in the target language. As technology continues to evolve, computational linguistics will continue to play a vital role in bridging the gap between human language and machine unders



## **CHAPTER-II. The writing Skill**

## **I.1. Introduction**

Writing is one of the most challenging skills that occupies an intrinsic value in language teaching and learning. It is a fundamental skill since the learner has to make considerable effort and to practice many writing activities to reach an acceptable level of writing. In other words, writing has always been a heavy task and a burden over the shoulders of foreign language learners. In this chapter, we will present the reader with the writing skill in general, including different definitions, introducing writing in FL context, as well as criteria relative to different aspects for producing academic piece of writing concerning cause and effect essay methodology. Further, approaches to teaching writing are briefly discussed in this chapter. Later the contribution of reading to the writing skill development in addition to integrated reading and writing instruction.

### **I.17. Definition of writing**

Writing is a crucial form of communication that holds immense importance, particularly within academic communities. It involves effectively conveying a message by employing thoughtful consideration and employing appropriate language. Nunan (2003) describes writing as an intellectual process wherein ideas are discovered, contemplated, and then expressed and organized into coherent statements and paragraphs that can be readily understood by readers.

Within the foreign language (FL) classroom, teachers recognize that their students' written output not only showcases their existing knowledge but also highlights areas that require further development. Tribble (1996 p. 3) defines writing as a challenging language skill to acquire. Furthermore, Kress (1989 cited in Tribble, 1996) emphasizes that writing proficiency extends beyond mechanical orthographic skills and encompasses the acquisition of new cognitive and social abilities. White and Arndt (1991, p. 3) perceive writing as more than a mere transcription of spoken language into written symbols rather, it is a distinct cognitive process that necessitates conscious intellectual effort sustained over a significant duration. This perspective illuminates the complexity of writing as a skill involving a series of interconnected and systematically organized tasks.

Hyland (2003:3), taking a different perspective, views writing as the arrangement of words, clauses, and sentences in accordance with a set of rules, resulting in coherent marks on a page or screen. This viewpoint underscores the need for comprehensive comprehension and mastery of the various components that constitute writing, both at the sentence and discourse levels.

While it is challenging to formulate a singular definition of writing that encompasses all the diverse writing activities individuals engage in daily, the following definition offers a comprehensive understanding. Writing is an act that occurs within a specific context, serving a particular purpose, and being appropriately tailored for its intended audience<sup>4</sup> (Hamp, Lyons, and Kroll 1997, as quoted in Weigle, 2002 19).

### **Writing as a skill**

Writing is a crucial skill that holds significant importance in language development, alongside speaking, listening, and reading. Just as students need to learn how to communicate orally and comprehend written texts, they must also be able to write effectively. Rao (Rao, 1997. P.2) emphasizes that writing serves as a means to stimulate critical thinking, necessitating students to concentrate, organize their ideas, and cultivate skills such as summarizing, analyzing, and criticizing.

Farris (2001) further emphasizes the difficulty in acquiring writing skills, stating that it takes years to master the complexities involved. Professional writers even suggest that it may take as long as 20 to 30 years to become proficient in writing due to its multifaceted nature, encompassing various skills such as grammar, handwriting, and spelling—Farris (2001:13 p.2).

The multitude of applications for writing skills highlights its undeniable importance. Harmer (2001: 80) asserts that writing extends beyond the mere composition of linguistic elements; it involves engaging in intellectual discussions, logically organizing ideas, and targeting a specific audience. It is more than a simple activity of stringing sentences together, as Widdowson (Widdowson, 1978.P.62) points out. Writing requires the development of a cohesive argument, skilful persuasion, and the ability to convey valuable insights to the reader.

Recognizing writing as a fundamental language skill highlights the need to raise awareness of its significance. Educators must consider the language proficiency of students when assigning writing tasks. Harmer (2001) suggests that beginners may be tasked with writing simple poems, while more advanced students can handle complex assignments such as comprehensive reports on specific topics. The writing tasks should be tailored to ensure that students possess the necessary language competence to complete them successfully.

## **Writing as a productive skill**

Writing is often regarded as one of the most important productive skills in communication and expression. It allows individuals to convey their thoughts, ideas, and emotions effectively to a wide audience. Whether it's in academic, professional, or personal contexts, writing plays a crucial role in various aspects of our lives. In this discussion, we will explore the significance of writing as a productive skill, citing relevant references to support our claims.

Firstly, writing serves as a powerful tool for communication. It enables individuals to articulate complex ideas and convey them in a clear and organized manner. According to a study conducted by Graham and Perin (2007), effective writing skills are positively correlated with improved communication abilities, leading to enhanced academic and professional performance. Through writing, individuals can express their thoughts, opinions, and perspectives, fostering meaningful discussions and promoting a deeper understanding among readers (Graham, Harris, & Fink, 2000).

Furthermore, writing facilitates critical thinking and analytical skills development. When individuals engage in the process of writing, they are required to gather information, analyze it, and construct logical arguments. According to a study by Petelin and Sinfield (2004), writing encourages individuals to think critically and reflectively, as it demands a deeper level of engagement with the subject matter. This ability to think critically and present well-structured arguments is highly valued in academic and professional settings.

Moreover, writing serves as a valuable tool for self-expression and self-reflection. It allows individuals to explore their thoughts, emotions, and personal experiences in a creative and introspective manner. According to Pennebaker and Chung (2011), expressive writing has

been linked to various psychological benefits, such as improved mood, reduced stress levels, and enhanced overall well-being. Writing can serve as a cathartic outlet for individuals to process their feelings and gain a deeper understanding of themselves.

In addition, writing contributes to the development of language proficiency and literacy skills. Through continuous practice, individuals can improve their vocabulary, grammar, and overall language proficiency. In a study by Shanahan and Lomax (1986), found that students who engaged in regular writing activities demonstrated significant improvements in their writing abilities, as well as their reading comprehension skills. Writing not only helps individuals become more proficient in their native language but also enables them to communicate effectively in a globalized world.

### **Writing in English in a Second/ Foreign Language**

Mastering the skill of writing is a challenging task for learners in both their native language (NL) and second/foreign language (SL/FL). According to Dixon et al. (2002) and Hinkel (2006), writing is an intricate process that proves to be formidable for many second language learners. Despite its complexity and difficulties, writing holds significant importance for numerous students as it serves as a means to showcase their knowledge in various subject areas.

A quick examination reveals that ESL and developmental writing students often encounter similar writing difficulties. These challenges include a lack of cohesive rhetorical structure, adherence to standard sentence construction, punctuation, and control over certain grammatical structures. Kroll (1990) observes that ESL students themselves exhibit a similar range of performance in writing, operating within a complex system of language rules with limited exposure and partial mastery at best.

Second language writers, although less proficient in the nuances of English, frequently display a higher level of sophistication in discussing language. These writers require instructors who comprehend the process of second language acquisition and know how to communicate about language in the same way the writers have learned it (Bartholomae, 1979; Bartholomae & Petrosky, 1987:66).



ESL/EFL students are advised to choose topics they are familiar with or have extensive experience in. Myles (2002) asserts that good writing is not a naturally acquired skill, but rather a learned or culturally acquired skill that improves through experience. Composing is one aspect of writing that involves conveying information through various forms of writing. Second language/foreign language learners may encounter difficulties in the process of composing, facing obstacles when formulating new concepts that require transforming or reworking information. By integrating concepts and problem solving, the writer engages in a "two-way interaction between continuously developing knowledge and continuously developing text" (Bereiter and Scardamalia, 1987:12).

Myles' statement suggests that not all students possess linear thinking abilities, which are often necessary to meet audience expectations. Basic writers, as well as ESL/EFL students, may require assistance in organizing and developing their topics. While English faculty members can offer such guidance naturally, they may not always be equipped to address ESL/EFL issues related to articles, two-word verb combinations, and idiomatic usage. Additionally, they may be unaware that ESL students who appear to lack organization may actually be applying organizational patterns transferred from their native languages. This is particularly true for ESL students who have received a high level of education in their home countries.

### **1.18. Factors influencing writing skill acquisition**

The acquisition of writing skills is influenced by various factors that impact the development and mastery of this essential language skill. Several factors contribute to the complexity of learning to write effectively.

#### **• Cognitive Development:**

Writing requires higher-order thinking skills, such as critical thinking, problem solving, and organizing ideas. As children's cognitive abilities develop, their capacity for abstract thinking and logical reasoning improves, enabling them to engage in more advanced writing tasks (Bereiter & Scardamalia, 1987).

- **Language Proficiency:**

Proficiency in the language being written is crucial for effective written expression. A solid foundation in vocabulary, grammar, syntax, and sentence structure allows writers to convey their ideas clearly and accurately (Cummins, 1981). Limited language proficiency can hinder the development of writing skills.

- **Literacy Skills:**

Strong reading skills are closely linked to writing proficiency. Reading exposes learners to various writing styles, genres, and language conventions, which they can emulate in their own writing. Furthermore, reading enhances vocabulary, comprehension, and overall language competence, all of which contribute to proficient writing (Graham & Perin, 2007).

- **Writing Instruction:**

Effective instruction plays a vital role in developing writing skills. Teachers who provide explicit instruction, modeling, and guidance on writing strategies, organization, grammar, and mechanics help students develop their writing abilities (Graham et al., 2012). Scaffolded instruction that gradually increases in complexity supports learners in mastering different aspects of writing.

- **Motivation and Engagement:**

Intrinsic motivation and a positive attitude towards writing can significantly influence skill acquisition. Students who are motivated to write and view writing as a meaningful and enjoyable activity are more likely to invest time and effort in developing their writing skills (Graham et al., 2011). Creating a supportive and engaging writing environment can foster students' motivation and enthusiasm.

- **Feedback and Revision:**

Constructive feedback and opportunities for revision are crucial for improving writing skills. Receiving feedback from teachers and peers helps students identify areas for improvement and make necessary revisions to their writing (Bangert-Drowns et al., 2004). Revision encourages students to reflect on their writing choices, refine their ideas, and enhance the overall quality of their written work.

- **Cultural and Societal Influences:**

Cultural and societal factors can shape writing practices and conventions. Different cultures may have distinct writing styles, expectations, and norms. Understanding cultural and societal influences on writing can enhance students' ability to write effectively in diverse contexts and for various audiences (Cumming, 2011).

## **I.19. Approaches to teaching writing**

Since the early 1980s, teaching writing has undergone various approaches and methods. Initially emphasizing sentence structure and grammar drills, the focus has shifted to usage and text organization. The significance of understanding and utilizing writing is highly regarded across different disciplines, each requiring its own specific teaching method. Both teachers and students have realized that writing conforms to conventional forms in various contexts. As a result, numerous teaching approaches and methods have emerged. While none of these approaches can be deemed perfect, they have all demonstrated success at different times. Consequently, today's writing classrooms and course books are characterized by the competition among several approaches.

In the realm of language learning and teaching, there has always been an enduring tension between language as a process and writing as a product. Traditionally, the curriculum practice has distinguished between the activities of syllabus designers, who focused on products, and methodologists, who focused on processes (Nunan, 1989).

### **Writing as text (Product)**

Product approaches to teaching writing focus on the final written product as the primary goal of instruction. These approaches prioritize the development of specific writing skills and the production of polished and coherent texts. Several product-oriented strategies have been identified in the field of writing pedagogy.

One of the prominent product approaches is the process-product approach, which combines elements of both process and product orientations. This approach emphasizes the importance of teaching writing as a process while also valuing the final written product. According to Bereiter and Scardamalia (1987), the process-product approach involves guiding students through a series of stages, including prewriting, drafting, revising, and editing, to produce a

well-crafted piece of writing. This approach recognizes that writing is a complex and iterative process and seeks to balance the development of writing skills with the production of quality texts.

## **The process of writing**

The process approaches to teaching writing are instructional methods that emphasize the gradual development of students' writing skills through a series of interconnected stages. These approaches acknowledge that writing is a complex and recursive process involving multiple drafts, revisions, and opportunities for feedback. By focusing on the various steps involved in writing, educators can foster students' ability to generate ideas, organize thoughts, revise and edit their work, and ultimately produce effective written compositions.

One prominent process approach to teaching writing is the "writing process model" developed by Donald M. Murray. According to Murray (1982), the writing process consists of four main stages: prewriting, drafting, revising, and editing. During the prewriting stage, students engage in activities such as brainstorming, freewriting, or outlining to generate ideas and plan their compositions. The drafting stage involves transforming these initial ideas into a coherent and cohesive draft. The revising stage focuses on improving the content, organization, and clarity of the writing through reflection, feedback, and revision strategies. Finally, the editing stage involves correcting grammar, spelling, punctuation, and other mechanical errors to polish the final piece.

Another process approach to teaching writing is the "genre-based approach" proposed by John Swales (1990). This approach emphasizes the importance of teaching students the specific characteristics and conventions of different writing genres, such as narratives, reports, or persuasive essays. Students are guided through a series of scaffolded activities, including analyzing sample texts, identifying genre-specific features, and engaging in guided practice to produce their own texts within those genres. The genre-based approach recognizes that writing is situated within particular contexts and that understanding genre expectations is essential for effective communication.

Furthermore, the "process-product approach" integrates both the process and product-oriented aspects of writing. This approach, developed by Janet Emig (1971), considers writing

as a dynamic process while also focusing on the final written product. Students engage in pre-writing activities to generate ideas, drafting and revising to refine their composition, and editing to correct errors and polish the final product. The process-product approach highlights the importance of considering both the writer's process and the quality of the end result.

## **Writing as Genre**

Genre approaches to teaching writing are instructional methodologies that emphasize the study and production of different types of written texts or genres. These approaches emphasize the importance of understanding the purpose, structure, and language features of specific genres in order to effectively engage in writing activities. By focusing on genres, students develop their writing skills in a more contextualized and authentic manner, as they learn to adapt their writing to different rhetorical situations and audiences.

One influential approach is the "**Genre-Based Approach**" (GBA), which was developed by Australian educators Christie and Derewianka (2008). GBA emphasizes the explicit teaching of genre structures, linguistic features, and social purposes of different written texts. Students are introduced to a variety of genres such as narratives, reports, explanations, and arguments, and they learn to analyze and imitate these genres. GBA encourages students to become aware of the specific language choices and organizational patterns used in each genre, fostering a deeper understanding of how meaning is constructed and conveyed through writing (Derewianka, 2015).

Another approach is the "**Systemic Functional Linguistics**" (SFL) approach, which underlies the GBA. SFL, developed by Halliday (1985), focuses on the relationship between language and social context. In teaching writing, SFL examines how different genres serve different social purposes and how language choices within genres reflect the intentions and meanings of the writers. This approach emphasizes the functional aspects of language, such as how language is used to create meaning and achieve specific communicative goals. By analyzing the social functions and linguistic resources of genres, students gain a greater understanding of how to effectively produce and interpret written texts (Martin, 2010).

A third genre approach is the "**New Rhetoric approach**", which draws on classical rhetoric principles to teach writing. This approach emphasizes the importance of teaching students to analyze the rhetorical situation and adapt their writing to meet the needs of different audiences and purposes. The New Rhetoric approach encourages students to consider the purpose, audience, and context of their writing, and to employ rhetorical strategies such as ethos, pathos, and logos to effectively persuade and engage readers. By studying and applying rhetorical principles, students develop a heightened awareness of the persuasive strategies used in different genres, enabling them to become more proficient and adaptable writers (Flower & Hayes, 1980).

## **I.20. Assessment and Evaluation of Writing Skills**

### **Assessment :**

Assessment can be defined as the process of gathering and analyzing evidence to determine the level of knowledge, skills, or attributes possessed by an individual or a group of individuals. It involves the systematic collection of data and information through various methods, such as tests, observations, interviews, and portfolios, with the aim of making informed judgments about the extent to which desired outcomes have been achieved. Assessment serves multiple purposes, including measuring learning progress, identifying strengths and weaknesses, informing instruction and curriculum design, and supporting decision-making processes.

According to the American Educational Research Association (AERA), the National Council on Measurement in Education (NCME), and the American Psychological Association (APA), assessment refers to "the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development" (AERA et al., 2014). This definition highlights the importance of using assessment data to drive instructional improvement and promote student growth.

Assessment can take different forms, such as formative assessment and summative assessment. Formative assessment occurs during the learning process and provides feedback to learners, helping them identify areas for improvement and adjust their learning strategies. Summative assessment, on the other hand, takes place at the end of a learning period and is

used to evaluate overall achievement or proficiency. Both formative and summative assessments play vital roles in understanding the progress and performance of individuals or groups.

The goal of assessment is to provide valid, reliable, and fair judgments about learners' knowledge, skills, or attributes. Validity refers to the extent to which an assessment measures what it intends to measure, while reliability refers to the consistency and accuracy of the assessment results. Fairness implies that the assessment process and instruments are free from bias and provide equal opportunities for all individuals.

### **Evaluation :**

Evaluation, in the context of assessment, refers to the systematic and objective process of determining the value, effectiveness, or quality of something. It involves the collection, analysis, and interpretation of data to make judgments or conclusions about the merits, strengths, weaknesses, or overall performance of a particular entity, such as a program, project, product, or individual's performance.

Evaluation is the “systematic investigation of the worth or merit of an object” and involves gathering and analyzing data to inform learning, decision-making, and action in order to contribute to the improvement of a program or policy (Weiss, 1998) .It involves the identification of evaluation criteria or standards against which the object or entity being evaluated is assessed. These criteria can be based on predefined objectives, established benchmarks, or relevant standards and guidelines. By comparing the observed data or evidence against the evaluation criteria, evaluators can determine the extent to which the object or entity meets the desired goals or expectations.

Evaluation typically follows a structured and rigorous process that includes planning, data collection, analysis, interpretation, and reporting of findings. It may employ various methods and techniques, such as surveys, interviews, observations, document reviews, or statistical analyses, depending on the nature of the evaluation and the available resources.

The purpose of evaluation varies depending on the context. It can be used to assess the effectiveness and efficiency of educational programs, the impact of social interventions, the

quality of healthcare services, the performance of employees, or the success of business strategies, among other applications. Evaluation findings are often used to guide decision-making, allocate resources, improve program or product design, and enhance overall performance and accountability

### **Assessment and Evaluation of writing skills :**

Assessing and evaluating writing skills is a crucial aspect of education and professional development. It allows educators, employers, and individuals to gauge proficiency, identify strengths and weaknesses, and provide targeted feedback for improvement. Various methods and techniques are employed to assess and evaluate writing skills, including rubrics, standardized tests, portfolio assessments, and peer reviews.

Rubrics are commonly used to assess writing skills as they provide clear criteria for evaluating different aspects of writing, such as organization, grammar, and content. Rubrics establish a standardized framework that allows for consistent assessment across multiple writing samples. By assigning scores or levels to each criterion, educators can provide specific feedback and identify areas for improvement.

Standardized tests, such as the SAT or ACT writing sections, are designed to evaluate writing skills in a standardized manner. These tests typically require test takers to respond to a prompt within a specific time limit. The responses are then assessed based on factors like coherence, development of ideas, and use of language conventions. Standardized tests provide a comparative measure of writing skills among individuals and are often used for college admissions or employment purposes. Portfolio assessments involve the collection of a student's written work over a period of time. This approach allows for a comprehensive evaluation of writing skills, as it considers a range of writing samples across different genres and topics.

Portfolios provide a holistic view of a student's progress and growth in writing, enabling educators to assess their development over time and identify areas where additional support or improvement is needed. Peer reviews involve students assessing and providing feedback on each other's writing. This collaborative approach fosters critical thinking and self-reflection skills while also offering diverse perspectives.



Peer reviews not only provide valuable insights for the writer but also enhance the reviewing student's own writing skills by promoting a deeper understanding of effective writing techniques.

It is important to note that assessing and evaluating writing skills should consider the context and purpose of the writing. Different writing tasks, such as persuasive essays, research papers, or creative writing, require distinct skills and approaches. Therefore, assessments should align with the specific goals and objectives of the writing task to provide meaningful feedback.

## **1.21. Conclusion:**

In conclusion, writing is an essential and challenging skill in language teaching and learning. It requires significant effort and practice to reach an acceptable level of proficiency. Throughout this chapter, we have explored various aspects of writing, including its definition, importance as a skill, its role as a productive skill, the challenges faced by second/foreign language learners, and the factors that influence the acquisition of writing skills. We have also discussed different approaches to teaching writing, such as product-oriented and process-oriented approaches.

Writing is more than just conveying a message; it involves intellectual processes, critical thinking, and the ability to organize ideas coherently. It is a means of communication that allows individuals to express themselves, stimulate critical thinking, and engage in intellectual discussions. Writing also contributes to the development of language proficiency, literacy skills, and the ability to think critically and analytically.

Second/foreign language learners face unique challenges in acquiring writing skills, including difficulties in organizing and developing topics, grammatical accuracy, and the influence of their native language on writing patterns. Understanding these challenges is crucial for providing effective instruction and support to help learners overcome them.

The acquisition of writing skills is influenced by various factors, such as cognitive development, language proficiency, literacy skills, effective instruction, motivation, feedback, and cultural influences. Considering these factors and creating a supportive and engaging writing environment can greatly enhance students' writing abilities.

When it comes to teaching writing, there is a range of approaches and methods that have emerged over the years. Product-oriented approaches focus on the final written product and specific writing skills, while process-oriented approaches emphasize the gradual development of writing skills through stages and iterations. Each approach has its merits and has demonstrated success in different contexts.

In conclusion, developing writing skills is a complex and multifaceted process, but it is a skill of utmost importance. By understanding the various aspects of writing, the challenges

faced by learners, and employing effective teaching approaches, educators can empower students to become proficient and confident writers



**CHAPTER-III. Methodology, Results, &  
Discussion Introduction**

In this chapter, the author presents the research objectives, procedures, and tools employed in the study. The author aims to provide a clear argument by utilizing various analytical instruments, including a questionnaire, semi-structured interview, and a test, to collect data.

The questionnaire and interview are administered to assess students' awareness of the significance of the auto-correct tool and the extent to which they consider it important for improving their writing skills. Additionally, the test is conducted to investigate the benefits of utilizing the auto-correct tool. The chapter will present a detailed analysis and interpretation of the data gathered from these instruments in the form of descriptive texts. The results of this study investigated as:

- A crucial step toward diagnosis of problems.
- Groundwork of the auto-correct effectiveness.

## **1.1. Research design**

According to Stake (2010), the selection of an appropriate research methodology heavily relies on the research questions at hand. Thus, for this particular study, it is deemed most suitable to adopt a mixed-method approach, which combines both quantitative and qualitative research. Dörnyei (2001) also supported this combination, stating that it addresses the limitations of each approach and leads to the most favorable outcomes in research studies. The quantitative component of the research involved implementing a questionnaire, while the qualitative aspect encompassed a semi-structured interview and a test.

On one side, the quantitative research method involves the measurement and analysis of variables to obtain results. It employs numerical data and specific statistical techniques for analysis. Leedy & Ormrod (2001) asserted that quantitative research entails collecting data, quantifying it, and subjecting it to statistical treatment in order to either support or challenge alternative knowledge claims.

On the other hand, the qualitative approach focuses on gathering data through open-ended and conversational communication. Creswell (2013) defined qualitative research as a

study that involves a small number of participants who share similar perceptions of a specific experience. It places emphasis on describing the natural setting in descriptive language rather than relying on statistical analysis. Glossner (1990) argued that qualitative research techniques provide a deeper understanding of the intricacy and complexity of students' attitudes towards learning.

In the upcoming sections, we provide a brief discussion of the research instruments and the setting of the study in detail.

## **I.22. Participants**

The study focuses on first-year undergraduate students enrolled at the Department of Letters and English Language in Kasdi Merbah University of Ouargla (KMUO). The majority of these students are native Arabic speakers who are learning English as a foreign language (FL). The researchers selected first-year students as participants in order to introduce them to an auto-correct tool. The aim is to enhance their awareness of writing skills and help them recognize and correct errors and mistakes in their writing.

## **I.23. Research instruments**

After we selected the research, method and design that fit well the aims of the study. The following step is collecting data through variety of instruments.

### **Questionnaire:**

This tool is used to assess students' understanding of the progress in their writing abilities through the utilization of an auto-correct feature. As described by Nunan (1992), the survey includes a combination of written questions that are both open-ended and close-ended, designed specifically for the intended participants. The purpose of this survey is to gather their feedback and responses concerning a specific study.

**Interview:**

The objective of the interview was to gather insights on students' perspectives towards the auto-correct tool. To conduct the interview, a semi-structured format was chosen instead of an unstructured approach, as outlined by Corbetta (2003). In a semi-structured interview, the interviewer has the flexibility to decide the order of topics and the phrasing of questions. Within each topic, the interviewer can steer the discussion, pose pertinent questions in their preferred manner, offer explanations, seek clarification when necessary, prompt the respondent for more details, and establish their own conversational approach.

**I.24. Students 'questionnaire**

The above-mentioned approach refers to a survey method that includes a set of pre-determined questions with multiple-choice options. Its aim is to collect a significant amount of data from a large number of participants in a short time and at a relatively low cost. The primary objective is to gather information that can be easily categorized and analyzed. This method is widely used in educational and descriptive research, and the resulting data can be quickly and effortlessly quantified. (See Appendix A)

**I.25. Administration of the Questionnaire**

In the 2022/2023 academic year, a survey was administered to first-year English students at Kasdi Merbah University-Ouargla. Thirty students voluntarily took part in the questionnaire.

**I.26. Description of the questionnaire**

This questionnaire consists of questions to be answered by selecting the appropriate options. It is divided into three parts the first part contains three questions about general information about the participating students and their level of English. The second part contains eight questions with multi-choice questions about the students writing background. The last part contains eleven questions about the students' background about the CL and the auto-correct tool and what their opinion about.

## I.2. Data analysis

### Students' awareness

#### I.26.1.1. Section one:

##### 1. How would you rate your English language proficiency level?

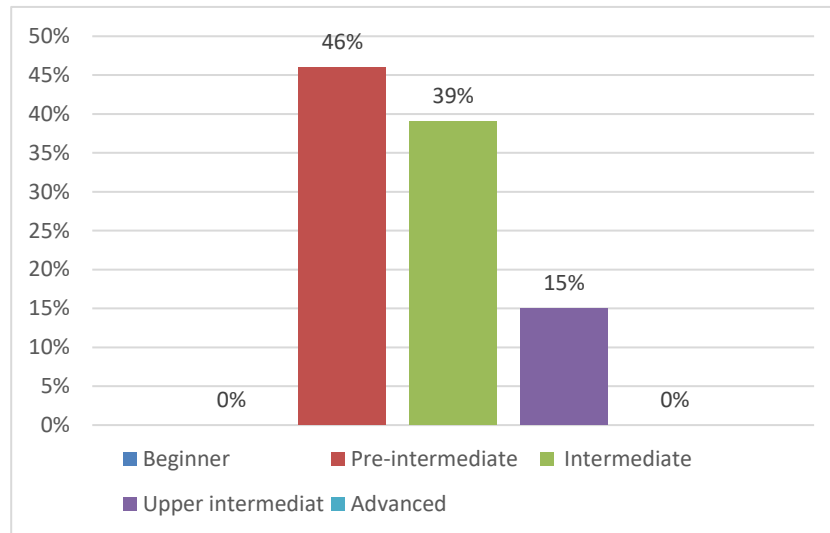


Figure 1: Students English level proficiency

The purpose of this question is to determine the students' proficiency level in English. Based on the students' answers, 46% consider themselves to be at a pre-intermediate level, 39% at an intermediate level, and the remaining 15% at an upper intermediate level. This indicates that the students have a good understanding of their own capabilities in the language.



### I.26.1.2. Section two: EFL Writing Background

1- How often do you practice writing in English?

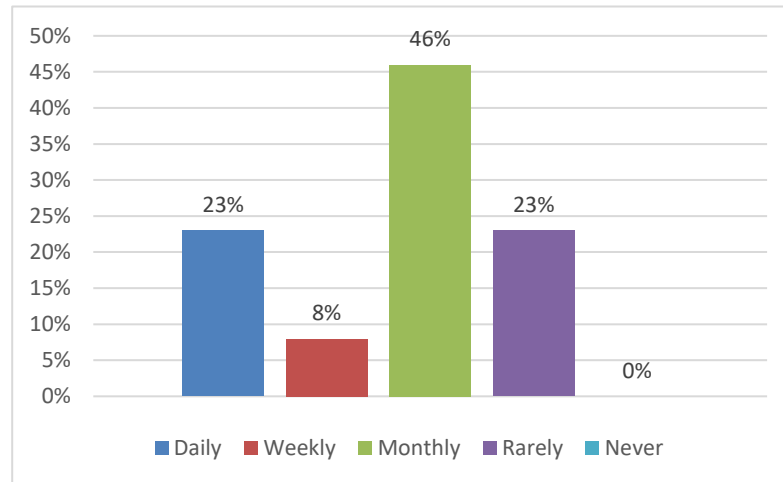


Figure 2 :How often do you practice writing in English?

This inquiry seeks to understand the frequency at which students engage in English writing practice. Based on the feedback received from students, the majority (46%) practice writing on a monthly basis, while 23% practice it daily. Another 23% rarely engage in writing practice, and 8% do so weekly. This indicates the habits and behaviors of students when it comes to engaging in English writing practice.

2- Which writing skill do you feel confident in?

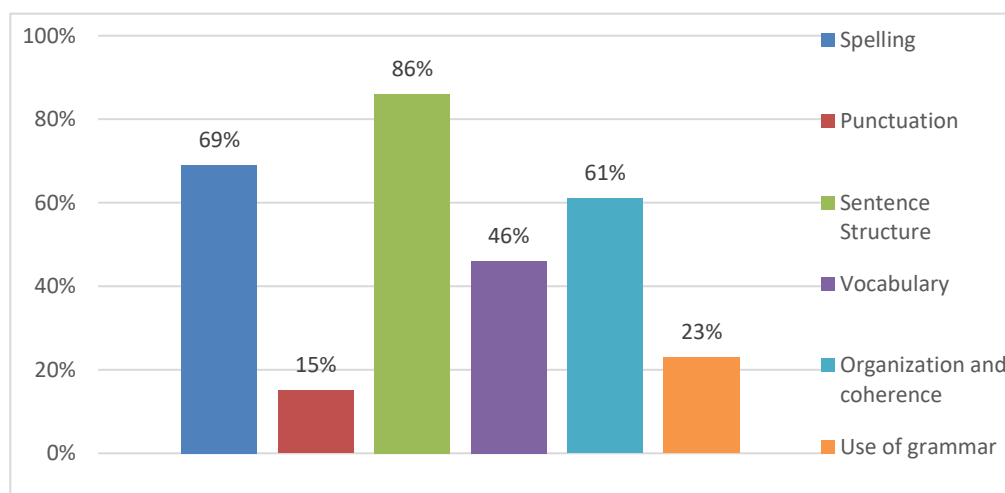


Figure 3: Which writing skill do you feel confident in?

The purpose of this inquiry is to inquire about students' levels of confidence in various English writing skills. According to the results, the majority, 86%, express confidence in sentence structure, while 69% feel confident about their spelling abilities. In terms of organizing and coherence, 61% report feeling confident, whereas 46% indicate confidence in their vocabulary usage. When it comes to grammar, 23% feel confident, and in punctuation, 15% express confidence the results indicate that a significant majority of students feel confident in sentence structure and spelling. A considerable percentage also express confidence in organizing and coherence, as well as vocabulary usage. However, a smaller proportion feel confident in grammar and punctuation.

### 3- Which writing skill do you feel you need to improve?

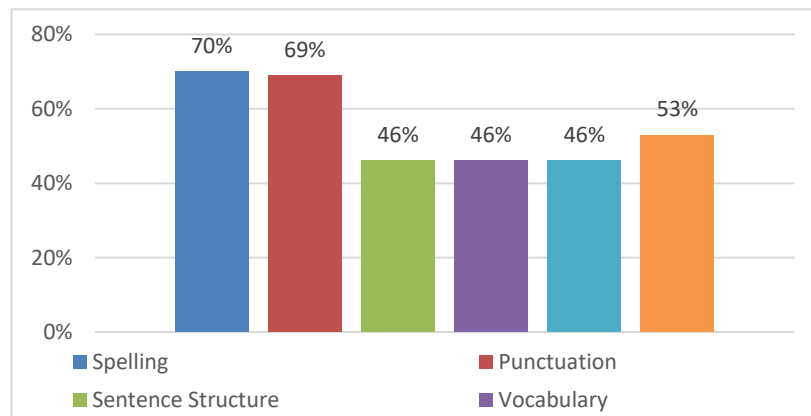
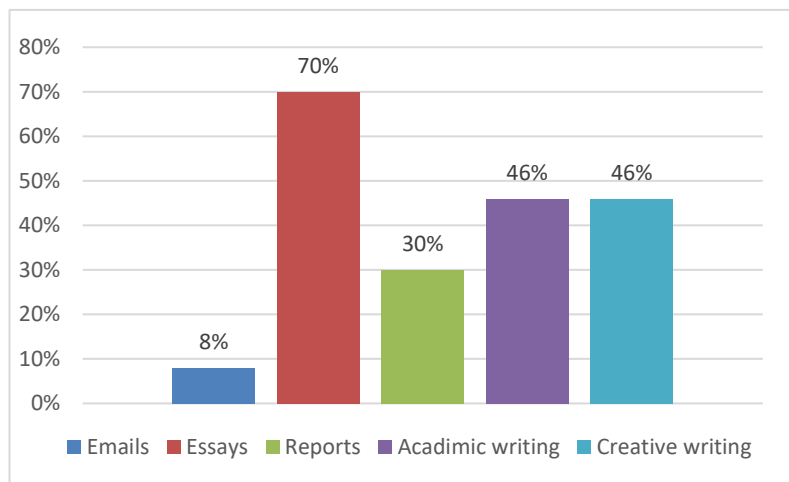


Figure 4: writing skill you feel you need to improve

The purpose of this inquiry is to understand the areas in which students believe they should focus on to enhance their writing skills. The majority, 70%, indicated a need for improvement in spelling, while 69% expressed the same concern regarding punctuation. Additionally, 53% identified grammar as an area requiring attention, followed by sentence structure and vocabulary at 46%. Lastly, 46% of the participants highlighted the importance of improving organization and coherence in their writing. This indicates that students recognize the need to improve their writing skills in various areas.

The majority of participants expressed a desire to enhance their spelling and punctuation, followed by grammar, sentence structure, vocabulary, and overall organization and coherence in their writing.

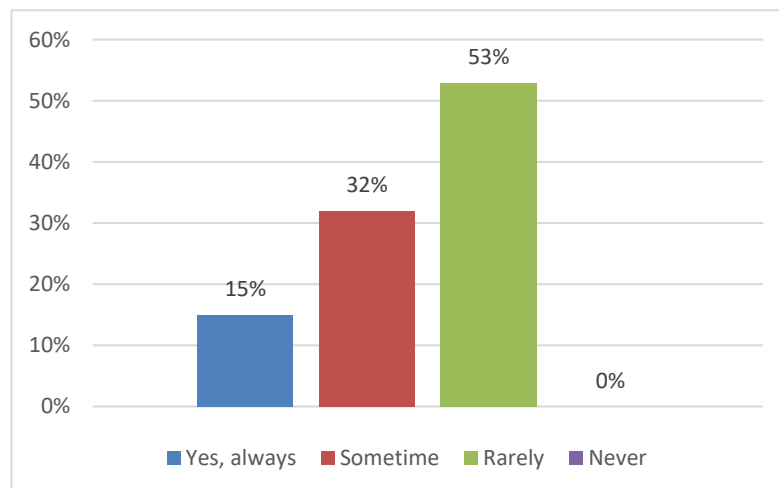
4- Which type of writing do you find most challenging?



**Figure 5: Types of writing student find most challenging**

The purpose of this question is to determine the writing styles that students find most difficult. Out of the majority (70%) who responded, essays were the most challenging, followed by academic writing and creative writing, both selected by 46% of the participants. Reports were found challenging by 30% of the students, while only 8% identified emails as difficult. This in dictates that the essays are the most difficult and challenging for students.

5- Do you plan your writing before you begin?



**Figure 6: Students planning for writing**

The purpose of this question is to determine whether students consistently plan their writing. The results show that 53% of respondents rarely plan for their writing, while 32% occasionally plan for it. Additionally, 15% of the participants indicated that they always plan before writing. Notably, none of the respondents answered that they never plan before writing. This indicates that generally all the students plan for their writing.

6- How often do you seek feedback on your writing?

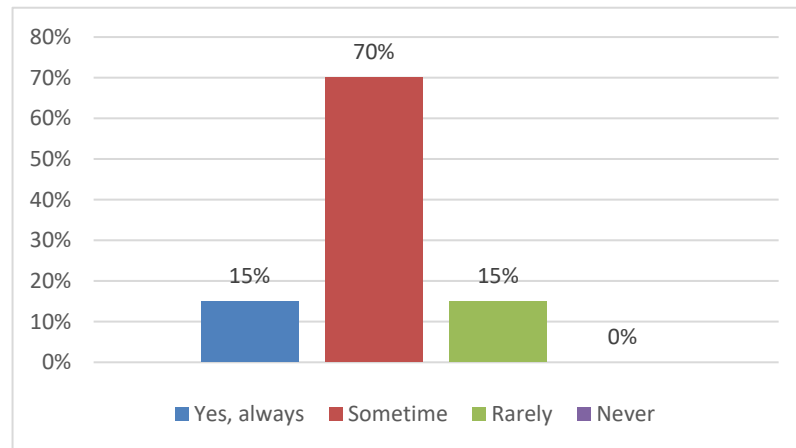
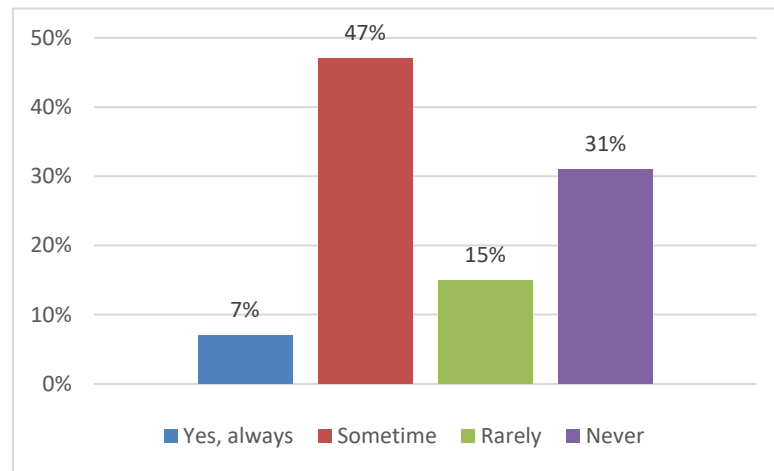


Figure 7: Students seeking feedback on their writing

The purpose of this inquiry is to understand how often students seek feedback on their writing. The results indicate that 70% of students seek feedback at times, while 15% always seek feedback, and another 15% rarely seek it. It is worth noting that none of the respondents chose the option of never seeking feedback. This indicates that students never ever do not seek for a feedback on their writing.

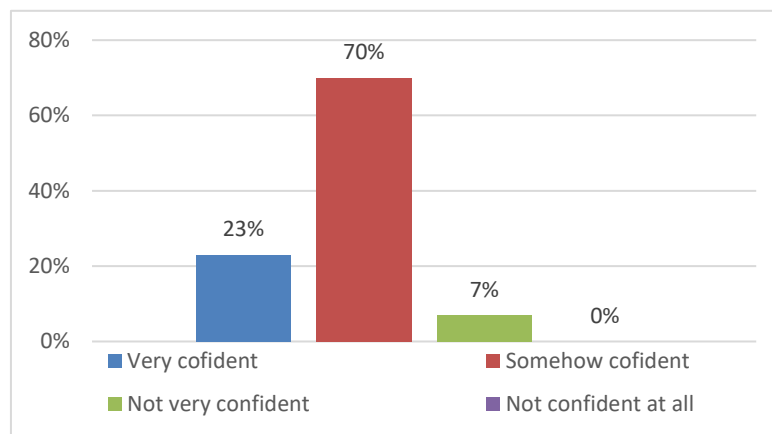
7- Do you use any technology tools to help with your writing, such as grammar checkers or spell-checkers?



**Figure 8: Students use of grammar or spell checker**

This inquiry explores the extent to which students rely on technology to review their writing and prevent errors. The results indicate that 47% of the students use it occasionally, while 31% never utilize this method. Additionally, 15% of the students rarely employ technology for this purpose and 7% of the students always use it. This indicates that students do not always depend on using technology to check their writing.

8- How confident are you in your ability to write in English?



**Figure 9: Students confidence in writing in English**

The purpose of this question is to determine the level of confidence students have in writing English. The results indicate that 70% of the students expressed a certain level of confidence.

confidence, while 23% displayed a high level of confidence. Only 7% admitted to having low confidence, with no participants indicating a complete lack of confidence. This in dictates that student always have some confidence in their writing in English.

### Section three: Computational linguistics Background

1- How often do you use an auto-correct tool when writing in English?

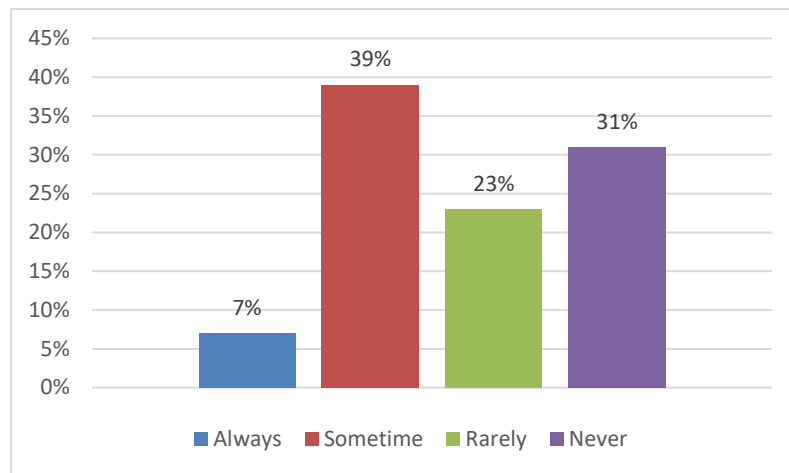


Figure 10: Student frequent use of auto-correct tool

The purpose of this inquiry is to gather information regarding the frequency with which students utilize an auto-correct tool while writing. The findings indicate that 39% of respondents stated they use it occasionally, while 31% reported never using it. Additionally, 23% mentioned using it infrequently, while a minority of 7% indicated they employ it consistently. This in dictates that the majority of the student use auto-correct tool from time to time if not always.

2- Have you ever noticed any mistakes made by the auto-correct tool while writing in English?

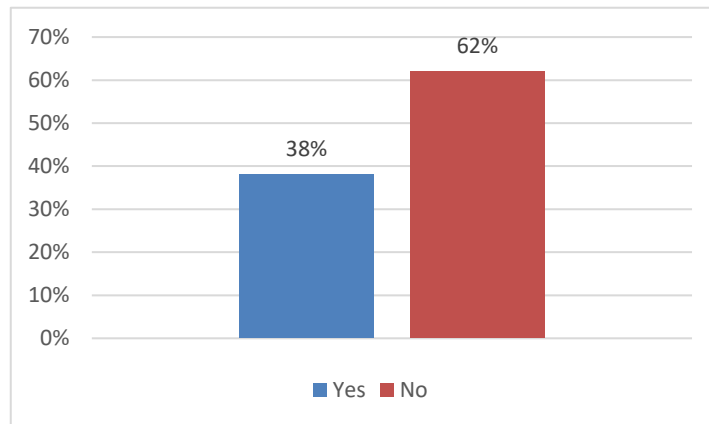


Figure 11: mistakes done by the auto-correct tool

The purpose of this question is to inquire about whether students have ever observed errors made by the auto-correct tool. The majority, 62%, responded negatively, indicating that they have not noticed any mistakes. However, 38% of the students did notice mistakes, suggesting that the auto-correct tool is imperfect to some extent.

3- If yes, what kind of mistakes did you notice?

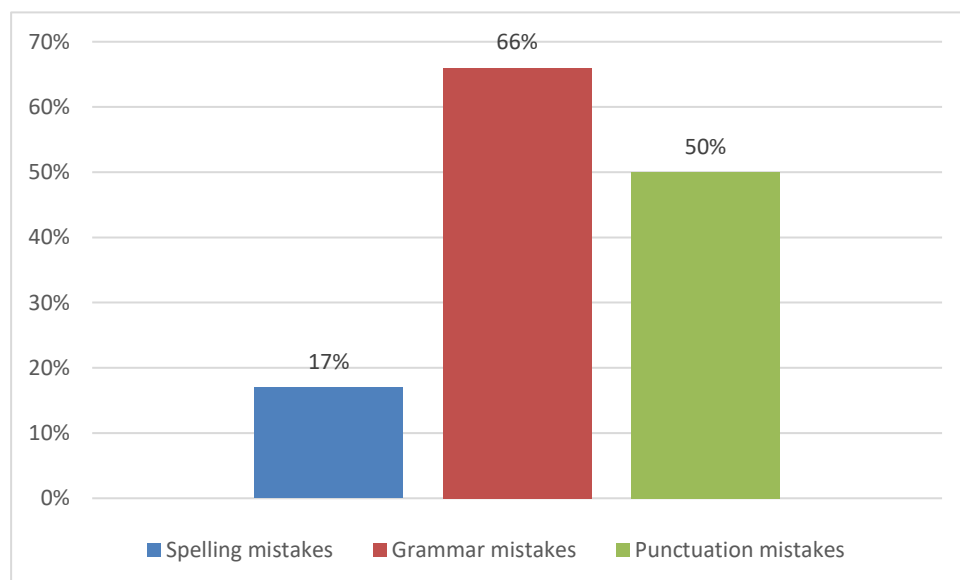


Figure 12: Mistakes noticed by students using auto-correct tool

The purpose of this question is to inquire about the errors made by auto-correct tools that are observed by students. The results indicate that out of the majority of students (66%), grammar mistakes were the most common, followed by punctuation mistakes at 50%, and spelling mistakes at 17%. Therefore, it can be inferred that the predominant errors made by auto-correct tools are related to grammar and punctuation.

4- How confident are you in your ability to write in English without the assistance of an auto-correct tool?

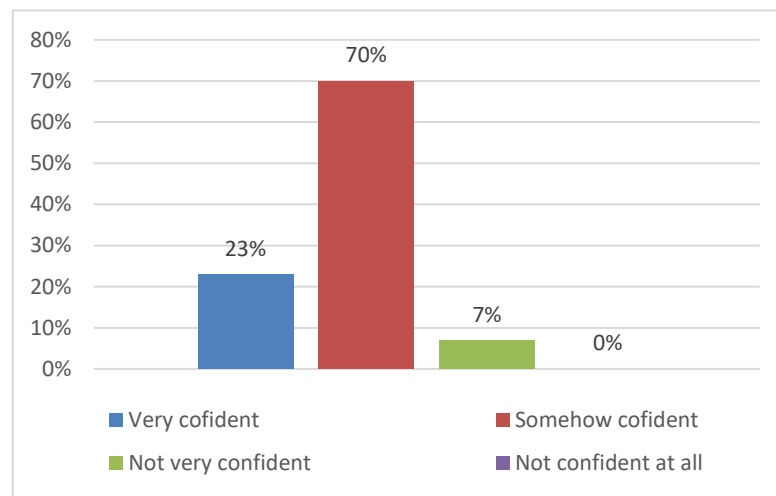


Figure 13: Students confidence in writing without auto-correct tool

The objective of this inquiry is to determine the level of students' confidence in writing without relying on auto-correct tools. The results indicate that 70% of the respondents expressed a moderate level of confidence, while 23% expressed a high level of confidence. Only 7% admitted to having a low level of confidence, and notably, no one reported being entirely lacking in confidence. These findings suggest that students possess at least a minimal degree of confidence in their writing abilities even when not using auto-correct tools.



5- Have you ever learned about computational linguistics in your English classes?

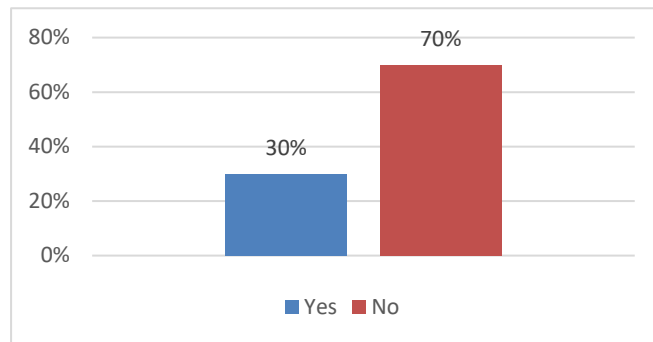


Figure 14: Students learning about CL in classes

The purpose of this question is to inquire about students' familiarity with CL and whether they have been introduced to it during their English classes. The results indicate that 70% of the respondents answered negatively, stating that they did not learn about CL in their English classes, while the remaining 30% responded affirmatively, indicating that they did receive instruction on CL in their English classes. Therefore, it can be concluded that the majority of students did not encounter CL as part of their English curriculum.

6- If yes, how did you learn about it?

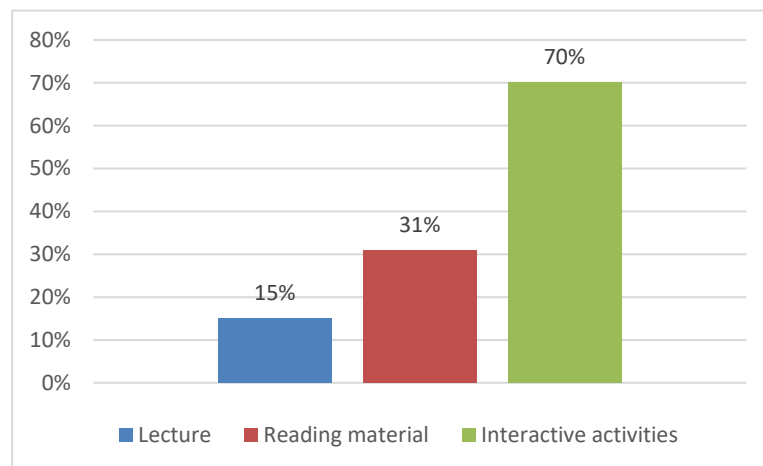


Figure 15: How student did learn about CL

The objective of this inquiry is to determine the primary sources through which students acquired knowledge about CL. According to the findings, 70% of the students reported that they learned about CL through interactive activities, while 31% gained knowledge from reading materials, and 15% obtained information through lectures. Thus, it can be inferred that the majority of students were introduced to CL through interactive activities.

7- Do you think that learning about computational linguistics can help improve your writing skills in English

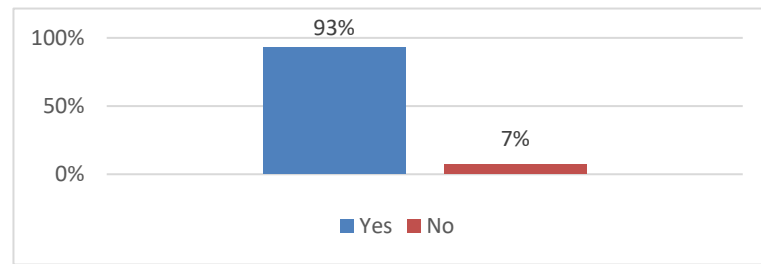


Figure 16: Can learning about CL help students?

The purpose of this inquiry is to determine whether studying CL can assist students in enhancing their English writing abilities. The survey revealed that 93% of respondents answered affirmatively, while 7% responded negatively. Consequently, these findings suggest that acquiring knowledge in CL could potentially lead to an improvement in students' English writing skills.

8- If yes, how do you think learning about computational linguistics can help you?

The purpose of this question is to determine whether students are aware of the ways in which learning about CL can enhance their English writing skills.

9- Would you be interested in learning more about CL and how it relates to auto-correct tools?

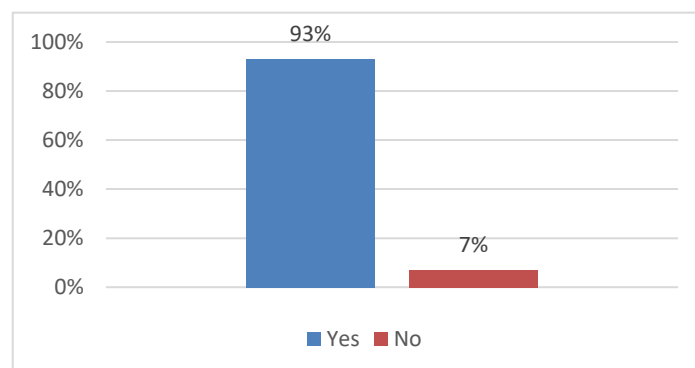


Figure 17: Student interest in learning about CL and its relation to auto-correct tool

The purpose of this question is to inquire about students' interest in learning about CL and its connection to auto-correct tools. The results showed that 93% of the students expressed a positive response, while 7% indicated a negative one. These findings indicate that the majority of students are keen on acquiring knowledge and understanding about CL and its relationship with auto-correct tools.

10- If yes, what type of learning activities would you prefer?

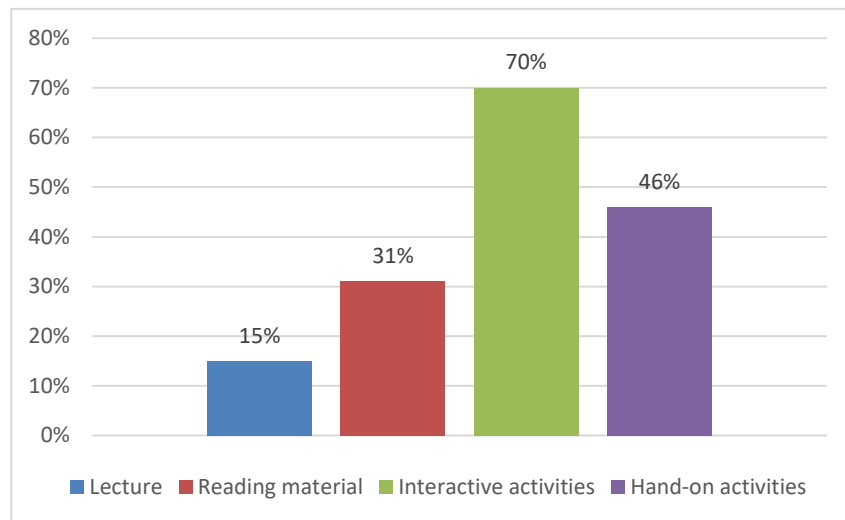


Figure 18: Students learning activities prefer to have about CL

The purpose of this inquiry is to understand the favored activities for learning about CL among a group of individuals. According to the survey results, 70% of the respondents expressed a preference for interactive activities, while 46% chose hands-on activities. Additionally, 31% indicated a preference for reading materials, and 15% favored lectures. These findings indicate that the majority of students have a preference for interactive activities when it comes to learning about CL.

11- Do you have any suggestions for how auto-correct tools can be improved to better assist EFL learners in their writing?

This inquiry seeks to understand whether students possess ideas on how to enhance the auto-correct tool in order to provide better assistance in their writing endeavors.

## **I.27. Administration of interview**

The interview was done after the classroom with a small number of participants (10 persons in one group). Everyone has set where he like. It was more organized and preplanned test. The ten tested students answered nearly in the same way of their answers in the questionnaire. Their comments and suggestions as well as their answers were similar.

## **I.28. Results and discussion**

### **Students' Attitudes towards the interview**

In the first question, all students showed positive using applications that contain or add to it an auto-correct tool. That was their answers that they use applications that incorporate auto-correct daily as mentioned in their answer of the second question.

Fortunately, in the second question, the majority of the students answered that the use this app every day if not every second. Seven of them mentioned that they use apps like Instagram and Messenger every day to text their friends and chat with them and the other said the use same apps adding to Facebook to post about their daily life or to post memes. One stated, *“I use Instagram so often I forget about the time “*

The third question aimed to explore students' relaying on the use of the auto-correct tool to proofread their writing. The answers were almost the same all the student were using the auto-correct in the keyboard when texting. They stated *“if they don't use it all the time they use it when they feel that word is incorrect or when they feel they made a mistake”*

The fourth question shows what benefits students gain from the use of the auto-correct tools. The answers were nearly the same and the benefits of using this tool was in three category:

- **Benefits on Pronunciation**

The majority declared that the use of the auto-correct tool given them an insight on their errors in writing in English and help them to improve their writing.

*“There are words that spelling it is not the same as when you writ it so when using auto-correct I can verify if I’m writing it in the correct way”.*

- **Benefits for Vocabulary**

“When using the auto-correct tool it suggest alternative words and phrases, enabling you to expand your vocabulary”

- **Benefits on Errors Awareness**

“It raise my awareness to my errors while writing”

“Even when I’m texting someone I can verify my messages before sending them”

Results obtained from the fifth question is about the role of the auto-correct tool in enhancing their writing skill. One stated, *“It may not be the improvement of my writing skill is because the auto-correct toll but it has a part in it”*

Results obtained from the last question is how can we enhance the use of auto-correct toll the majority declared that they do not have any opinion on hoe to. One stated, *“Not sure maybe giving it more attention”*

## **Chapter Four: General conclusion**

This chapter introduces the summary of major findings, the limitations of the present study and suggestions for further research.

## **1.1. Summary of the major findings**

The research study aimed to explore the potential of computational linguistics, specifically auto-correct tools, in enhancing English as a Foreign Language (EFL) learners' writing skills. The study investigated the impact of auto-correct tools on the accuracy, fluency, and overall quality of EFL learners' written compositions.

The research employed a mixed-methods approach, combining quantitative data analysis and qualitative feedback from participants. A group of EFL learners was selected as the experimental group, while another group of EFL learners served as the control group. The experimental group used auto-correct tools during their writing tasks, while the control group completed their tasks without such tools.

The findings revealed several key insights regarding the role of computational linguistics in EFL learner writing skills development:

- *Increased Accuracy: The use of auto-correct tools significantly improved the accuracy of EFL learners' written compositions. The tools helped identify and correct grammatical errors, spelling mistakes, and punctuation errors, leading to more error-free texts.*
- *Enhanced Fluency: Auto-correct tools contributed to improved fluency in EFL learners' writing. By providing real-time suggestions and corrections, the tools helped learners maintain a steady writing flow and reduced hesitation, thereby enhancing the overall coherence and cohesion of their texts.*
- *Improved Language Proficiency: EFL learners utilizing auto-correct tools demonstrated a higher level of language proficiency compared to those who did not use them. The tools acted as*

*valuable language resources, offering immediate feedback and facilitating the acquisition of new vocabulary, idiomatic expressions, and complex sentence structures.*

- *Self-correction and Learning: Auto-correct tools empowered EFL learners to self-correct their errors, enabling them to actively engage in the writing process. The feedback provided by the tools helped learners identify their recurrent mistakes, leading to increased awareness of their linguistic weaknesses and subsequent self-improvement.*
- *User Experience and Perceptions: Participants generally had positive experiences using auto-correct tools. They appreciated the convenience, time-saving nature, and personalized feedback provided by the tools. However, some learners also expressed concerns about over-reliance on the tools and the potential negative impact on their writing autonomy and language development.*

In conclusion, the research highlighted the significant role of computational linguistics, specifically auto-correct tools, in developing EFL learners' writing skills. These tools positively influenced accuracy, fluency, language proficiency, and self-correction abilities. However, careful consideration should be given to striking a balance between tool usage and fostering independent writing skills. Future studies can explore additional aspects, such as the long-term effects and optimal integration of auto-correct tools in EFL writing instruction.



## **1.2. Limitations and suggestions for further research**

The study would benefit from a longer duration and a larger sample size to yield more comprehensive results. The researcher faced several challenges during the study. Firstly, time constraints limited the collection of data from a substantial number of students in the class. Additionally, the researcher was only able to conduct interviews with a limited group of ten students, which may not provide a comprehensive perspective. Moreover, administering the questionnaire under challenging conditions added further difficulties to the study.

Moreover, the absence of relevant sources discussing computational linguistics research and specifically its application in EFL departments necessitated the researchers to search for external references, which proved to be both challenging and time-consuming. These limitations led to suggestions for further studies.

The limitation faced in this research :

Consider time limitation.

A large group of samples is better for this type of researches.

Analyzing data needs a high assessment system.

Pre-test / post-test are very important in this study it able the researcher to collect more valid data.

These constraints have prompted the need for future investigations, which should encompass a broader range of language aspects and consider the potential application of computational linguistics in Algerian universities and schools. Additionally, it is recommended to explore the extension of auto-correct tools' utilization to enhance various other skills.

## **1.3. Pedagogical implications**

Based on the research results, the researchers suggest some recommendation that should be taken in consideration.

First, a CL classes should be allocated at all levels and included in the EFL curriculum of the university to arise the EFL students' awareness of those tools.

Second, the researcher suggest the idea of using auto-correct tools in a good way to improve EFL learners' writing skills.

Furthermore, it is important to furnish students with the required materials and books that promote learning about computational linguistics and facilitate the utilization of auto-correct tools. Additionally, motivating teachers to incorporate these tools into their teaching practices can further enhance the development of other essential skills.



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## Appendix (A)

You are cordially invited to complete the following questionnaire, which is intended to collect demographic information (e.g., age, gender), information on different languages of instruction, and your experience with and challenges with using computational linguistics case of auto-correct to improve your writing skills. I would be grateful for your assistance and informed responses to the following questions.

### Section One: Background Information

#### 1. Gender

- Male
- Female
- Rather not say

#### 2. Age group

- 21-24
- 25-29
- 30 or more

#### 3. How would you rate your English language proficiency level?

- Beginner
- Pre-intermediate
- Intermediate
- Upper intermediate
- Advanced

### Section Two: Writing background

#### 1. How often do you practice writing in English?

- Daily
- Weekly
- Monthly
- Rarely
-

- Never

2. Which writing skill do you feel confident in?

- Spelling
- Punctuation
- Sentence Structure
- Vocabulary
- Organization and coherence
- Use of grammar

3. Which writing skill do you feel you need to improve?

- Spelling
- Punctuation
- Sentence Structure
- Vocabulary
- Organization and coherence
- Use of grammar

4. Which type of writing do you find most challenging?

- Emails
- Essays
- Reports
- Creative writing
- Other (please specify)

5. Do you plan your writing before you begin?

- Yes, always
- Sometimes
- Rarely
- Never

6. How often do you seek feedback on your writing?

- Always
- Sometimes
- Rarely
- Never

7. Do you use any technology tools to help with your writing, such as grammar checkers or spell-checkers?

- Yes, always
- Sometimes
- Rarely
- Never

8. How confident are you in your ability to write in English?

- Very confident
- Somewhat confident
- Not very confident
- Not confident at all

**Section Three: Computational linguistics background**

1. How often do you use an auto-correct tool when writing in English?

- 2. Always
- Sometimes
- Rarely
- Never

3. Have you ever noticed any mistakes made by the auto-correct tool while writing in English?

- Yes
- No

4. If yes, what kind of mistakes did you notice? (check all that apply)

- Spelling mistakes
- Grammar mistakes
- Punctuation mistakes
- Other (please specify)

.....  
.....

5. How confident are you in your ability to write in English without the assistance of an auto-correct tool?

- Very confident
- Somewhat confident
- Not very confident
- Not at all confident

6. Have you ever learned about computational linguistics in your English classes?

- Yes
- No

7. If yes, how did you learn about it? (check all that apply)

- Lecture
- Reading materials
- Interactive activities
- Other (please specify)

.....

.....

.....

8. Do you think that learning about computational linguistics can help improve your writing skills in English?

- Yes
- No

9. If yes, how do you think learning about computational linguistics can help you?

.....

.....

.....

10. Would you be interested in learning more about computational linguistics and how it relates to auto-correct tools?

- Yes
- No

11. If yes, what type of learning activities would you prefer? (check all that apply)

- Lecture
- Reading materials
- Interactive activities
- Hands-on activities
- Other (please specify)

.....  
.....

12. Do you have any suggestions for how auto-correct tools can be improved to better assist EFL learners in their writing?

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

Thank you for taking the time to complete this questionnaire. Your responses will be valuable in understanding how computational linguistics and auto-correct tools can improve EFL learners' writing skills

# Appendices

## **Appendix (B)**

### **STUDENTS' INTERVIEW**

**Dear students,**

**The present interview aims to collect information about your use of the auto-correct tool to enhance the writing skill and your suggestions for future development of this tool. Please answer briefly the following questions:**

- 1- Are you utilizing applications that incorporate auto-correct features?
- 2- How frequently do you utilize these applications?
- 3- Do you rely on the auto-correct tool to proofread your writing while using it?
- 4- Did you gain knowledge or benefit from using the auto-correct tool?
- 5- Would you consider utilizing auto-correct tools to enhance your writing skills?
- 6- In your perspective, what are some ways to enhance the utilization of this tool?



## The abstract

This dissertation seeks to investigate the significant role of computational linguistics in enhancing the EFL learners writing skill, focusing specifically on the case of the auto-correct tool. By investigating the impact of this technology on EFL students' writing processes and outcomes, the study aims to shed light on how computational linguistics can contribute to improving accuracy, fluency, and overall writing proficiency. Through a combination of quantitative and qualitative research methods, including student surveys, and interview, this dissertation seeks to uncover the potential benefits and limitations of the auto-correct tool in supporting EFL learners, while also considering the implications for teaching and learning in the digital age.

## المخلص

تستكشف هذه الأطروحة الدور الهام للغة الحاسوبية في تعزيز مهارات الكتابة لدى متعلمي اللغة الإنجليزية كلغة من خلال التحقيق في تأثير هذه التكنولوجيا على عملية الكتابة ونتائج. أجنبية. مركزة بشكل خاص على أداة التصحيح التلقائي. الطلاب تهدف الدراسة إلى إلقاء الضوء على كيفية مساهمة اللغة الحاسوبية في تحسين الدقة والسلاسة ومهارات الكتابة العامة من خلال توظيف مجموعة من الأساليب البحثية الكمية والكيفية، بما في ذلك استطلاعات الطلاب والمقابلات، تسعى هذه الأطروحة إلى كشف المزايا والقيود المحتملة لأداة التصحيح التلقائي في دعم متعلمي اللغة الإنجليزية. بدون غض البصر عن الآثار المترتبة على التعليم و التعلم في العصر الرقمي

## Le resume

Cette dissertation explore le rôle significatif de la linguistique computationnelle dans l'amélioration des compétences en écriture des apprenants en anglais langue étrangère (ALE), en se concentrant spécifiquement sur le cas de l'outil de correction automatique. En étudiant l'impact de cette technologie sur les processus d'écriture et les résultats des étudiants en ALE, l'étude vise à mettre en lumière comment la linguistique computationnelle peut contribuer à améliorer l'exactitude, la fluidité et la compétence générale en écriture. Grâce à une combinaison de méthodes de recherche quantitatives et qualitatives, comprenant des enquêtes auprès des étudiants et des entretiens, cette dissertation cherche à découvrir les avantages potentiels et les limites de l'outil de correction automatique dans le soutien des apprenants en ALE, tout en tenant compte des implications pour l'enseignement et l'apprentissage à l'ère numérique