



People's Democratic Republic of Algeria  
Ministry of Higher Education and Scientific Research  
University of Chadli Bendjedid- El Tarf



Faculty of Letters and Languages

Department of English

## Investigating the Role of Critical Thinking in Enhancing EFL Learners' Writing Skills.

The Case Study of Third Year Learners at Chadli Bendjedid University El Tarf.

Dissertation Submitted to the Department of English in Partial Fulfilment of The  
Requirement of the Master's Degree in '*Didactique de L'Anglais*'

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Academic Year

2024/2025

## Statement of Original Authorship

We hereby declare that this research work titled « The Role of Critical Thinking in Enhancing EFL Learners Writing Skills », submitted to the English department at **Chadli Bendjedid University** during the academic year (2024-2025), is our own original work. We affirm that this paper has not been revealed for any other institution and we have adhered to all ethical guidelines in conducting this research through the supervisor's valuable instructions. The researchers confirm that, all sources along with their full references list were cited to avoid any kind of plagiarism.

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## Dedications

*The Prophet (peace be upon him) said:*

*“He who does not thank people is not thankful to Allah”*

*I start this dedication by saying Bismillah, which is the beginning of all good things, and praise be to Allah, peace and blessings be upon the Messenger of Allah.*

*I dedicate this work to:*

*Myself first for the hard work.*

*My parents **ABD ELHAMID** and **NADIA***

*My family members, sisters and brothers*

*For all the love, care and support they always shower upon me to see the successful version of me and for their belief in me, even when I doubted myself.*

*My dearest best friend **Bouchra** for being always there for me*

*Last but never least, my partner **Amira** whose unlimited support and collaboration were instrumental in the success of this research (not mentioning her constant stress)*

**MALAK BEKKAR**

## Dedications

*Above all, all praise to **ALLAH** the Almighty, for the strength he has awarded me to accomplish this unpretentious research*

*I would prefer to dedicate this modest work to my beloved brother **OUSSAMA***

*May God have mercy on him; your Spirit will never be forgotten*

*To myself for the strength and for always believing in me*

*To the star that lights my life, to my mother **Fethiya** for her unwavering support*

*To my father **Ammar** the enduring, I am fortunate to have a father of your esteemed character and integrity.*

*To my second mother **Wassila** and her spouse **Ammar** God bless you*

*To My grandparents, my uncles and my aunts*

*To my dearest twins **Ilyes** and **Rania** and my little sister **Nada***

*To my partner **Misk** for her consistent support*

*A special dedication to my faithful friend **Meriem Mehri***

*A grand dedication to all my family members.*

*Thank you all.*

**Benghodbane Amira**

## Acknowledgments

First and foremost, we express our deepest gratitude to **Allah the Almighty** for His endless blessings, guidance, and strength throughout this journey. Without His grace, this work would not have been possible.

We extend our sincere and profound appreciation to our esteemed supervisor, **Mr. Mohammed Amin Medjabra**, for his invaluable guidance, unwavering support, and insightful feedback. His expertise, patience, and dedication were instrumental in shaping this research, and we are truly grateful for his continuous encouragement.

It is an honor to present our work before the distinguished committee members, **Dr. Meftah Asma** and **Ms. Alloui Soumaya**. We sincerely thank them for accepting to evaluate our research and for their constructive feedback. Additionally, we are deeply grateful for their efforts in teaching and mentoring us over the years, which have greatly contributed to our academic growth. Finally, we would like to acknowledge all those who have supported us directly or indirectly throughout this endeavor. Their encouragement and belief in our abilities have been a constant source of motivation.

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## **List of Abbreviations and Acronyms**

**CT:** Critical Thinking

**EFL:** English as a Foreign Language

**L2:** Second Language

**%:** Percentages

## Abstract

**Critical thinking** (CT) is the building bridge to the mastery of **writing skills** in EFL classroom, which contributes in embracing effective writing qualifications. The researchers conducted a descriptive investigation titled *Exploring the Role of Critical Thinking in Enhancing EFL learners writing skills*. The primary objective of this study is to discover the role of (CT) in developing EFL learners writing proficiency by examining the correlation between both these two variables and assessing the effectiveness of **metacognition** strategy on their thinking processes. Additionally, to identify the challenges that EFL learners face in applying (CT) to find applicable solutions and to investigate the impact of **technology** on their (CT) and writing abilities. The current study involves 58 third- year English learners and 3 EFL teachers at El Chadli Benjedid university. Data were collected using two main research instruments; learners' questionnaire and teachers' interview. The gathered data were interpreted using quantitative and qualitative methods. The results revealed that (CT) plays a merit role in improving EFL learners' cognitive skills and writing and altogether are strictly interrelated. The findings also addressed the challenges EFL learners encountered in applying (CT) and revealed both positive and negative impacts of technology on their thinking and writing skills. In conclusion, the researchers supported this work with some pedagogical implications and recommendations to foster EFL learners' (CT) abilities and writing competencies.

**Key Words:** Critical Thinking, Writing Skills, Metacognition, EFL learners, Technology in Education.

## ملخص

التفكير النقدي هو الجسر الذي يربط بين إتقان مهارات الكتابة في فصول اللغة الإنجليزية كلغة أجنبية، مما يساهم في اكتساب مهارات الكتابة الفعالة. أجرى الباحثون دراسة وصفية بعنوان "استكشاف دور التفكير النقدي في تحسين مهارات الكتابة لدى متعلمي اللغة الإنجليزية كلغة أجنبية". الهدف الأساسي من هذه الدراسة هو اكتشاف دور التفكير النقدي في تطوير كفاءة الكتابة لدى متعلمي اللغة الإنجليزية كلغة أجنبية من خلال دراسة العلاقة بين هذين المتغيرين وتقييم فعالية استراتيجية التلقي المعرفي على عمليات التفكير لديهم. بالإضافة إلى ذلك، لتحديد التحديات التي يواجهها متعلمو اللغة الإنجليزية كلغة أجنبية في تطبيق التفكير النقدي لإيجاد حلول قابلة للتطبيق وللتحقيق في تأثير التكنولوجيا على التفكير النقدي وقدراتهم في الكتابة. تشمل الدراسة الحالية 58 متعلمًا للغة الإنجليزية في السنة الثالثة و3 معلمين للغة الإنجليزية كلغة أجنبية في جامعة الشاذلي بن جديد. تم جمع البيانات باستخدام أداتين بحثيتين رئيسيتين أساسيتين؛ استبيان للمتعلمين ومقابلة مع المعلمين. تم تفسير البيانات التي تم جمعها باستخدام طرق كمية ونوعية. أظهرت النتائج أن التفكير النقدي يلعب دورًا مهمًا في تحسين المهارات المعرفية للمتعلمين للغة الإنجليزية كلغة أجنبية ومهاراتهم في الكتابة، وأنهما مرتبطان ارتباطًا وثيقًا. كما تناولت النتائج التحديات التي يواجهها متعلمو اللغة الإنجليزية كلغة أجنبية في تطبيق التفكير النقدي وكشفت عن التأثيرات الإيجابية والسلبية للتكنولوجيا على مهاراتهم في التفكير والكتابة. في الختام، دعم الباحثون هذا العمل ببعض الآثار التربوية والتوصيات لتعزيز قدرات التفكير النقدي لدى متعلمي اللغة الإنجليزية كلغة أجنبية وكفاءاتهم في الكتابة.

**الكلمات المفتاحية:** التفكير النقدي، مهارات الكتابة، الإدراك المعرفي، متعلمو اللغة الإنجليزية كلغة أجنبية، التكنولوجيا في التعليم.

## **Chapter One**

### **Introductory Chapter to the Research**

## **Chapter one**

### **Introductory Chapter to the Research**

#### **Introduction**

Critical thinking (CT) has been always a subject of interest in education, especially for the field of language learning alongside the technological advancements in educational contexts. In EFL (English as a foreign language) classrooms, teachers attempt to motivate learners through incorporating the use of digital tools in lectures that encourage their critical engagement with the given information; as a way to consciously acknowledge the significance of CT in producing the written tasks. One of the key language skills is writing, which is the cognitive ability to share thoughts, ideas, and information in a written form to communicate effectively in English as a foreign language. Some studies highlight that EFL learners encounter different challenges in achieving proficiency level in writing that is affected by the lack of awareness and application of CT skills, which enable them to develop their writing.

This chapter presents an overview of this research, exploring the role of CT in enhancing EFL learners' writing skills. It includes the statement of the problem, the objectives, and the significance of the research. It also guides the reader through the raised questions alongside the hypotheses, and consists of the methodology adopted. Finally, the chapter summarises the organization of the dissertation and some established limitations in conducting the research. Closing with a short conclusion.

#### **Statement of the Problem**

In recent years, CT has long been a central focus since it is linked to education where its importance has increased for EFL learners' improvement in language writing. EFL learners face obstacles in enhancing their writing skills; such as lack of coherence, depth, and critical

analysis which occurs because they only depend on technology to accomplish their written works; which itself eliminates the role of CT. CT can be applied through different strategies that most learners are not aware of or do not use while they write. These challenges limit learners' ability to improve their CT while writing.

### **Research Objectives**

This research aims at exploring the role of CT in enhancing learners writing through investigating the correlation between CT and writing in educational context by seeking the importance of CT and raising learners' awareness of it, examining the effectiveness of metacognition as a useful strategy to develop writing. Additionally, and attempt to identify the challenges EFL learners encounter when integrating CT into their writing. Finally, it examines the effects of technology on both CT and writing.

### **Research Significance**

This research is important and significant because it benefits students by:

- Clarifying the relationship between CT and writing.
- Promoting the importance of CT in affecting writing abilities.
- Raising the learners' awareness of CT.
- Shedding light on metacognition as an effective strategy to improve the critical abilities of EFL learners writing.
- Addressing the key challenges learners encounter to be solved.
- Highlighting the effects of technology on learners' writing skills.

## **Research Questions**

This study establishes certain questions:

- Q1 : What is the correlation that link CT to writing?
- Q2 : Is metacognition the most effective strategy that can be implemented in critical thinking to boost EFL learners' writing development?
- Q3 : What difficulties do EFL learners experience when using CT in writing?
- Q4 : What is the effect of technology on learners' CT abilities?

## **Research Hypotheses**

Based on the raised questions, this study aims at investigating the validity of these hypotheses:

- H1 : CT and writing create a perfect combination, where higher CT abilities develop writing skills.
- H2 : Metacognition is the most effective strategy in CT for improving EFL learners' writing development, as it enhances different cognitive abilities.
- H3 : EFL learners experience different challenges such as generating ideas, weak logical reasoning, lack of awareness, and struggle understanding the application of CT in writing.
- H4 : The use of technology in both teaching and learning writing affects learners' CT abilities that could be both negative and positive effects.

## **Research Methodology**

### **Research design**

This research seeks to explore the impact of CT using metacognition as one of its strategies, and the effects of technology on the writing skills of EFL learners. Highlighting the emphasis on the importance of CT as an essential component in the process of producing

written works, through understanding how it affects writing skills that can provide valuable insights for teachers and raise learners' awareness of the role of CT and its various strategies. Analysing the impact of higher CT on writing proficiency. A descriptive approach is chosen to analyse the relationship between learners' critical abilities and their writing performance. Assessing the learners' awareness towards metacognition as an example of the effective strategies that help them solve the obstacles they face. In addition, this research provides some insights about the impact of digital tools on their CT. Applying a "mixed Method" that consists of quantitative and qualitative methods. The aim of using a mixed method is to acquire valid data and a sense of credibility to this research work.

## **Participants**

The participants in this research will be all class groups of EFL learners of third year at Chadli Benjedid El Tarf University, with a number of (124) learners, during the academic year 2024-2025. The stream is divided into four groups. Different and similar teachers teach each group. The questionnaire was submitted to a sample of (58) learners. In addition, the teacher's interview was distributed to three instructors who teach third year classes writing.

## **Data Collection Tools**

In order to reach the aims of the research, this study uses a learners' questionnaire that was distributed to EFL learners of third year at Chadli Benjedid El Tarf University, and teachers' interview that was given to their teachers of writing. The learners' questionnaire aims to measure participants' CT skills and its affection on their writing abilities. The teachers' interview was submitted to collect their opinions about their learners' awareness of CT, its importance, and its strategies. Teachers are asked about the relationship between CT and writing. Also, about the experienced challenges learners struggle in applying CT in class.

Finally, teachers provided different perspectives about the effects of technology on CT and writing. The substantial aim is to acquire real data from the educators about the role of CT in enhancing their learners writing.

### **Limitations of the study**

This research lacks other tools that can make the results deeply analysed and more reliable, like an experiment that can place learners in real situations to be observed and draw conclusions based on their behaviors and real direct use of CT or apply metacognition as a strategy. However, the limited time caused the avoidance of experimenting, and directed a focus on a questionnaire and an interview to avoid wasting time. Therefore, the researchers struggled with the lack of teachers of writing who were needed in the study. In addition, for the learners who are unfamiliar with CT and metacognition, they caused lack of responses because they were uninterested to answer the questions about the topic they do not understand. Finally yet importantly, the researchers encountered a serious limited sources especially books that studied the topic.

### **Organization of the Dissertation**

This dissertation is segmented into five chapters; each of them provides an insightful information to the reader about the research paper. The first two chapters are mainly theoretical. The first chapter is an introductory chapter that includes a general introduction, followed with significant elements that captivate the reader in obtaining a comprehensive and intricate visualization of the entire research study. Those components to be considered are the statement of the problem, the aims, the significance of the study, the research questions with its hypotheses, and the research methodology accompanied by the limitations of the study. Concluding with the last title that highlights the organization of the study.

The second chapter purely presents the literature review which itself symbolizes the role of CT in enhancing EFL learners' writing skills along with studying the effects of technological advancements. The chapter is devoted into four major sections; each one tackled a key element of the topic; CT, writing skills, the correlation between them, and the impact of technology on both.

The third chapter is denominated "Research Methodology". It exclusively addresses in-depth exploration of the practical dimensions that are fundamentally embedded within the distinct methodological aspects, including method, participants, learners' sample, teachers' sample, data gathering tools and procedures, learners' questionnaire and teachers' interview to be analyzed.

The fourth chapter titled "Analysis of Data (Results)" presents the obtained findings in the previous chapter. It covers all the collected information, their analysis and interpretation thoroughly, based on EFL learners' questionnaire and teachers' interview.

The study is complemented with the last major chapter, which is inherently related to chapter four, as it deals with the discussion of the obtained findings. Besides, it includes a section for discussing the findings in relation to previous studies. In addition, the chapter bestows pedagogical implications, and some suggested recommendations for the study about the role of CT when it is integrated through various instructional strategies in improving the sophistication of learners' written works.

## **Conclusion**

CT is a very effective aspect in promoting learners' written products that EFL educational classrooms should value. This chapter covers all the major information about how this research will take place. Further details will be elucidated in the subsequent chapter.

## **Chapter Two**

### **Review of the Literature**

## **Chapter Two**

### **Review of the Literature**

#### **Introduction**

Critical Thinking (CT) has increasingly become an important aspect of success in any endeavour, highlighting its notable merit in almost all fields specifically in education. Additionally, it has a vigorous relation with language learning, particularly writing skill which often a topic of discussion in EFL classrooms. CT is a purposeful process of thinking, and the ability to analyze, synthesise the available information thoroughly to gain a deep understanding. While writing skills is a fundamental aspect in language learning too, fostering EFL learners' reflective thinking through applying CT skills. This chapter is divided into four sections; the first one is dedicated for CT. While the second section is mainly dedicated for writing skills, and the third section is devoted for the correlation between both variables CT and writing skill in enhancing EFL Learners' writing skills; and the last section explains the impact of technology on EFL learners' CT and writing.

#### **Section One: Critical Thinking**

##### **Definition of Critical Thinking**

As CT is the key aspect of enhancing EFL learners' writing skills. Thus, it is impartial to begin via shedding light on defining CT. Scriven and Paul (1987) provide a detail explanation of CT concept as ‘‘ The intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered form, or generated by, observation experience, reflection, reasoning or communication as a guide to belief and action’’ (p.1). The second definition is that of Vincent Ruggiero (2012) who expressed CT as ‘‘the art of thinking about thinking’’, moreover he include in *The Art of*

*Thinking : A guide to critical and creative thoughts* that ‘‘critical thinking as any mental activity that helps formulate or solve problem, make a decision, or fulfill a desire to understand. It is searching for answers while reaching for meaning’’ (Ruggiero, 2012, P. 4). The author demonstrated that CT is a cognitive process of retrieving solutions and establishing decisions to a specific issue aims to find answers for an overall comprehension to the given task.

According to Wallman and Hoover who believe, that CT is worthwhile in every domains for achievement. It enables ones to evaluate and analyze data to solve problems. CT includes learning to reflect independently and formulating viewpoint supported by existing evidence, prompting an academic to become autonomous thinkers and investigator. While, producing research piece is understood as a conventional procedure for improving CT skills, entailing distinct levels of cognition advancing gradually toward higher abstraction and sophistication (Lin, Lin & Zhu, 2018, Wallman & Hoover, 2012, Kurfiss, 1988).

‘‘Critical thinking is disciplined, self-directed thinking which exemplifies the perfections of thinking appropriate to a particular mode or domain of thought’’ (Paul, 1990, p. 4)

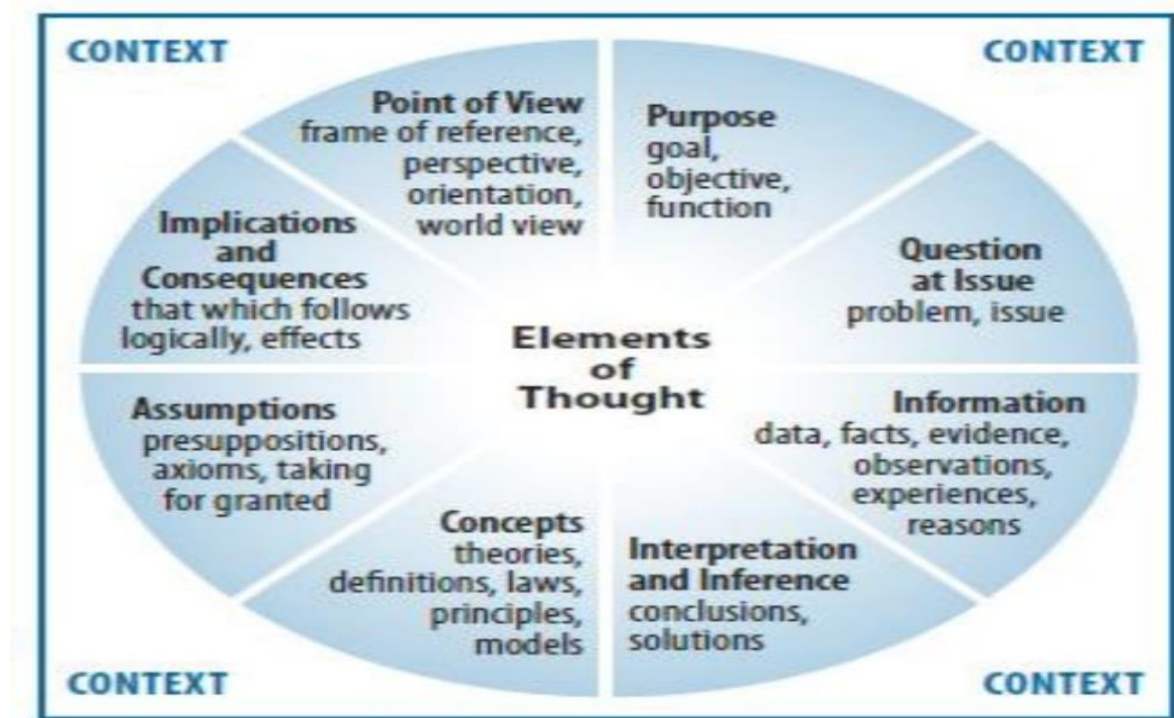
Schafersman describes that ‘‘critical thinking is critical inquiry. To that end critical thinkers investigate problems, ask questions, pose new answers that challenge the status quo, discover new information that can be used for good or ill....’’ (1991, p.3).

Furthermore, according to certain experts, CT is seen as a framework of cognition then, Quitadmo and Kurtz (2007) describe ‘‘critical thinking involves three major skills, analysis, inference and evaluation. Furthermore, they combine interpretation, explanation and self-regulation as potential expertise for critical thinking skills’’ (Quitadmo and Kurtz, 2007, p. 142-143)

As it is a ‘‘disciplined, self-direct thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thoughts ‘’ (Paul, 1992, p. 9). Paul represented CT as a system of individual’s self-control of thinking in various scopes of thoughts.

While Browne & Keeley (2010) asserted that CT necessitates maintaining essential criteria as independency, inquisitiveness, and humility. As it important to respecting others’ thought i.e., it is obligatory to possess certain valuable features to be a critical thinker, who attempt to extend his knowledge by understanding, interpreting various information to reside clarity. As Mayer and Goodchild (1990) supposed that critical thinkers accept that, it is not restricted only to comprehend an argument. On this account, critical thinkers must carry on multiplicity of skills that are required to ameliorate the quality of their thoughts. Accordingly, CT would be advanced.

Many psychologists and philosophers have debated the exact definition of CT for decades. However one of the noteworthy and comprehensive definitions asserted by Halpern in her book ‘‘Thought and Knowledge’’, ‘‘the use of those cognitive skills and abilities that increase the probability of a desirable outcome. It is used to describe thinking that is purposeful, reasoned, and goal directed- the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions’’ (Halpern 2014, p. 8). While Paul had asserted on the process of CT in variety of contexts. Therefore, he defined the cognitive metacognitive components of CT ‘‘thinking about your thinking while you’re thinking to make your thinking better’’ (Paul, 1993, p. 91). Thus, Paul’s quotation indicates that as a good thinker about his thinking he has to set certain criteria to establish a high quality of thinking. Subsequently, according to Paul and Elder represented CT framework by identifying different parts of thinking, then they instituted on eight major elements of thought (reasoning), which are retrieved together in the human brain of interrelated system; hence, when you have got one, you will automatically get the other seven.



***Figure 1. Elements of Thought***

In elaborating Paul and Elder elements of thought, the primary essential step is to set the purpose; which is a presumed part of our thinking by identifying the topic's goal, as a thinker you are going to provide a direction to your thinking to achieve that objective. Then, posing the question is considered the key element to open a large door of applying CT process, think critically while searching deeply behind the topic can uproot a fruitful and adequate questions which themselves provide you a new insights of the topic itself. Thereafter, different data should be covered as facts, observations, evidences that are mainly related to the given topic. Concepts and ideas substantially allude to the practical framework when a thinker set up the total amount of distinct concepts, theories, principles, literature that are predominately linked to the given theme. Prior searching about the answers, any thinker has to put certain assumptions as a base for the topic since the available data would not be sufficient. Yet, along with thinker's hypothesis, it would be complementary construction. Thus, establishing related expectations supported with obtainable information are interrelated structure in term of the later provides a

validity to the proposed suppositions. Afterwards, creativity must exist in this specific section as interpretation process that aims to draw a conclusion by suggesting solutions to the question or existing issue. Pre-last, for implications and consequences stage all the justification should produce outcomes when we take action based on our conclusions. Ultimately, good thinker should provide his personal perspective by drawing his obvious position about the topic concerning his thinking.

### **Critical Thinking and Bloom's Taxonomy**

CT is a cognitive process of different skills. Therefore, it is frequently associated with the higher levels of Bloom's Taxonomy classification originally developed by the American psychologist Benjamin S. Bloom, who published *The Taxonomy of Educational Objectives: The Classification of Education Goals* in 1956. He guided a collaborative group of educators to establish a hierarchical classification of educational objectives known as "Bloom's Taxonomy", which involves six major cognitive skills categorized from lower level of cognitive processing to higher ones. Such abilities as knowledge, comprehension, application, analysis, synthesis and evaluation that were arranged in a hierarchy that describes the distinct levels of complexity, this classification assists to promote CT skills among learners. By wielding these different abilities, EFL learners will be able to differentiate between opinions, exchanging facts, analyze information and establish judgements to create new data based on their negotiations. Thereby, EFL learners obviously will foster their CT skills.

Thus, Bloom's taxonomy is a cognitive process of different abilities that can be used by EFL learners in various educational tasks, specifically writing skills aimed at boosting their CT abilities, whereby, their writing skills will progress. Subsequently, both aspects CT and Bloom's taxonomy are two kinds of interrelated cognitive skills that can be implemented to enhance learners' writing abilities, to demonstrate the relationship between metacognition and CT, the table below will define these criteria in detail:

| Concept              | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Knowledge</b>     | Knowledge is defined as the remembering of previously learned material. This may involve the recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of the appropriate information. Knowledge represents the lowest level of learning outcomes in the cognitive domain.                                                                                                                                                                                                   |
| <b>Comprehension</b> | Comprehension is defined as the ability to grasp the meaning of material. This may be shown by translating material from one form to another (words or numbers), by interpreting material (explaining or summarizing), and by estimating future trends (predicting consequences or effects). These learning outcomes go one step beyond the simple remembering of material and represent the lowest level of understanding.                                                                                                                       |
| <b>Application</b>   | Application refers to the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws, and theories. Learning outcomes in this area require high level of understanding that those under comprehension.                                                                                                                                                                                                                                         |
| <b>Analysis</b>      | Analysis refers to the ability to break down material into its component parts so that its organizational structure may be understood. This may include the identification of the parts, analysis of the relationships between parts, and recognition of the organizational principles involved. Learning outcomes here represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the structural form of the material.                                               |
| <b>Synthesis</b>     | Synthesis refers to the ability to put parts together to form a new whole. This may involve the production of a unique communication (theme or speech), a plan of operations (research proposal), all set of abstract relations (scheme for classifying information). Learning outcomes in this area stress creative behaviors, with major emphasis on the formulation of new patterns or structures.                                                                                                                                             |
| <b>Evaluation</b>    | Evaluation is concerned with the ability to judge the value of material (statement, novel, poem, research report) for a given purpose. The judgements are to be based on defined criteria. These may be internal criteria (organization) or external criteria (relevance to the purpose) and the student may determine the criteria or be given them. Learning outcomes in this area are highest in the cognitive hierarchy because they contain elements of all of the other categories plus value judgements based on clearly defined criteria. |

**Table 1. Major Categories in The Cognitive Domain of The Taxonomy of**

**Educational Objectives (Bloom, 1956)**

### **The Role of Critical Thinking**

CT is one of the fundamental requirements for EFL learners to transfer from passive recipients of knowledge to active participants, to substantiate that Lehman, Lempert, and Nisbett (1988) found that graduate-level college students improved significantly on a CT test that included short scenarios about realistic situations. They concluded that training with general “rules” of thinking is generalized to other contexts. This implies that CT activities will enlarge learner’s knowledge in various contexts and then their level will intrinsically improve. Furthermore, “the ability to think critically is the prime goal of . . . the general education, and should be applied to virtually all methods of inquiry practiced in the academic disciplines” (Anglo & Cross, 1993, in Ege and Kutieleh. 2004, p. 79). Hence, fostering CT is the rudimentary objective of education that is truly recommended to be applied to almost all procedures within various academic tasks. As matter of fact, CT is a cornerstone of a successful education system that cultivates EFL learners’ diverse skills. Probing CT in EFL classrooms supports learners to resolve complex real-life issues, through break down problems into simpler manner concerning various learners’ perspectives.

Since CT has the priority to deal with learning to outspread knowledge, as it is an authentic pattern for EFL learners to privilege their thoughts, this implies that creativity and ingenuity are almost there. The process itself can diversify learners’ perspectives over their deep analysis of distinguished opinions, facts, and information, which itself would foster learners’ comprehension and profound critical interpretation. Additionally, Facione (2011) mentioned that “critical thinking skills are essential for constructing and evaluating arguments in academic and professional contexts” (Facione, 2011, p. 5).

For CT importance, Halpern (2014) mentions that “Critical thinking skills provide EFL learners with a cognitive framework that systematically improves writing proficiency through

(1) logical organization of ideas, (2) evaluative reflection on content, and (3) metacognitive awareness of the writing process itself” (Halpern, 2014, p. 27).

### **The Possible Challenges That EFL learners’ Encounter in Applying Critical Thinking**

CT is a major aim in education (Halpern, 2014) particularly for EFL learners. Nevertheless, they must engage it during the learning process to improve their abilities progressively in L2. However, they frequently face various challenges in applying CT due to its complexities. These serious problems might hinder their studies. Arguably, CT does not come inherently to any individual, regardless of backgrounds. As van Gelder (2005) points out, “critical thinking is hard . . . and most people are just not very good at it” (Van Gelder, 2005, p. 42). This implies that CT holds numerous difficulties to do so. Therefore, learners have no interest in studying CT because a critical thinker has to be well skilled.

In other words, CT needs higher mental exertion and powerful engagement since it involves different cognitive processes including collecting, evaluating, assessing and reviewing. In this vein, most of EFL learners are not sufficiently expert to accomplish such processes professionally, considering they are non-native learners. To expand on this, learners tend to avoid CT activities in the classroom, because of its hard work and processes that make them feel overwhelmed. These results, the impression of demotivated learners along with disengagement with CT, so as to learners lost their attention since CT requires greater engagement and time to achieve. Going deeply towards motivation problem, according to Jamiai and El Karfa (2022), EFL learners struggle applying CT because of the lack of motivation that needs deep concentration which they do not have finally causing discouragement.

...The study revealed that conventional lecture methods significantly impede CT development through three key factors: (1) enforced deference to instructor authority, (2) rigid prescription of terminology and structure, and (3) punitive responses to divergent thinking. This pedagogical approach effectively suppresses learners' creative potential by privileging replication over original thought...(Eze et al., 2022, p. 117)

These are the most common factors that affect EFL learners' CT. Therefore, poor managing of CT process inherently inhibits learners' creative thinking.

Another important issue is that EFL learners lack backgrounds knowledge. Therefore, they inherently would face obstacles in thinking about different thoughts (vocabulary) to express, so using inappropriate words and vocabulary is nearly apparent Kaivanpanah and Zandi (2009) stated that "the first difficulty related to vocabulary is defining word knowledge" (p. 104). Consequently, EFL learners cannot master CT abilities unless they possess a comprehensive foundation in vocabulary, as it is one of the most merit aspects of language learning that helps in enhancing learners' CT through the use of distinct thoughts and ideas on a given topic. Fahim and Komijani (2011) confirmed that "Learners critical thinking skills were found to significantly and positively correlate with their knowledge of L2 vocabulary" (p. 52).

Highlighting CT and language proficiency are highly interrelated variables in language learning process however, it can be source of trouble for EFL learners when they exhibit insufficient language competence. Where CT is concerned, both Lun et al. (2010) and Floyd (2011) found that Asian students with lower competency levels in English results weak performance in CT assignments. This indicates that EFL learners who lack L2 language ability would never apply CT process effectively. Ultimately, they cannot even create language structures from organizing, selecting different ideas and properly apply grammatical rules.

Thus, the basic challenges associated with CT are simply a result of insufficient language expertise.

Insufficient knowledge is a noteworthy barrier that EFL learners encounter when applying the CT process as Geertsen (2013) indicated that even trained learners struggle with applying CT abilities through fields, a phenomenon found in EFL contexts where limited subject-matter knowledge compounds linguistic barriers.

Another different consideration that should be highlighted which is noise, Hede and Bullen (1981) confirmed that people's perception and reactions to noise depends on its physical and situational properties that for instance control the capacity to focus, work and adapt to their environment. For some learners, excessive noise can highly influence their cognitive functions, including CT, processing of information, and analyzing data. Additionally, the presence of noise within the CT process results psychological issues such as embarrassment, discouragement, reduced interaction and anxiety. As a result, noise is a significant challenge for EFL learners especially those with effective learning styles as it can reduce their CT abilities.

To conclude, CT can never be an intrinsic part of education, particularly in EFL learning, despite its difficulties. Hence, it is crucial to suggest appropriate strategies and solutions to eliminate those challenges that negatively impede EFL learners' attempts to employ CT skills.

## **Section Two: Writing skills.**

### **General Definition of Writing**

Writing is one of the necessary skills for foreign language learning that must be mastered in educational setting for sharing knowledge and communicates effectively. However, it is not an easy task to accomplish. It serves not only as a means of communication; yet, it is a dynamic tool for creativity and efficiency. Many researchers provided interminable definitions of writing in various contexts.

### Writing Definitions by Authors

| Authors               | Definition                                                                                                                                                                 |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| David Nunan (2003)    | “Writing is the process of thinking to invent ideas, thinking about how to express into good writing , and arranging the ideas into statement and paragraph clearly”(p.88) |
| Hayes and Nash (1996) | “The act of writing involves a preliminary cognitive process known as writing conception” (p. 31).                                                                         |
| Brown (2001)          | “Writing is a form of thinking...writing can be planned and given an unlimited number of revisions before publication” (p. 312).                                           |

***Table 2. List of Definitions of Writing***

It can be observed that the distinct definitions of writing has been contextually varied among writers nevertheless, the basic idea is mutually highlighted. Foremost, Nunan’s definition (2003) confirmed that writing is a mental act of thinking while Hayes and Nash (1996) believe that writing is a cognitive process. Furthermore, writing is a thinking process according to Brown (2001). Concerning the above table, observing that writing is closely associated with cognitive system. Thereby, it is a cognitive activity and a tool of thinking process.

### Writing Skill

Hyland (2016) “defines writing is a social and cognitive process involving the negotiation of meaning through text, requiring both linguistic knowledge and cultural awareness” (p. 24). In this vein, writing skill mainly is a productive process whereby a person

can create a form of writing piece through expressing well-structured thoughts and ideas by using writer's long-term memory that is known as backgrounds with integrating the current knowledge to communicate effectively.

### **The Importance of Writing Skills**

- Writing is important because it is always used in educational and jobs contexts (Walsh , 2010)
- Writing enhances language development across fundamental areas such as grammar, vocabulary, phonology and discourse (Maley, 2009)
- Creative writing helps build self-confidence and self-esteem through this process (Maley, 2009)
- Writing improves thinking and communication capacities (Chappell, 2011)
- It enables the building logical and convincing arguments, as it facilitates to exchange feedback (Chappell, 2011)
- Walter Ong (1982) advocated that human cognitive abilities reach its highest when writing.
- Writing permits writers to transform abstract concepts into connected their knowledge'' (According to the National Commission on Writing in America's Schools and Collages, 2003, p.3).
- Murray (1968) referred that "writing as an ongoing, evolving process: topics are rediscovered, shaped to meet audience's needs, and facts and ideas are arranged in a manner that elucidates existing shortcomings while displaying copiousness with information'' (p. 27).

### Stages of Writing Process

Writing is considered as the most challenging task in language learning among the four skills, Nuanan (1999) stated that: “producing a coherent, fluent, extended writing piece for language learners is not an easy task to achieve” (p. 271)

The fact that foreign language contexts may effect learners’ rhetorical organizations, which itself may have a negative impact on learners’ language transforming from L1 to L2. Some researcher already affirmed the idea, and then according to Bennui (2016), Kaplan (1966), Derakhshan and Karimian (2020) assert that L1 rhetorical interference significantly contributes to difficulties in adhering L2 discourse conventions. To produce competent L2 writing, systematic approaches are necessary. Hayes and Flower’s (1980) cognitive process theory identifies three main recursive stages in writing: planning, translating (drafting), and reviewing.

In this vein, Hayes and Flower (1981) stated that “writing is best understood as a recursive process, one in which the writer is free to move back and forth between planning, translating, and reviewing as the task demands” (p. 375)

1. **Planning:** “Writing is a goal directed process. In the act of composing, writers create a hierarchical network of goals and these in turn guide the writing process” (Linda Flower & Hayes, 1981, p. 376). This implies that the primary step for writing brainstorming is to set a goal directed process in which one question should be raised here “what’s my ultimate objective or achievements behind producing this writing piece?”. Consequently, successful writing task can be effectively accomplished only when the writers possesses a higher awareness of refining their intended goals. Then, generating the writer’s ideas is purely requisite for composing language structure. Organizing thoughts inherently is the last writing sub-stage to be implemented in which ideas should be correlated.

2. **Translating:** a secondary main step when ideas and thoughts transfer into written product through writing the first draft via condensing on getting the writer's ideas down rather than perfection. A considerable time must be spent on this stage because one's have to be eclectic simultaneously flexible in term of constructing sentences together with selecting the appropriate terminologies.

3. **Reviewing:** it is all about checking the written product by reading the text once again by focusing on each detail through evaluating the effectiveness of the writers' thoughts. Subsequently, it is customary not essentially to consult their conceptions as it necessary. Therefore, reviewing is not restricted on assessing grammar aspect while guarantee the writing goals is the upright writer's task for reviewing his own written work.

### **Distinct Strategies that Help to Enhance Critical Thinking Skills**

CT is the pillar of overall actions we performed, that are the results of individuals' reflection about things as their brains are habitually work. This process can significantly improve one's problem- solving through coming up with an alternative solution. This presentation indicates how essential CT is for individuals in general, and EFL learners specifically. However, the majority of them are unaware about its valuable role. Subsequently, numerous captivating strategies are recommended to boost CT and reveal its profound worth.

...Variety of instructional strategies that teachers can use to promote critical thinking skills in the classroom when teaching the required curriculum. Some strategies include : outlining, graphing, summarizing, interpreting, relating, classifying, researching, evaluating, identifying fact or opinion, generalizing, drawing parallels, self-correcting, applying, and hypothesizing...(Tanner 1995, 96).

In addition, to mind mapping, brainstorming, notes-taking, and metacognition strategies are of those techniques that can significantly upgrade CT utilization. In this vein, infinite strategies that can be applied in EFL classroom to augment CT contribution upon EFL learners' cognitive skills development. This research identifies one of the most crucial strategies that can be implement in EFL classroom known as Metacognition Strategy. Its profound role in promoting learners self-awareness and reflection ultimately CT skills will be foster.

### **Metacognition Strategy for Promoting Critical Thinking in Writing Skills**

**Metacognition strategy:** Metacognition technique has been assorted as a potential aspect in educational psychology. Nelson (1992) noted that a comprehensive review in the *American Psychologist* (1990) ranked metacognition among the top 100 research topics in cognitive and developmental psychology. Jhon Flavell, a leader in this field during the 1970s, determined metacognition along two dimensions: one's self-consciousness of own intellectual functions and results, and the capacity to recognize others of interrelated perceptual processes.

On the other hand, ‘to the active supervision and consequent regulation and organization of these processes in relation with the objects or cognitive data upon which they act’ (Flavell, 1976. P. 232). In this regard, Flavell's quote defines metacognition as an individual's self-awareness and self-regulation of using cognitive outputs they generate.

Flavell (1987) argued that metacognition enhances learners' higher-order thinking skills, leading to more refined cognitive abilities. Accordingly, the strategy is seen as a powerful link between EFL learners' CT abilities and their writing products, in this sense metacognition methods helps to empower learners' cognitive capacities, leading to improved writing skills. ‘By taking control of their own learning process students develop self-direction skills and make informed decisions about how to approach and solve educational problems’ (Virtanen & Tynjala, 2018; p. 886).

Furthermore, 'Two significant qualities of knowledge-acquisition will promote autonomy and responsibility' (Zimmerman, 2002; p. 66). Substantially, metacognition process provides EFL Learners with a significant guidance for learning.

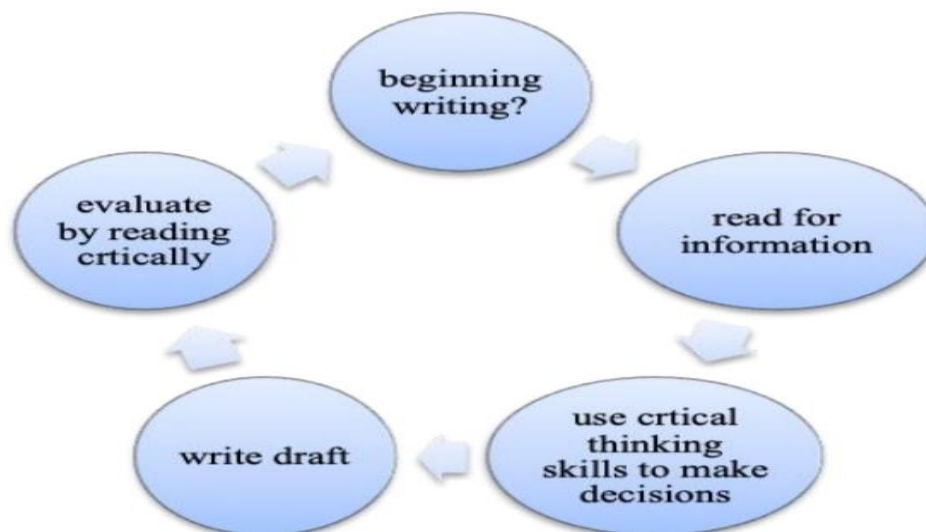
### **Section Three: The Correlation between CT and Writing Skills.**

#### **Critical Thinking and Writing Skills Relation**

Since writing is a cognitive process of thinking, for that writing and CT are two of indispensable expertise whereby they are inherently interrelated qualifications of learning process. Both abilities are sighted as an integral framework under mutually and ultimate goals 'Successful learning process'. As they assist EFL learners to expand their overall academic comprehension in the given task. A survey exploration made by Rahmat (2020) which connected between thinking and writing under the cycle of thinking and writing (Figure 2) which itself explains the correlation between both concepts. To write effectively, the writer needs to prepare a systematic schema rather than haphazardly undertaking, thus reading and collecting information is the rudimentary step for writing process.

However, this reading requires an expert writer who elects the appropriate data according to his needs. Besides, it is essentially to utilize CT ability to decide about the appropriacy and practicality of the content in term of usefulness. Thereafter, the writer finish the first draft incontrovertibly he requires to evaluate his writing product by reading critically, checking and reviewing the overall production, in this vein as we illustrate that writing is a recursive process, this important trait permits the writer to manipulate different pieces of information to fits his needs. Consequently, accomplishing a successful final piece of writing merely is the result of earning a high-quality of CT skills.

| Writing process in the working memory | Relationship | Critical thinking skills    |
|---------------------------------------|--------------|-----------------------------|
| Planning                              | ↔            | Conceptualizing Information |
|                                       |              | Applying Information        |
| Translating                           | ↔            | Analysing Information       |
|                                       |              | Synthesizing Information    |
| Reviewing                             | ↔            | Evaluating Information      |



**Figure 2. Cycle of Thinking and Writing (adapted from Rahmat (2020))**

**Table 3. Relationship between Writing Process and Critical Thinking Skills (adapted from Flower and Hayes (1981) and Haase (2010))**

According to Flower and Hayes (1981) and Haase (2010) who argue that the planning stage in writing involves CT abilities, especially conceptualizing ideas and applying information effectively. These skills form the creative foundation for the planning stage. Then, writers must be proficient in both skills before writing. This means that EFL learners cannot produce strong written work unless they develop high capacity to generate ideas and organize data appropriately. Furthermore, CT processes of analyzing and synthesizing data mainly align with what is defined by Flower and Hayes (1981) as “Translating phase”.

According to Flower and Hayes (1981) who define “reviewing” as the writer’s critical evaluation phase of writing quality depends on integrated CT skills. The interdependence

confirms that effective writing and CT are mutually constitutive processes. “Critical thinking is the essential intellectual foundation of education, enabling students to navigate an increasingly complex world” (Paul & Elder, 2020, p. 15). Specifically fostering EFL learners’ writing ability is particularly important as it often viewed as one of the most difficult skills to master. “Giving the importance of the writing skills, teachers attempt to find appropriate techniques to enhance EFL learners’ abilities. Critical thinking has been demonstrated to be an effective tool that can be significantly improve learners’ writing proficiency” (Widyastuti, 2018; Graham & Perin, 2007; p. 15). This tends the significant role of CT in increasing EFL learners’ engagement and motivation in writing tasks. Similarly, its potential contributions to boosting their creativity and effectiveness their writing products, through collecting several information and backgrounds knowledge of the given topic.

In other terms, Resnick (1985) said “ Knowledge is no longer viewed as a reflection of what has been given from outside; it is a personal construction in which the individual imposes meaning by relating bits of knowledge and experience to some organizing schemata” (p. 130). In this regard, learners will acquire higher-order thinking that leads to handle complexity, which refers to the sophistication involved in creating content about whatever theme by, encompass its various dimensions.

Writing ability can significantly provides a direct orientation to improve EFL learners’ CT through applying its elements, which themselves are often important parts of writing competency among them analyzing, evaluating, different perspectives. The subsequent entity exclusively can supply a proactive encouragement to identify new concepts that simplify many ambiguous cases; in this sense, EFL learners’ creativity can be fostered through CT and writing skills too. Consequently, CT and writing skills are two competencies that cannot be separated since its coherent correlation.

## **Section Four: The Impact of the Use of Technology on EFL Learners'**

### **Critical Thinking Abilities.**

#### **Introduction**

The field of EFL writing instruction has developed over the past years due to the technological advances through the opportunities these digital advancements offer for learners in the learning and teaching processes. These modern tools help learners deal with their tasks and any problems they face in the process. Without neglecting its negative effects. Still, teachers have to take into consideration using technology wisely and effectively in lectures to facilitate the learning and teaching processes avoiding difficult possible challenges.

#### **Definitions of Technology**

Joel Mokyr defines "technological progress" as follows: "By technological progress I mean any change in the application of information to the production process in such a way as to increase efficiency, resulting either in the production of a given output with fewer resources (i.e., lower costs), or the production of better or new products " (p. 6).

#### **Technology in Education**

While technology has become a necessary tool in the educational settings, this research will take into consideration the importance of technology in education from its different perspectives. The teachers' role in using technology to teach writing, the impact of learners' use of technology in enhancing their writing skills, and finally the progress learners reach while using technology specifically the improvements found on their CT.

#### **Technology and Teachers**

Teachers of English as a L2 choose to use different supplementary tools to boost learners' writing. According to Gerde et al. (2012) applying various technological tools permit

written work to be retain. Allowing the young learners' educator, peers, and parents to assess, review the writings and their development progressively.

The new technology has highly contributed in transforming language teaching and learning, particularly in writing area. This regarded as a difficult capacity to attain, especially for foreign language (L2) learners (Hyland, 2021).

With reference to a survey in a study by Purcell et al. (2013), most of instructors assured the utility of technological devices as useful tools for instructing writing expertise, insisting that these devices influence learners' creative thoughts also encourages them to use variate genre of writing.

Elyse and Cantrill (2009) believed an important role of instructors in assisting young persons to consider thoroughly about new media and construct a comprehension of social and ethical concerns in communication. They describe the educators as fundamental guiders to beginners writers from a basic user of new media tools to proficient creators.

Incorporating technology in the classroom has created novel chances for promoting students' cognitive growth. CT is a significant cognitive skills education. To achieve analytical, adaptive and, collaboratively intelligent junior generation to fit the needs of the industrial era, digital pedagogy as a shifting method to the technological learning (Purfitasari et al., 2019).

### **Technology and Learners' Writing Skills**

Over the past two decades, technology has significantly reshaped how writing is taught and practiced in EFL classrooms. Tools such as word processors, blogs, and collaborative platforms like Google Docs have provided learners with new spaces for composition, feedback, and revision. These technologies facilitate process writing, promote peer collaboration, and support autonomous learning.

Warschauer (2010) insisted on the contribution of technological devices in raising learner independence and enhancing expressive writing through providing learners chance to

draft, revise, and publish their assignment meaningfulness. Similarly, Sun (2010) emphasized on the assistance of blog writing to Chinese EFL learners improve their writing through consistent practice, feedback, and participatory engagement, therefore proficiency and confidence will be foster.

Moreover, Ciftci & Kocoglu (2012) explored that students using blogs in English help learners construct developed composition and explicit written tasks, these tools allowed for authentic and interactive feedback, which itself encouraged learners to elevate their writing competencies.

As well as, Ariana (2010) assured that writing is one of the “ central pillars of language learning” (p.134). In addition, she clarifies that most individuals that have a relation with language learning should focus and demonstrate a major interest in writing expertise (Ariana, 2010). Many extensive studies attempt to sustain writing not only as a conceptual framework however to integrate it with other contemporary and crucial domains, involving technology which itself has a valuable role in language learning.

Therefore, technology can be highlighted in influencing language learning and writing abilities. Pandya and Parekh (2024) claimed that technology has promoted inspiration between writers, enabling them to construct new insights. In this vein, technology and technological devices specifically are considered as a significant source in developing learners’ writing skills. When it comes to the integration between writing and technology, this combination would be worthwhile especially to EFL learners’ writing competency in different aspects. Additionally, a group of authors asserted that technology encourages learners to construct and enhance the output of their written work, saving learners’ and teachers’ time and minimizing the learners’ mistakes through providing them with upgraded editing tools (Alghasab, 2020; Baker and Lastrapes, 2019; Gharehblagh and Nasri, 2020; Jafarian et al. 2012).

Additionally, Ferdousi (2022) noted in his book Purcell's (2013) statement; the utility of digital devices provides a multiple of important benefits that can foster learners' educational writing creativity.

## **The Effects of Technology on EFL Learners Critical Thinking**

### **Positive Effects of Technology on Critical Thinking**

Technology, especially when used through online discussion forums, digital storytelling, writing diaries, and argumentation platforms, can enhance learners' CT skills by prompting them to analyze, evaluate, and reflect. According to Yang & Wu (2012), integrating multimedia projects into EFL classrooms fostered cognitive skills by provoking learners to apply CT various skills as collect, organize and construct arguments inventively.

Furthermore, Zarei & Haghighi (2012) demonstrated that the application of computer-mediated communication motivated learners' engagement thoughtful and critical conversation rather than interpersonal interaction. Tools as debates boards and interactive writing networks reinforce argumentative writing, enhancing learners' capability to adapt empirical –based perspectives.

Technology's collaborative and multidimensional aspects are associated with Bloom's taxonomy, shifting learners from basic comprehension to skillful level (Anderson & Krathwohl, 2001). For instance, digital storytelling projects encourage learners to assess sources, plan narratives, and build logic thought that highly related to CT.

### **Negative Effects of Technology on Critical Thinking**

Despite its benefits, technology can sometimes negatively affect EFL learners' CT skills. One major concern is the over-reliance on automated tools, such as grammar and translation software, which may limit deeper cognitive engagement. Zhang (2013) warned that the consistent reliance on translation checkers applications; they may hinder cognitive skills

included in language structure and problem-solving. Additionally, surface-level engagement is a common issue with students using technology primarily for quick answers or copying content.

Howard and Davies (2009) said: In an age when students gravitate to online sources for research and when tremendous amounts of both reputable and questionable information are available online many have come to regard the Internet itself as a culprit in students' plagiarism. Some teachers go so far as to forbid students from researching online, in the mistaken assumption that if students are working from hard-copy sources only, the problem will disappear... (p.65).

Another negative effect of using technology for EFL learners is the increased risk of plagiarism, which can hinder the development of their CT skills. With the abundance of online resources, learners do only copy and paste data without understanding. This habit limits their ability to analyze, synthesize, and evaluate content independently.

The lack of critical digital literacy—the ability to question and evaluate digital content—also poses a threat. Without proper guidance, learners may fail to assess the credibility of online information, leading to poor argumentation and shallow thinking.

At last, technology plays a significant role in enhancing EFL learners' writing by offering platforms for expression, revision, and collaboration. When used effectively, it can also foster CT through interactive, reflective tasks. However, its misuse or overuse may lead to passive learning and dependency on automated aids. Thus, educators should strategically integrate technology, promoting both digital and critical literacies to maximize its benefits.

## **Conclusion**

This theoretical chapter is significantly highlighted multiplicity of related literature concerning the topic under the title ‘‘ The Role of Critical thinking in enhancing EFL learners' Writing Skills’’, and how technology impactful is on learners' CT and essentially writing.

Predominantly, the researchers have dealt with CT concept in details as the first section. Then section two purely is about writing skills and its importance. Additionally the researchers discussed a potential point about the correlation between both CT and writing skills as section three. Eventually, they investigated the impact of technology or and technological tools on EFL learners' CT along with writing skills in section four. At last, this chapter is involved all the essential details regarding this research work based on previous studies and research. The following chapter is dedicated the comprehensive description of the research methodology as an entry to practical part in the study.

## **Chapter Three**

### **Research Design and Methodology**

## **Chapter Three**

### **Research Design and Methodology**

#### **Introduction**

This chapter intends to provide a comprehensive presentation of the methodological aspects of the case study, through exposing the selected methods appropriately to the research purposes. It then, highlights a detailed description of the participants and the sample of the research work, accompanied by the data collection tools and the procedures used in the research. Ultimately, the chapter displays the data analysis-techniques that were applied to reach the answers to the research questions and examine the hypotheses.

#### **Method**

This research work aims to explore the role of CT in enhancing EFL learners' writing skills and the effects of technology on their CT abilities. The researchers select a descriptive approach because of the topic's nature. According to Kothari (2004) stated that ‘‘ Descriptive research studies are those studies which are concerned with describing the characteristics of a particular individual, or of a group’’ (p. 37). The researchers choose this approach because it offers a deep description of the case study, through this presentation, actualities, and new patterns of the research work will be revealed. Therefore, applying descriptive approach represents the most appropriate orientation the researchers should implement for the sake of discovering the role of CT in enhancing EFL learners' writing skills and the effects of technological devices on their CT competencies.

To achieve this purpose, a mixed method was conducted through integrating both types of data collection tools a quantitative and qualitative method. Johnson and Turner (2003) referred that ‘‘ Methods should be mixed in a way that has complementary strengths and no overlapping weaknesses’’ (p. 299).

## **Participants**

In order to explore the role of CT in enhancing EFL learners' writing skills and the effects of how technology impactful is on their CT expertise, the researchers adopted third-year university learners for participating in the study. Foremost, third -year learners have usually been exposed to the CT process. However they require applying its skills as: analyzing, synthesizing and evaluation different arguments. Additionally, the curriculum's nature which demonstrates a greater tendency to apply CT, as it demands teaching learners how to formulate advanced written composition such as critical essays, which reinforces them to use their cognitive skills and CT extensively. Thus, CT is almost available in third-year classes compared to others levels. Another reason for choosing third-year learners is their sufficient ability to collect adequate information from various sources, regarding the given topic helping them in preliminary engaging in CT tasks. On the other hand, the population involves university English teachers, specifically teachers of writing, definitely concerning the needs of the case study.

## **Learners' sample**

The sample of this research work consists of 58 out of 124 third-year learners at El Chedli Benjedid University during the academic year 2025-2026. The study involves 124 participants due to the considerable number classes. The sample contains 58 taking into consideration the fact that some learners did not accept to participate and others are absent. In fact, only 8 males and 50 females participated in this study, this indicates that females demonstrate a higher interest in studying English language compared to males who probably have other concerns. The sample mainly aged between 20 and 23 years old. Finally, they are divided into four groups with different teachers.

## **Teachers' Sample**

Three EFL teachers of writing are the sample of the study, teaching at the same institution El Chadli Benjedid University El Tarf. The reason behind the limited number of teachers is their restricted availability, as they are specialized in writing. A matter of fact, teachers were so welcomed, they significantly helped the researchers to accomplish this interview by answering all the given questions according to their experience in teaching CT in writing classes.

The researchers selected this specific sample because the teachers have three to ten years of experience in the field. Obviously, they are sufficiently skilled and proficient in teaching CT and its effects on writing skills. Likewise, they are experts in evaluating their learners' CT awareness and abilities.

## **Data Gathering Tools and Procedures**

To achieve the ultimate goal of this descriptive study, which is exploring the role of CT in enhancing EFL learners' writing skills and the impact of technology on their CT abilities; two main research instruments have been used in data collection stage. The questionnaire was distributed to third-year learners, along with interviewing EFL teachers through applying a structured interview format. The researchers selected a questionnaire as it is the most effective and fast tool to gather numerical data, on the other word, it can ensure a faster and more accurate data collection process and facilitate the data processing as well. Correspondingly, the researchers believe that the questionnaire is the most appropriate tool that can be used in this research. On the other hand, the interview is the second supplementary data-gathering tool for collecting distinct teachers' perspectives and information that is more accurate from a valuable source. Furthermore, Gill et al. (2008) stated that the objective of the interview is to reveal the opinions, experiences, assumptions and persons' stimulations on particular cases. Accordingly, the researchers precisely adopt such significant tool to fit the study' goals. Finally, the data collection procedure that the researchers used in this work was the Statistical Package for the

Social Sciences (SPSS) program, contributing to gain meaningful insights into the research work through visualizing and presenting the available data effectively.

### **Learners' Questionnaire**

The learners' questionnaire comprises twenty-one questions of two types, close-ended and open-ended. The process was undertaken through three main sections, they were distributed to third-year EFL learners at El Chadli Benjedid University - El Tarf. The first introductory section is about learners' background, it consists of two simple questions about their gender and age; in order to gather general information about the sample of the study.

CT and writing skills as the second section which itself involves two sections about CT, writing skills and the correlation between both variables. It includes eleven multiple-choice questions. In addition, the researchers added further free suggestions in almost cases in order to keep the respondents more comfortable in answering the questions. Simultaneously, the open option allows learners to express their opinions as open-ended questions freely. Thereby, provide additional insights into the research implementation. Moreover, another open-ended question without any options was included in order to obtain the participants' precise answers to explore the different problems they encounter. The last section, titled '*Technology and its Impact*', contains close-ended and open-ended questions about technology and its impact on EFL learners' CT and fundamentally, their writing expertise.

Finally, it is deemed important to shed light on the process itself. The researchers provided several explanations of terminologies to a limited number of samples who did not understand their meanings. Therefore, it is possible that their lacks of vocabulary contributed to this issue. Ultimately, the majority of respondents were desired to participate in this study.

### **Teachers' Interview**

A structured interview was distributed to EFL teachers at El Chadli Bendjedid University. It was printed and dispensed to three instructors, one male and two females. Two of

them answered it immediately, while the third one responded via Email. Foremost, the sample was kindly informed about the interview process and the ultimate goal. Additionally, the researchers provided them with sufficient confidentiality regarding their responses to ensure that the respondents felt comfortable.

The interview included eleven questions of both types. However, the majority of them were open-ended questions because teachers are the authentic source of information. Furthermore, to gain valuable explanations and perspectives for obtaining a fruitful comprehensive of the case study. Essentially, the data they provided would be valid, which contributes in raising the reliability of the research work.

### **Conclusion**

To condense, this practical chapter details the methodological aspects of the implementation. In the research design, a data collection method was explained. The researchers then represent comprehensive information about the participants and the sample included in the study. At the end, data collection tools and procedures were clearly elucidated and justified. Finally, the obtainable data will be interpreted in the following chapter for the sake of reaching the study's purposes.

## **Chapter Four**

### **Analysis of Data (Results)**

## Analysis of Data (Results)

### Introduction

This chapter reports results of the study as they are related to the learners' questionnaire and the teachers' interview. The technique used in the following analysis is the SPSS version30 (Statistical Package for the Social Sciences) based on percentages, and supported by the use of graphs, tables, charts and pies to analyze the findings effectively.

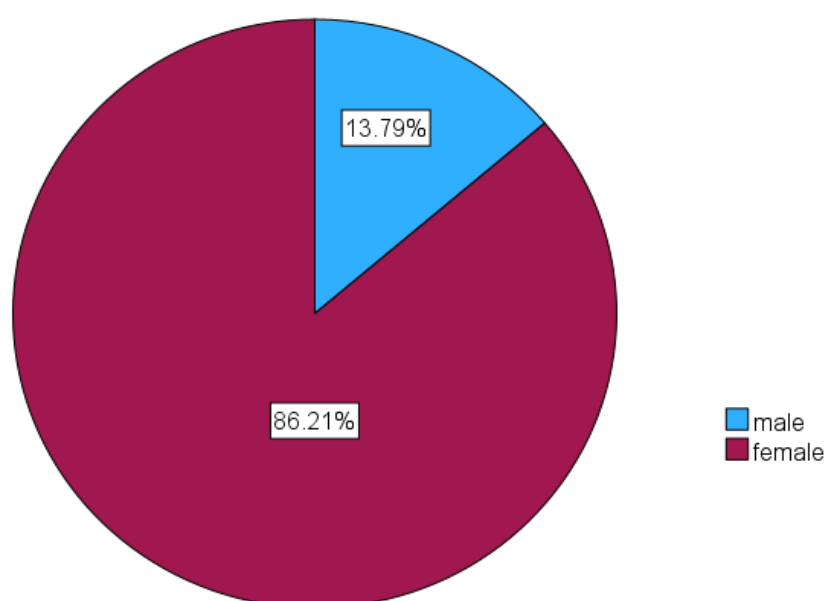
### Analysis of Learners' Questionnaire

#### Section A: Learners' Background

##### Q1: Gender

*Table 4. Gender of Learners*

| Gender | Number | Percentage % |
|--------|--------|--------------|
| Male   | 8      | 13,79        |
| Female | 50     | 86,21        |
| Total  | 58     | 100%         |



*Figure 3. Gender of Learners*

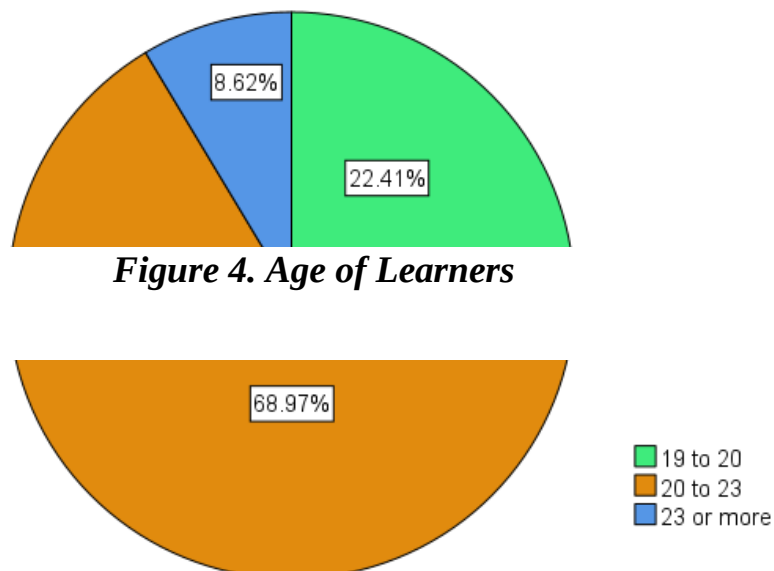
Figure 3 illustrates the general number of the sample. Males are only eight with the percentage of (13,79%). On the other hand, (86,21%) are females with the total number of fifty. Therefore, the obtained results show that females are more captivated and engaged in learning English as a foreign language (EFL) than males.

## Q2: Age

| Age        | Number | Percentage % |
|------------|--------|--------------|
| 19 to 20   | 13     | 22,41%       |
| 20 to 23   | 40     | 68,97%       |
| 23 or more | 5      | 8,62%        |
| Total      | 58     | 100%         |

**Table 5. Age of Learners**

Learners' age is divided into three groups. The first group (from 19 to 20) represents youngest learners with the percentage of (22,41%). Then, (68,97%) demonstrates the second group of the sample aged (from 20 to 23). While the last group that encompasses the eldest learners that are from 23 or more with the percentage (8,62%) of learners. According to the



**Figure 4. Age of Learners**

available results, the majority of learners are between 20 to 23. This denotes that they are mid-level learners in English language.

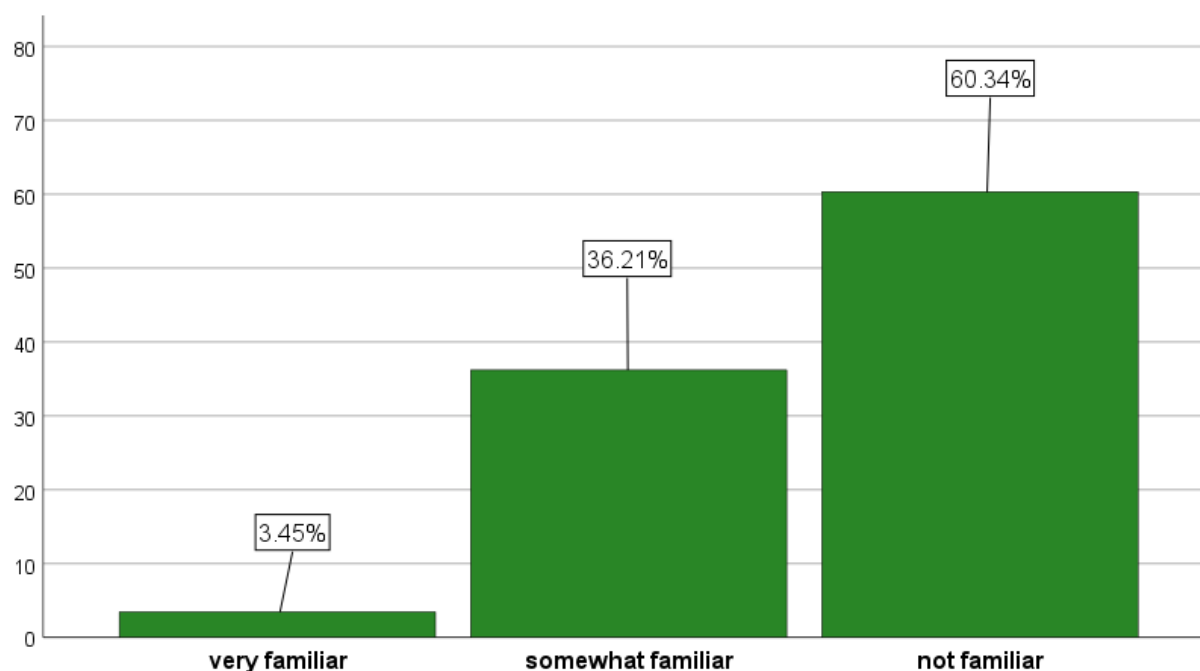
## Section B: Critical Thinking, Writing Skill, and The Relationship between them

### Q3: How Are You Familiar With Critical Thinking?

*Table 6. Familiarity of Learners With Critical Thinking*

| Familiarity       | Number | Percentage % |
|-------------------|--------|--------------|
| Very familiar     | 2      | 3.45%        |
| Somewhat familiar | 21     | 36.21%       |
| Not familiar      | 35     | 60.34%       |
| Total             | 58     | 100%         |

As it is shown in figure 5, only (3,45%) of participants are familiar with CT concept,



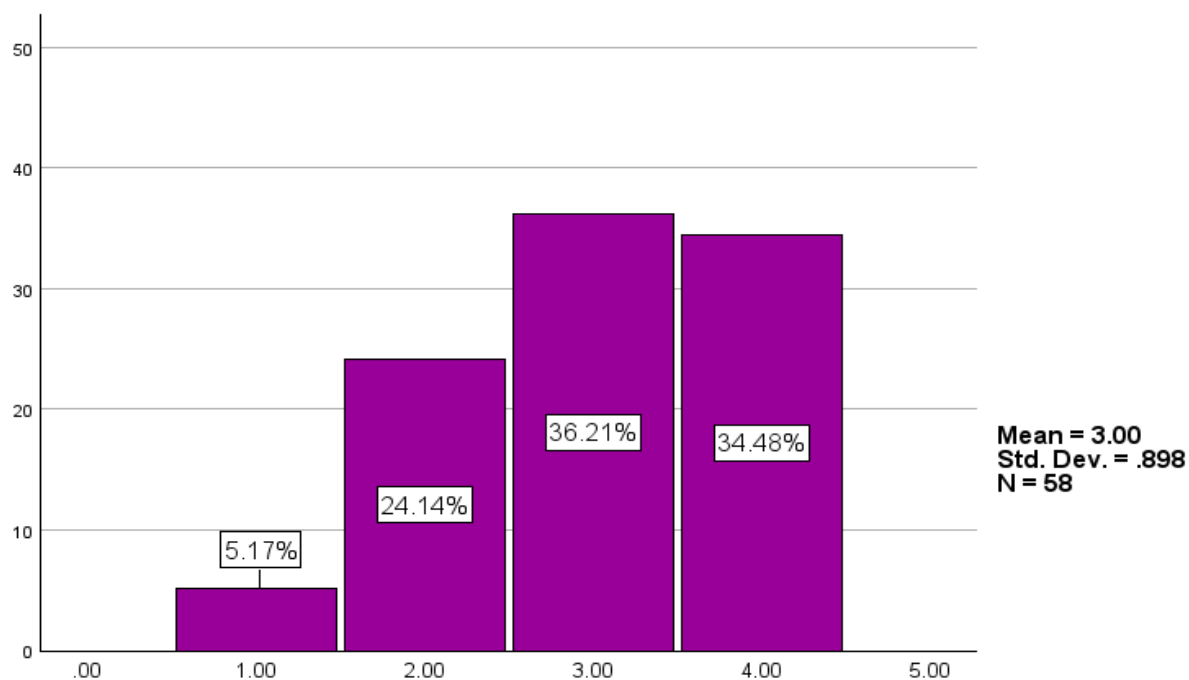
*Figure 5. Familiarity of Learners with Critical Thinking*

while (36,21%) of them responded that they are ‘‘somewhat familiar’’. However, the majority

of learners in fact are not familiar with CT. This result confirms that the participants are unaware of the concept of CT.

Some learners added other definitions that are close to the given ones. Their responses reveal a shared understanding of CT as a skill involving objective analysis, problem-solving, and reasoned decision-making. Many participants described it as a mental process that requires clear, logical evaluation of information, while others emphasized its creative aspect—thinking "outside the box" to arrive at unexpected solutions. Some also highlighted its role in guiding students through problem-solving and shaping responsible decision-making in life. Overall, the answers align with academic definitions, suggesting that respondents recognize CT as both an analytical tool and a broader mindset for navigating challenges.

**Q4: Have You Been Taught Critical Thinking in Classroom**



**Figure 6. Being Taught Critical Thinking in Classroom**

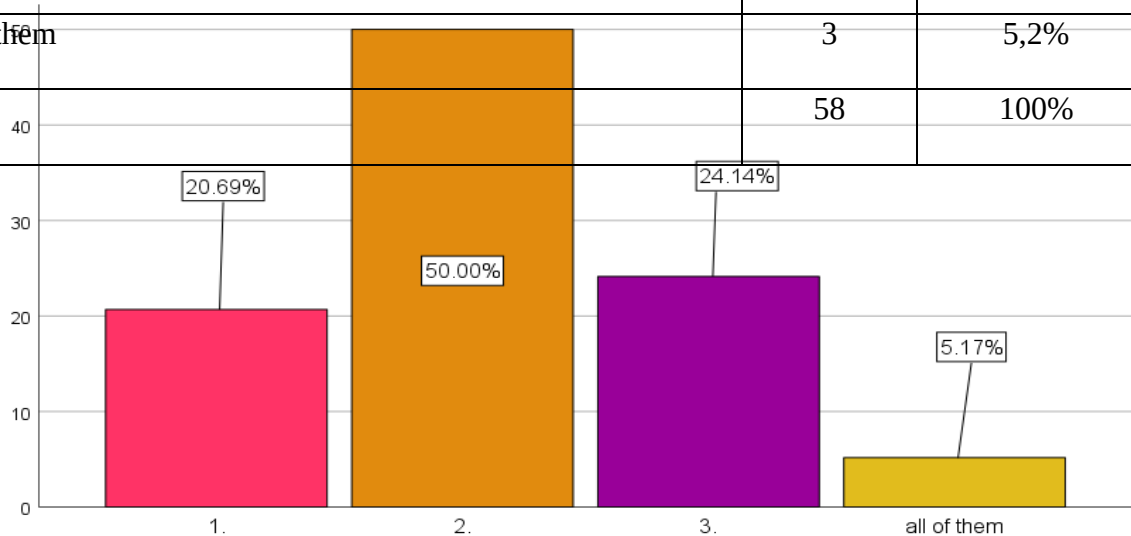
This chart represents how learners are taught CT in EFL Classrooms. After collecting data, the results demonstrate that three learners only with the percentage of 5,17% have selected (frequently) and fourteen which means 24,14% of the participants stated (occasionally). In addition, twenty respondents which denote 32,21% of learners who said (rarely), and twenty-one of the sample which highlight 34,48% of learners advocated they never studied CT, which is approximately like the former response. Therefore, based on the

***Figure 6. Being Taught Critical Thinking in Classroom***

above results the majority of learners responded that they (rarely) or (never) been taught CT in classroom which is why they are unaware of it.

**Q5: How Do You Define Critical Thinking?****Table 8. Defining Critical Thinking**

| Definitions                                                                                                                                                                                                                                                                         | Number | Percentage% |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|
| The intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation experience, reflection, reasoning or communication as a guide to belief and action. | 12     | 20,7%       |
| Critical thinking as any mental activity that helps formulate or solve problem, make a decision, or fulfill a desire to understand. It is searching for answers while reaching for meaning.                                                                                         | 29     | 50%         |
| Critical thinking as a system of individual's self- control of thinking in various scope of thoughts                                                                                                                                                                                | 14     | 24,1%       |
| All of them                                                                                                                                                                                                                                                                         | 3      | 5,2%        |
| Total                                                                                                                                                                                                                                                                               | 58     | 100%        |

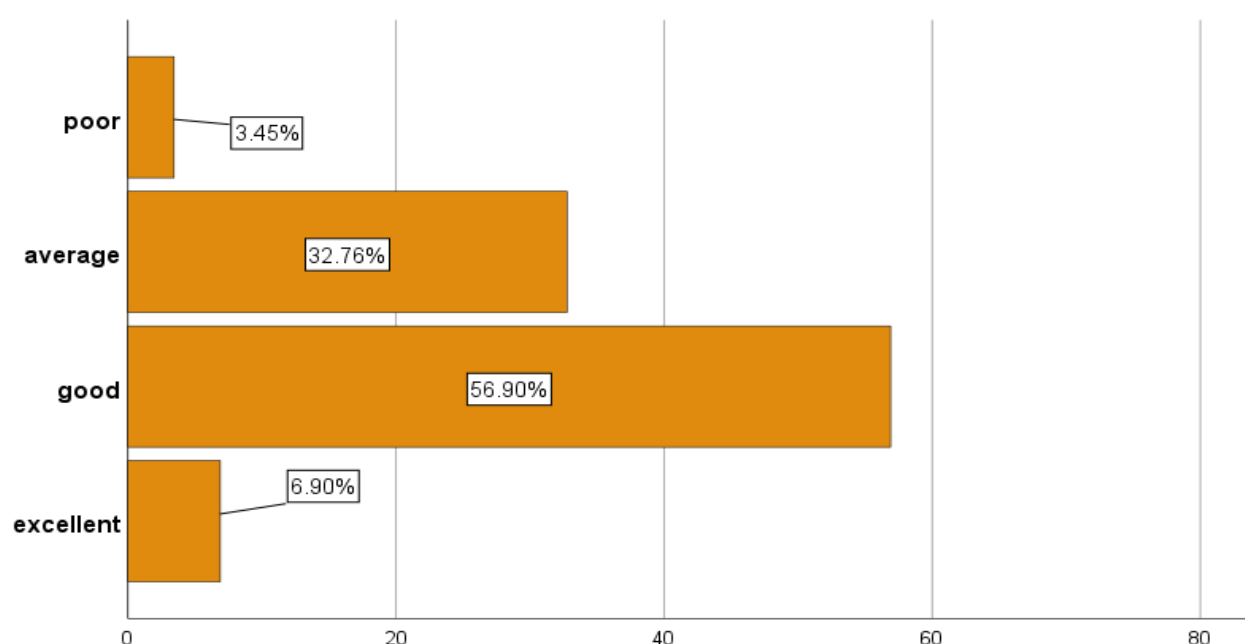
**Figure 7. Selecting a Definition for Critical Thinking**

As it is illustrated in figure 7 which represents the different definitions of CT, 12 of the informants with the percentage of (20,7%) selected the first definition, which is clearly stated in the table above. Besides, 29 of them chose the second definition that displays half of the sample (50%). Furthermore, 29 of the respondents selected the next definition with the percentage of (24,1%). Lastly, the last option is selected by three learners only, that agreed on all the proposed definitions representing (5,2%) of them.

### Q6: How Would You Evaluate Your Writing Skills Regarding Level and Effectiveness?

*Table 9. Level of Writing Skills*

| Level     | Number | Percentage% |
|-----------|--------|-------------|
| Excellent | 4      | 6.90%       |
| Good      | 33     | 56.90%      |
| Average   | 19     | 32.76%      |
| poor      | 2      | 3.45%       |
| Total     | 58     | 100%        |



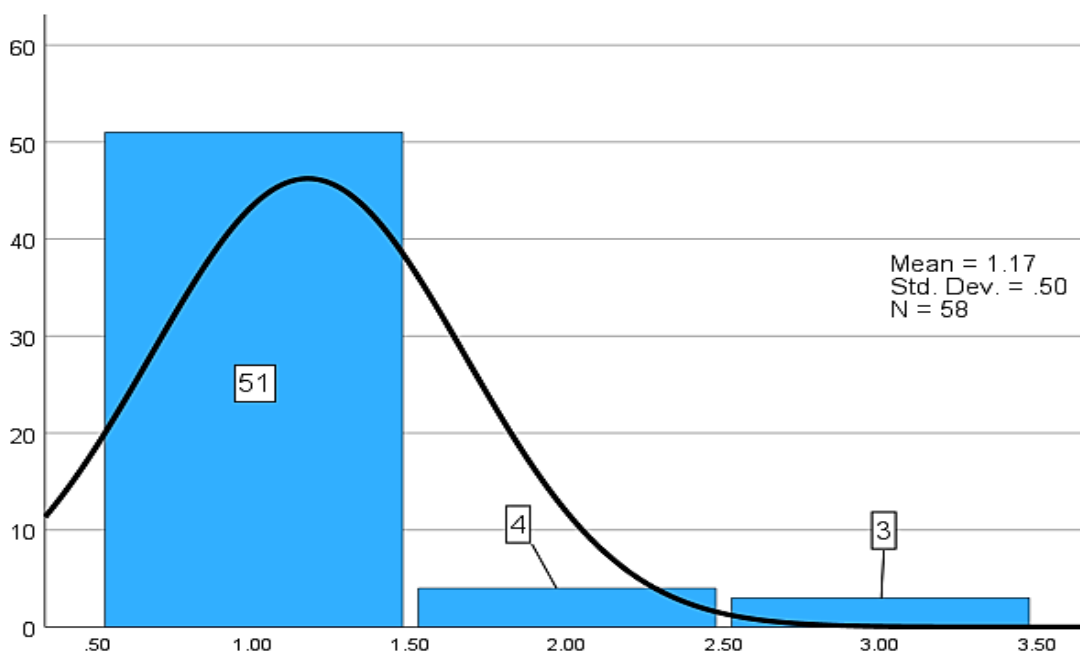
*Figure 8. Level of Writing Skills*

This chart highlights the different levels of EFL learners in writing skills, through selecting the appropriate scale based on their abilities. To begin with the excellent level of learners that only four of them, which indicate (6,90%), answered that they are excellent in their writing. Next, most of the respondents (56,90%) chose good in term of level, precisely thirty-three learners. Moreover, nineteen of the sample mentioned that their level in writing is average approximately (32,76%). Ultimately, the limited number of learners adjusted by poor level of writing. To terminate, the majority of EFL learners evaluated that their writing competency is between good and average.

### Q7: Do You Believe Critical Thinking Affect Your Writing?

*Table 10. Affection on Critical Thinking*

| Options | Number | Percentage % |
|---------|--------|--------------|
| Yes     | 51     | 87.93%       |
| No      | 4      | 6.90%        |
| Unsure  | 3      | 5.17%        |
| Total   | 58     | 100%         |



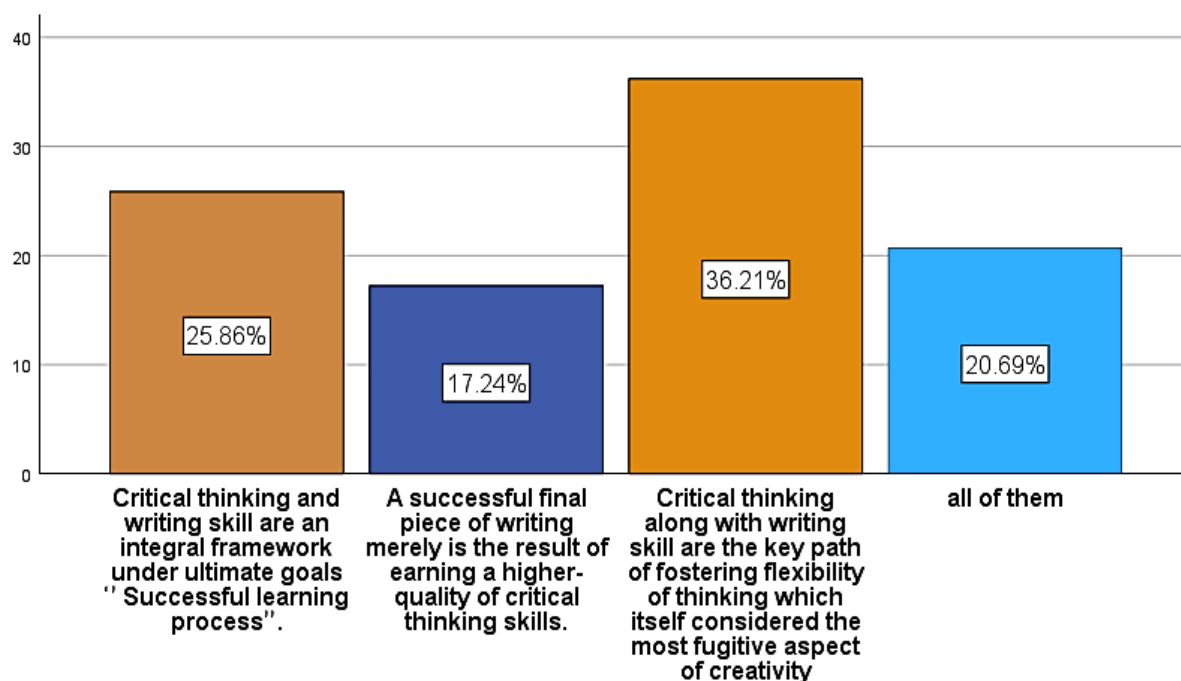
*Figure 9. Affection of Critical Thinking*

The informants were asked to select one of the three options about whether CT affects their writing or not. A percentage of (87,93%) responded by (yes) exactly 51 learners, while only 4 EFL learners said (no), representing (6.90%). According to the last 3 learners who represent (5,17%) answered (unsure). Consequently, the majority of the respondents are completely aware about how CT affects their writing products.

**Q8: Choose the Appropriate Option that Identifies the Correlation Between Critical Thinking and Writing Skills.**

***Table 11. The Correlation Between CT and Writing***

| <b>The correlation</b>                                                                                                                                           | <b>Number</b> | <b>Percentage%</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------|
| Critical thinking and writing skill are an integral framework under ultimate goals ‘‘Successful learning process’’                                               | 15            | 25.86%             |
| A successful final piece of writing merely is the result of earning a higher-quality of critical thinking.                                                       | 10            | 17.24%             |
| Critical thinking along with writing skill are the key path of fostering flexibility of thinking which itself considered the most fugitive aspect of creativity. | 21            | 36.21%             |
| All of them                                                                                                                                                      | 12            | 20.69%             |
| Total                                                                                                                                                            | 58            | 100%               |



**Figure 10. The Correlation between Critical Thinking and Writing Skills**

Figure 10 highlights the correlation between CT and writing skills. Learners were asked to select the suitable option based on their opinions, 15 learners (25.86%) chose the first option, while (17.24%) represent 10 of the respondents who determine the second one. Furthermore, 21 learners just about (36.21%) suggest the third proposition. Lastly, 12 of the informants approximately (20.69%) collected all the suggested options. Finally, the available options were clearly stated above (see figure10).

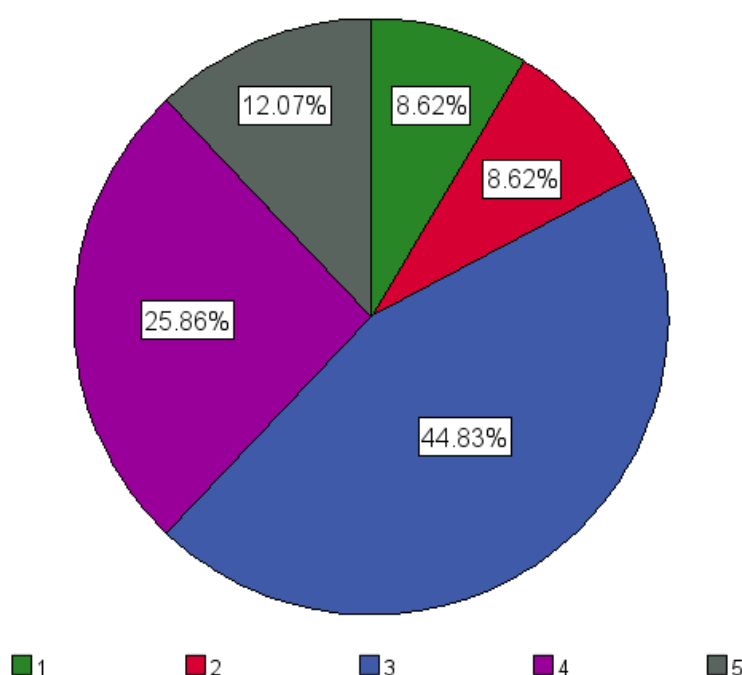
Participants suggested various strategies for enhancing writing skills, including the use of technology (e.g., ChatGPT, Grammarly), active learning techniques like summarizing podcasts or videos, and structured approaches such as creating tables. The reliance on digital tools reflects their growing influence in education, while traditional methods—such as practicing punctuation and organizing ideas systematically—remain relevant. This mix of responses indicates that learners combine modern conveniences with foundational writing practices to develop their skills.

**Q9: How Impactful do you think critical thinking could be in enhancing your writing?**

| Scale | Number | Percentage % |
|-------|--------|--------------|
| 1     | 5      | 8.62%        |
| 2     | 5      | 8.62%        |
| 3     | 26     | 44.83%       |
| 4     | 15     | 25.86%       |
| 5     | 7      | 12.07%       |
| Total | 58     | 100%         |

***Table 12. The Importance of CT in Enhancing EFL Learners' Writing Skills***

As it shown in figure 11 that represents how CT impactful is in enhancing learners' writing skills. The obtained data states that the respondents who were five selected the first two



***Figure 11. The Impact of CT in Enhancing EFL Learners' Writing***

scales in parallel. Therefore, the same percentage which is (8.62%). Next, (44.83%) shows 26 of learners who chose scale three. Besides, others who involved 15 of the samples nearly (25.86%) of them opt for the fourth level. Eventually, (12.07%) demonstrates that the rest of them who were just seven selected the last scale.

**Q10: Select the Most Appropriate Strategy That You Believe, It Helps in Improving Your Writing Product**

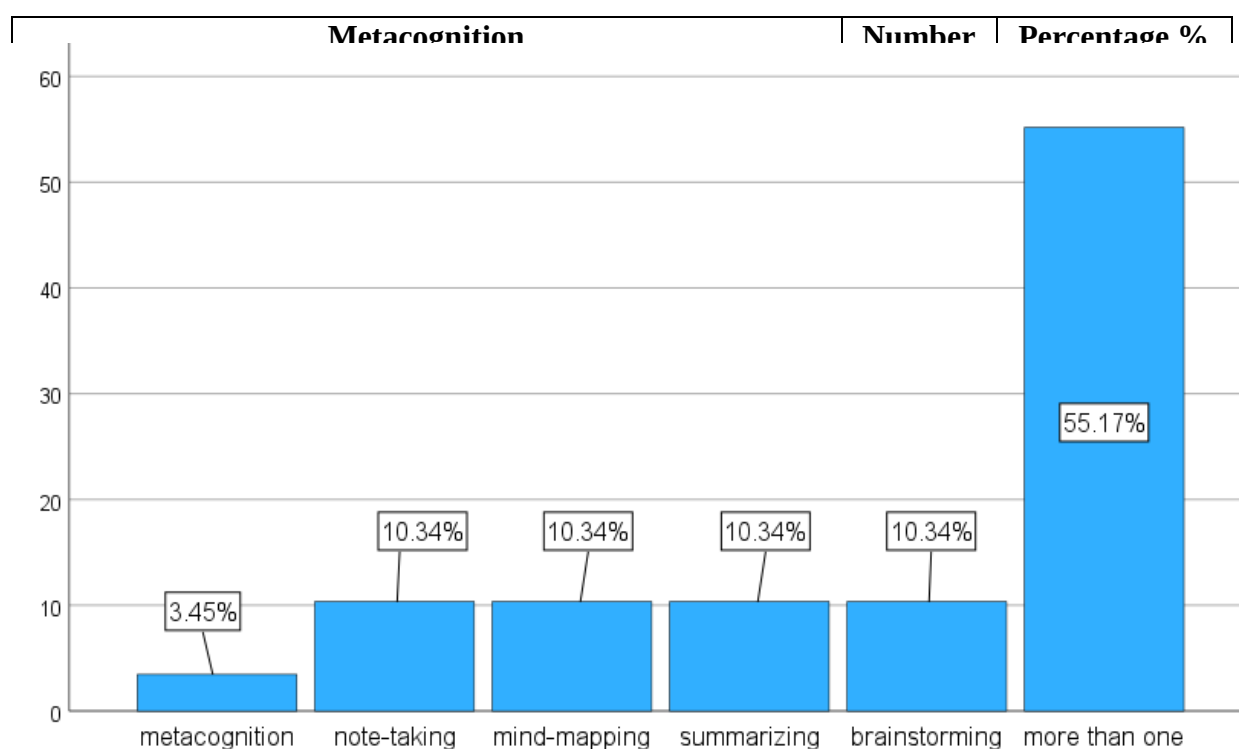
***Table 13. The Most Appropriate Strategy That Helps in Improving Writing***

| Strategies    | Number | Percentage % |
|---------------|--------|--------------|
| Metacognition | 2      | 3.45%        |
| Note-taking   | 6      | 10.34%       |
| Mind-mapping  | 6      | 10.34%       |
| Summarizing   | 6      | 10.34%       |
| Brainstorming | 6      | 10.34%       |
| One than one  | 32     | 55.17%       |
| Total         | 58     | 100%         |

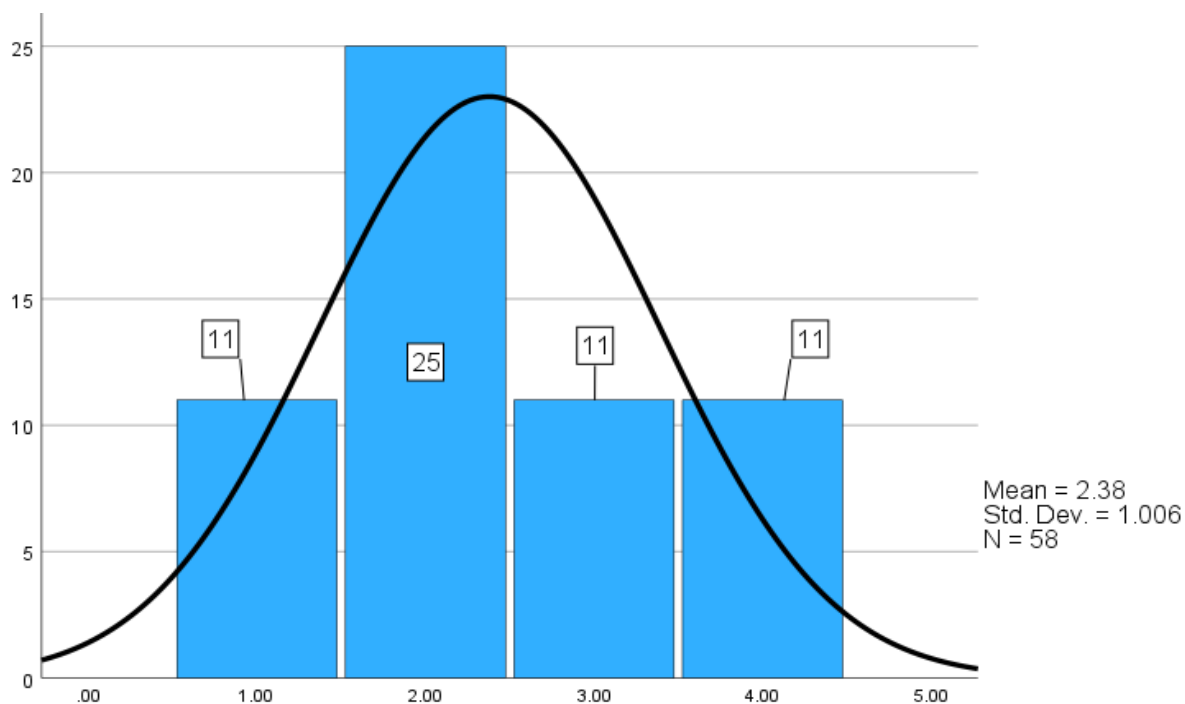
This chart reveals the various strategies that can be applied by EFL learners, boosting them to improve their writing. The sample was required to choose the adequate strategy based on their beliefs, and the researchers provided them the freedom to select distinguish options. (3.45%) that stands for two learners who adjusted metacognition strategy. Then, six learners for each have equally selected note-taking, mind- mapping, summarizing and brainstorming strategies. Thus, (10.34%) assimilate the informants' selections. At length, (55.17%) presents the rest of participants who highly chose multiple options; mainly they use distinct strategies as they claimed.

**Q11: Among These Definitions, Which One of the Closest to the Concept of Metacognition?**

**Table 14. Defining Metacognition**



**Figure 12. The Most Appropriate Strategy That Helps in Improving Writing**



**Figure 13. Defining Metacognition**

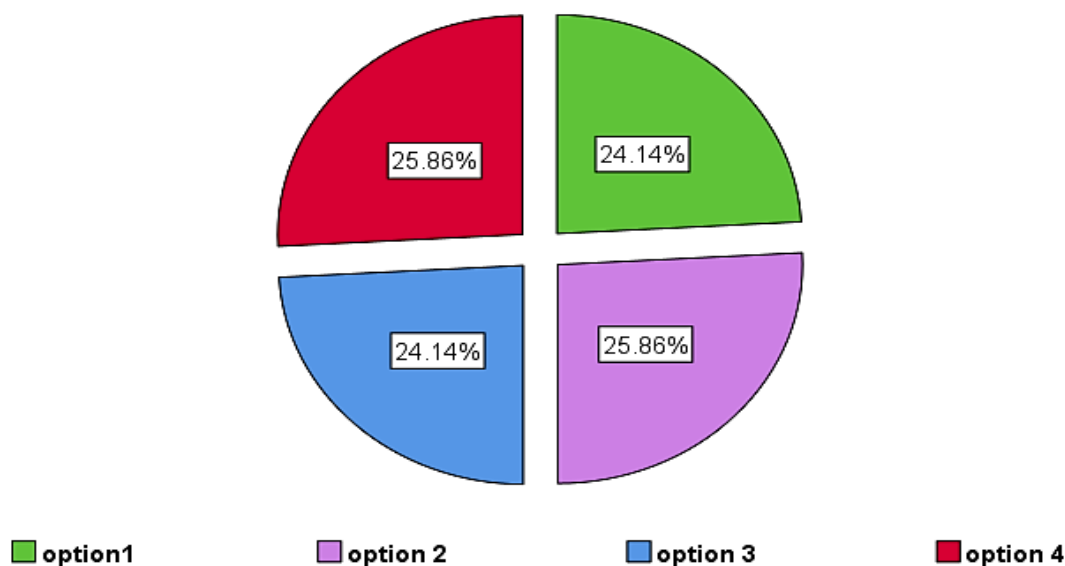
*Figure 13. Defining Metacognition*

The chart above provides a distinguished definition of metacognition's strategy, learners were required to define it through selecting one the closest definition that represents the concept. The results indicate the minority of the informants (19.0%) chose the first and the third options equivalent to the last one, which denotes that they collected the overall definition of metacognition. While the majority of the respondents (43.1%) opted for the second choice.

**Q12: In What Way Do You Believe Critical Thinking is Essential in Writing?**

***Table 15. The Importance of Critical Thinking in Writing***

| <b>Importance</b>                                                                                                                                                                                         | <b>Number</b> | <b>Percentage%</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------|
| Critical thinking is the most suitable technique for motivating EFL learners to engage in writing activity thus their writing ability will be developed.                                                  | 14            | 24.14%             |
| Critical thinking skill provides EFL learners regular direction in their writing products, consequently EFL learners' writing skills remains in permanent growth.                                         | 15            | 25.86%             |
| Thinking skills have a contribution in increasing EFL learner's creativity and effectiveness in their writing piece through collecting diverse information with their backgrounds knowledge of the topic. | 14            | 24.14%             |
| The higher level of thinking helps learners to acquire complexity, which refers to the ability to create content about whatever topic in any field without difficulties.                                  | 15            | 25.86%             |
| Total                                                                                                                                                                                                     | 58            | 100%               |



***Figure 14. The Importance of Critical Thinking in Writing***

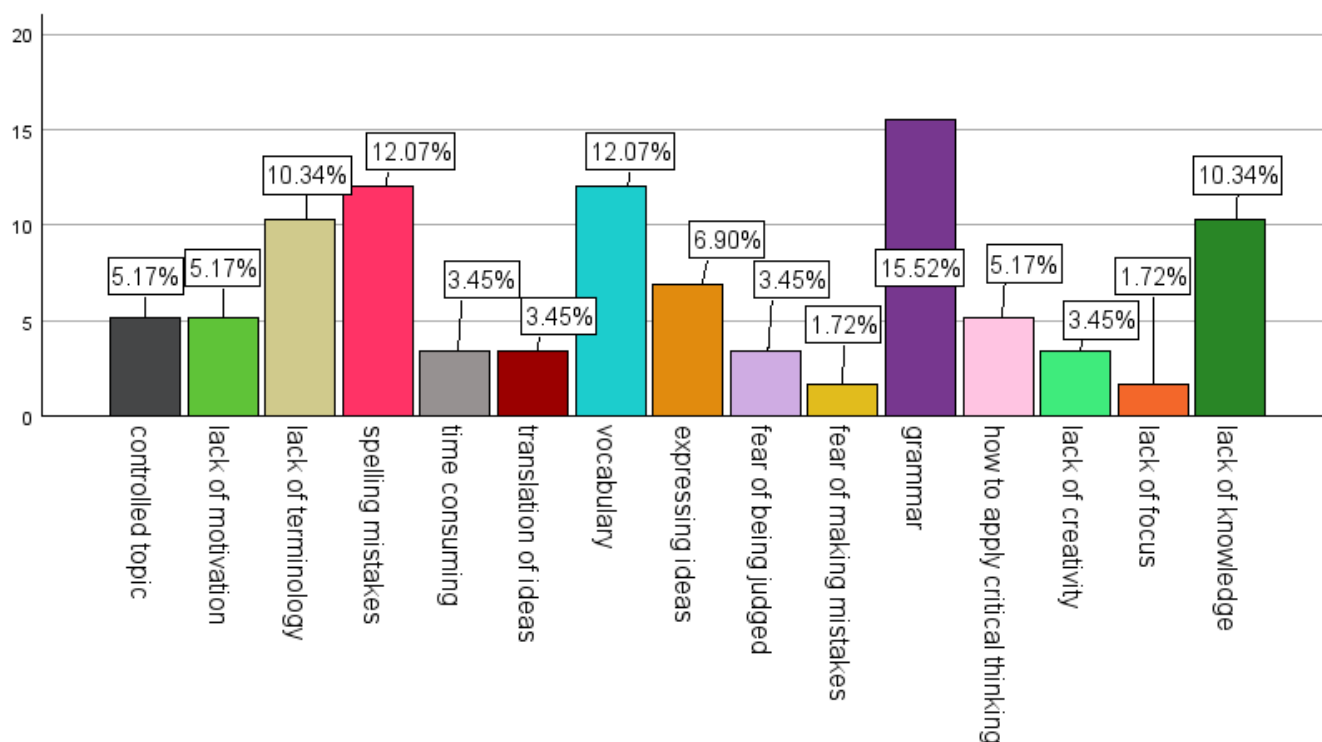
The pie chart clarifies the learners' responses on how CT is essential in improving their writing. (24.14%) represents the respondents who adopt the first and the third options. On the other side, others based on a percentage of (25.86%) selected the remaining choices. The current results exhibit a notable degree of convergence among the given options. Accordingly, EFL learners support the fact that CT is a noteworthy framework that helps them in enhancing their writing skills.

When faced with challenging questions, respondents mentioned seeking help from teachers, using brainstorming techniques, and paraphrasing to ensure comprehension. These approaches suggest a preference for collaborative and active problem-solving strategies. The inclusion of paraphrasing also highlights an awareness of the need for originality and deeper understanding when tackling complex tasks. The variety of methods reflects adaptability, with individuals choosing strategies based on context and personal preference.

**Q13: What Challenges Do You Face When Trying to Apply Critical Thinking Skills to Your Writing in English?**

***Table 16. Challenges Faced to Apply CT Skills in Writing***

| <b>Challenge</b>               | <b>Number</b> | <b>Percentage %</b> |
|--------------------------------|---------------|---------------------|
| Controlled topic               | 3             | 5.2%                |
| Lack of motivation             | 3             | 5.2%                |
| Lack of terminology            | 6             | 10.3%               |
| Spelling mistakes              | 7             | 12.1%               |
| Time consuming                 | 2             | 3.4%                |
| Translation of ideas           | 2             | 3.4%                |
| Vocabulary                     | 7             | 12.1%               |
| Expressing ideas               | 4             | 6.9%                |
| Fear of being judged           | 2             | 3.4%                |
| Fear of making mistakes        | 1             | 1.7%                |
| Grammar                        | 9             | 15.5%               |
| How to apply critical thinking | 3             | 5.2%                |
| Lack of creativity             | 2             | 3.4%                |
| Lack of focus                  | 1             | 1.7%                |
| Lack of knowledge              | 6             | 10.3%               |
| Total                          | 58            | 100%                |



**Figure 15. Challenges Faced to Apply Critical Thinking Skills in Writing**

The bar chart elucidates the possible challenges that EFL learners could encounter in critical thinking implementation. To start with (5.17%) of them responded that the controlled topic or when they are restricted by the topic instruction rather than manipulation. Therefore, (6.90%) of the samples answered that ideas and thoughts cannot be expressed because the inadequate EFL learners' autonomy in their writing pieces, this considered as a problem for EFL learners that can hinder their creativity which itself is considered as a serious issue (3.45%) for them due to its deficiencies in English as a Foreign Language. Besides, (5.17%) with the total number of three learners who replied that they are not even aware of how they apply CT in their writing. Another issue was mentioned by for informants with the collected percentages of (10.34%) addressed that they do not acquire sufficient knowledge, in another term; short term-memory has significant existence. As a result, this problem is giving rise to other subsequent challenges for EFL learners, including lack of terminology (10.34%) and vocabulary (12.7%). In addition, (1.72%) of leaners expressed that the fear of making mistakes

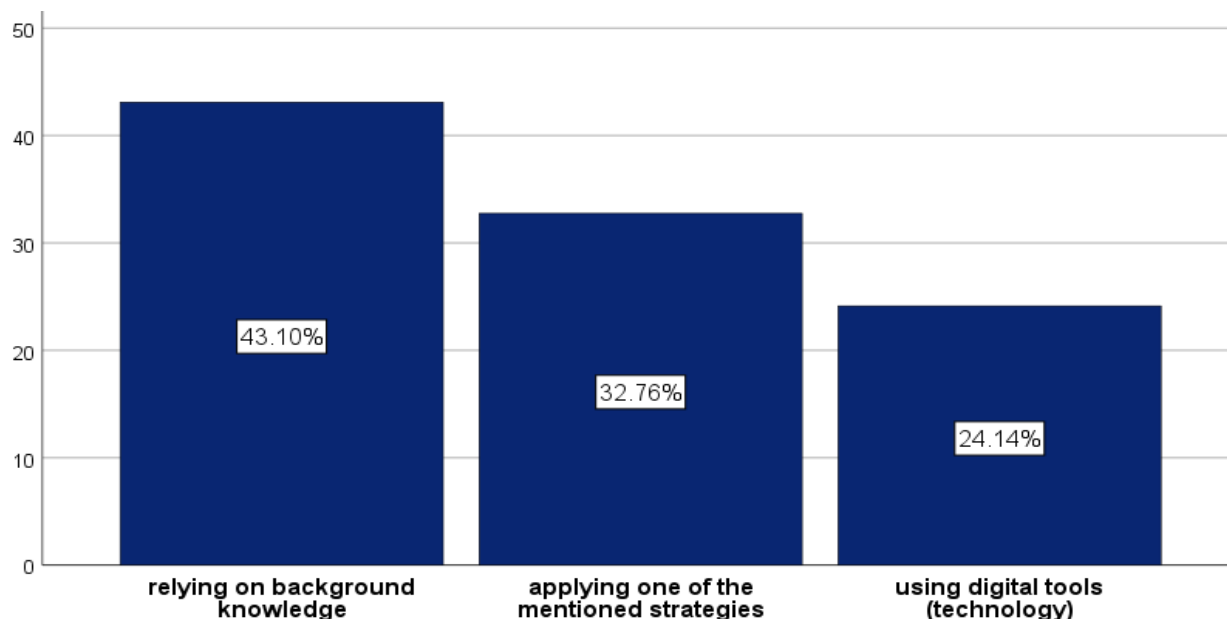
in CT process as spelling errors (12.07%) are an obstacle for them which highly leads to the fear of being judged (3.45%) about their inferior content by the instructor. Furthermore, (1.72%) of the sample asserted that, the lack of focus is another demolished trouble and (5.17%) mentioned that this case might decrease their motivation in applying CT.

A further barrier that EFL learners are struggling with is translation of ideas (1.72%); the idea was highlighted by EFL learners' answers. This difficulty leads to another problem of time consuming that was noted in the participants' responses with the percentages of (3.45%) during their application of the process itself. Finally, the most redundancy answer the researchers noticed in EFL learners' responses is grammar with the total number of (15.52%). Therefore, almost of the respondents agree that grammar is one of the impediment issues that hinder EFL learners' CT development.

#### **Q14: Select the Most Effective Solution that Can Be Applied to Solve those Challenges?**

***Table 17. Solution That Solves Those Challenges***

| <b>Solutions</b>                         | <b>Number</b> | <b>Percentage%</b> |
|------------------------------------------|---------------|--------------------|
| Relying on background knowledge          | 25            | 43.10%             |
| Applying one of the mentioned strategies | 19            | 32.76%             |
| Using digital tools (technology)         | 14            | 24.14%             |
| Total                                    | 58            | 100%               |



***Figure 16. Solution That Solves Those Challenges***

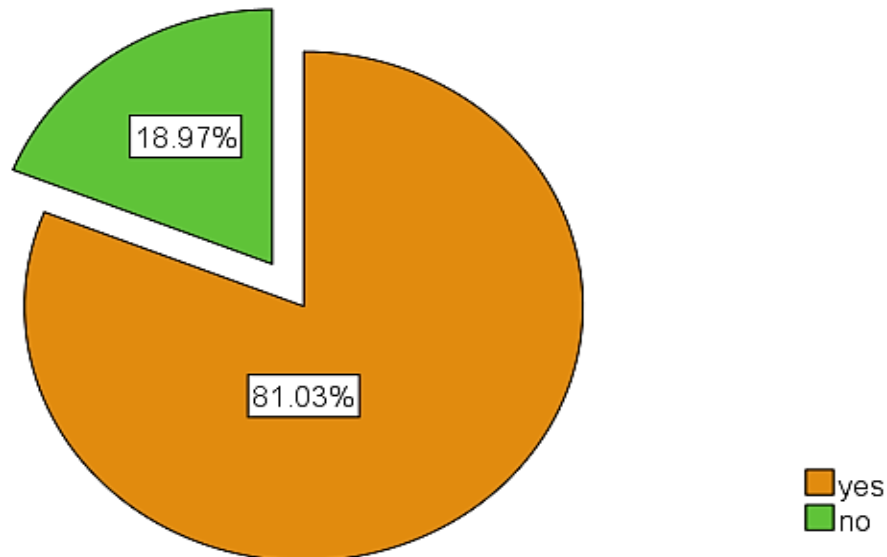
The chart above explicitly explains the suggested solutions that can be used to evade CT's problems. The researchers provided the informants with three main resolutions to choose; as a result, most of them (43.10%) defined background knowledge's option as the felicitous solution for the subsistence problems. Additionally, (32.76%) represents learners who selected the second choice; using the mentioned strategies, while the minority of them with the percentage of (24.14%) determined that technology could be the key work around to solve these issues. Essentially, most of the participants demonstrated that they rely on using their background knowledge in case they confront any of these barriers.

### Section C: Technology and Its Impact

#### Q15: Do You Agree that Technology Can Be Used as a Tool to Think Critically?

**Table 18. Technology as a Tool to Think Critically**

| Options | Number | Percentages% |
|---------|--------|--------------|
| Yes     | 47     | 81.03%       |
| No      | 11     | 18.97%       |
| Total   | 58     | 100%         |

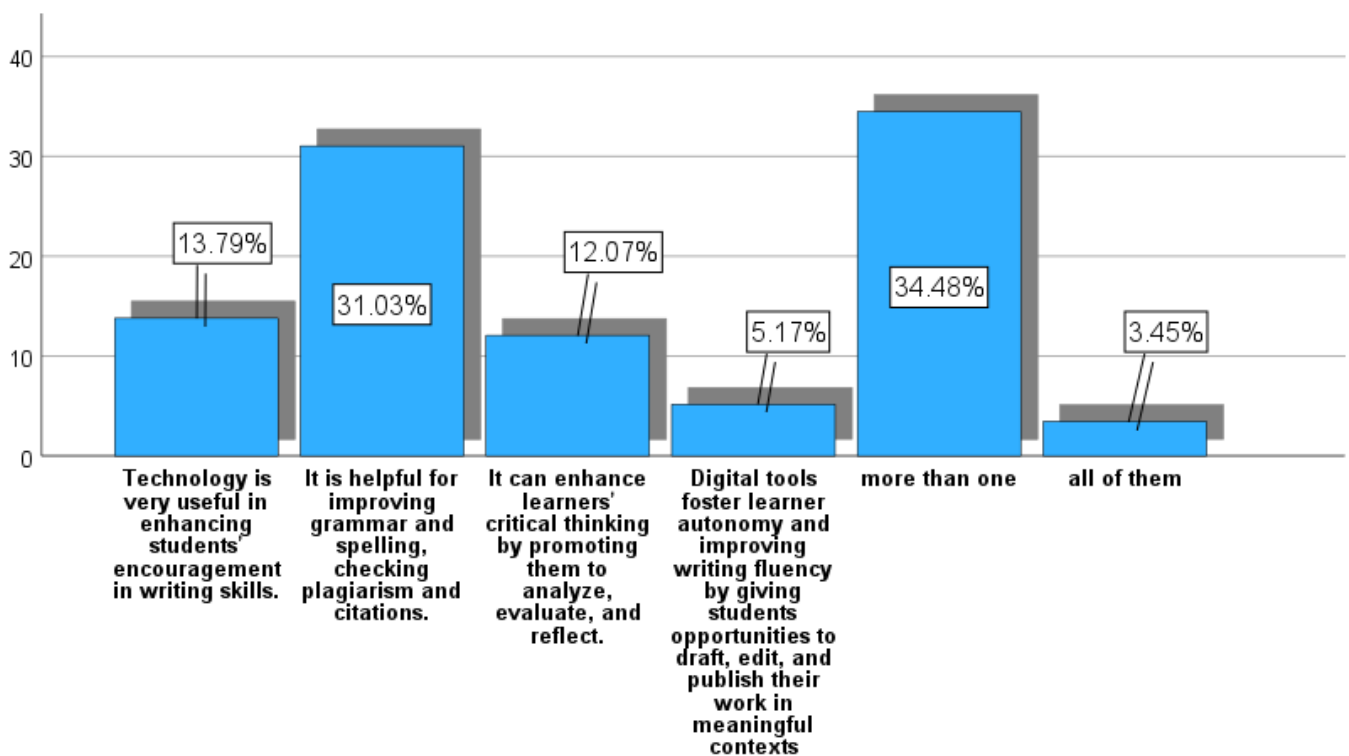


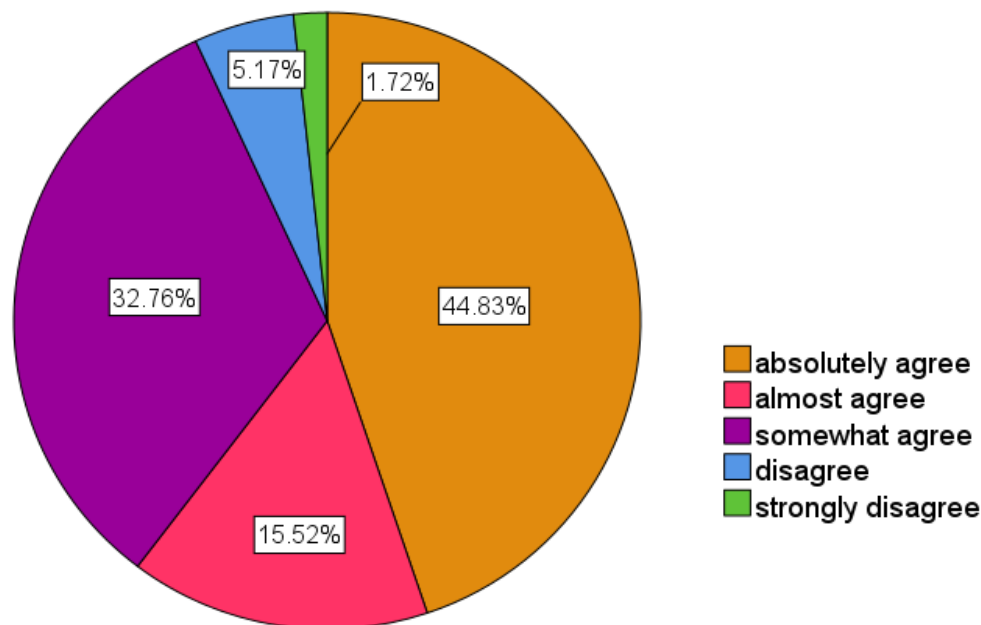
**Figure 17. Technology as a Tool to Think Critically**

As it illustrated in figure 17, the researchers asked learners about whether technology is helpful to think critically or not. (19.97%) represents the minority number of the respondents who answered by ‘no’. However, the majority of them (81.03%) assured that technology is the key tool that assist EFL learners to think critically by electing ‘yes’ option. The findings denote that technological tools can highly contribute in enhancing EFL learners’ CT.

**Q16: Do You Agree that Technology Can Assist You to Be Critical Thinker?****Table 19. Technology's Assistance to be A Critical Thinker**

| Options           | Number | Percentage% |
|-------------------|--------|-------------|
| Absolutely agree  | 26     | 44.83%      |
| Almost agree      | 9      | 15.52%      |
| Somewhat agree    | 19     | 32.76%      |
| Disagree          | 3      | 5.17%       |
| Strongly disagree | 1      | 1.72%       |
| Total             | 58     | 100%        |

**Figure 20. Advantages of Technology**



**Figure 18. Technology's Assistance to Be Critical Thinker**

Figure 18 explains EFL learners' opinions about the assistance of technology for them to be critical thinkers. The sample of learners expressed their point of view through selecting the appropriate option that fits their standpoint. The present results confirm that the majority of learners with the total number of (44.83%) who said absolutely agree. Then, (15.52%) represents the respondents who answered by almost agree. Moreover, (32.76%) of the informants were hesitated about this case. Therefore, they remained between agree and disagree because their different situations. However, (5.17%) of learners disagreed about technology's assistance in being critical thinkers. In fact, only few of them (1.72%) expressed their strong disagreement towards this case. Ultimately, most of the participants were acknowledged their agreement that support the first option. Lastly, all options are plainly noted above (see figure 18).

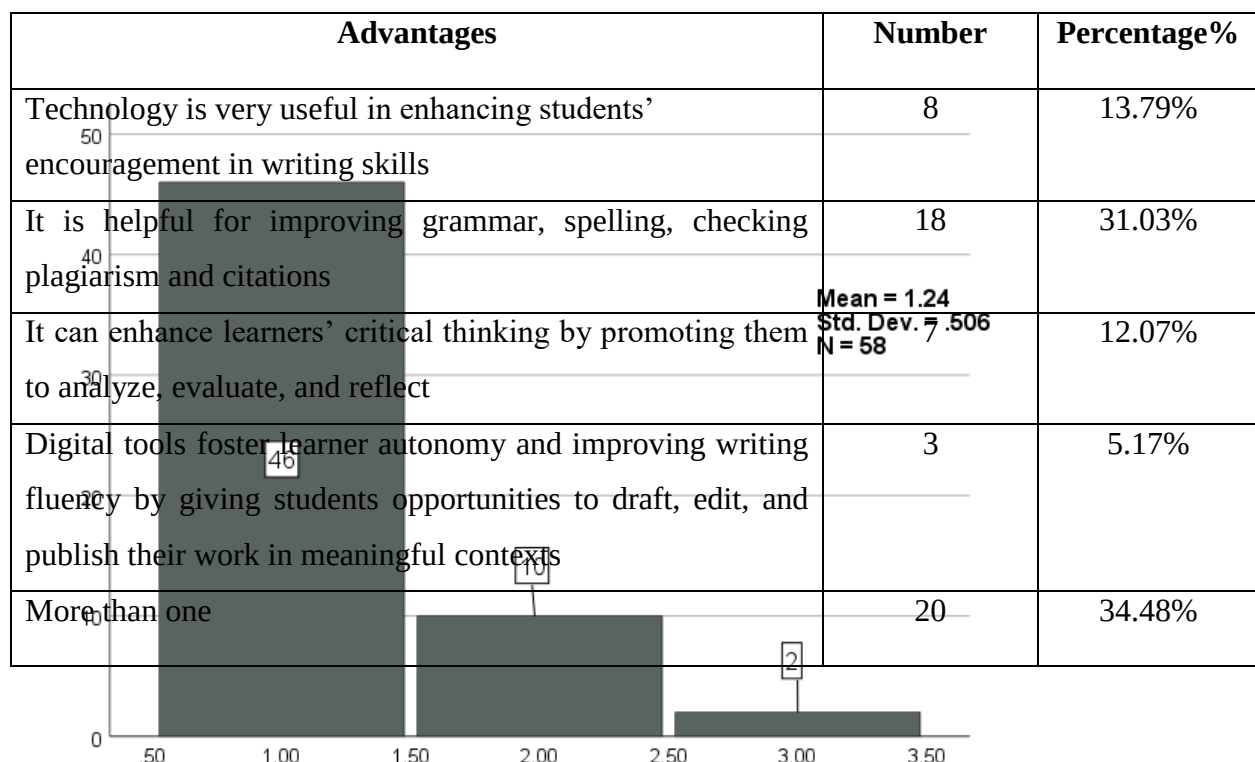
**Q 17: How Do You Evaluate the Impact of Technology on Critical Thinking Tasks?**

**Table 20. The Impact of Technology on CT Tasks**

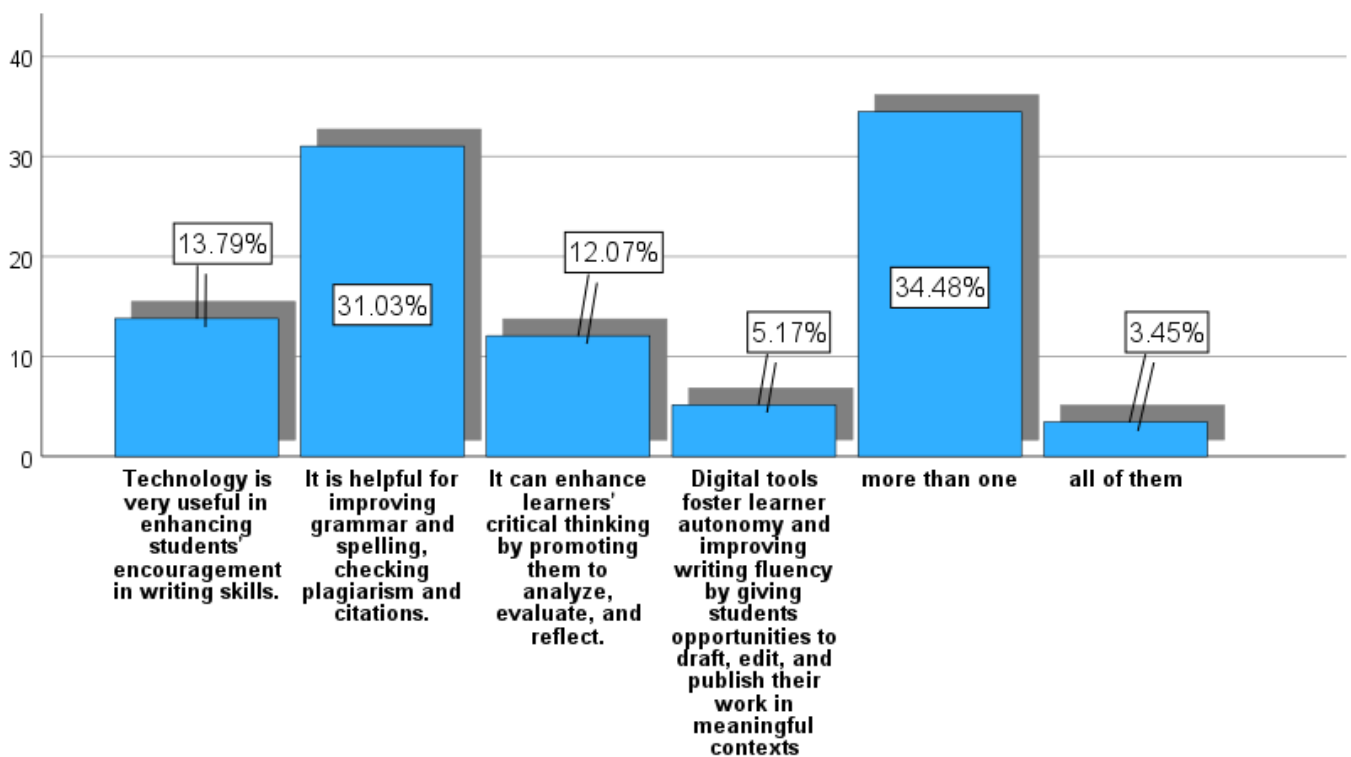
| The impact      | Number | Percentage% |
|-----------------|--------|-------------|
| Positive impact | 46     | 79.31%      |
| Negative impact | 11     | 18.97%      |
| In between      | 1      | 1.72%       |
| Total           | 58     | 100%        |

It is noted from figure 19 that forty-six of learners nearly (79.31%) believed that technology has a positive impact on their CT tasks. While eleven of them, (18.97%) defined that technology affects negatively their written assignment. At last, only one participant (1.72%) who suggested the impact of technology could be seen either positive or negative according to each specific situation. The outcomes reveal that the majority of the informants insist more on the constructive impression of technology across their writing products.

### Q 18: Select the most Appropriate Advantages of Technology

**Table 21. Advantages of Technology****Figure 19. The impact of Technology on Critical Thinking Tasks**

|             |    |       |
|-------------|----|-------|
| All of them | 2  | 3.45% |
| Total       | 58 | 100%  |



**Figure 20. Advantages of Technology**

As it shown in figure 20 that illustrates the advantages of technology, eight learners approximately (13.79%) selected the first option, and eighteen of them (31.03%) chose option two. While (12.07%), exactly eight respondents pointed out the third advantage. In addition, only three of them around (5.17%) opted for option four. On other hand, the majority of the sample (34.48%) representing twenty learners demonstrated the fifth advantage. Lastly, the rest

of them (3.45%) precisely two participants who selected all the available choices that cover technology' advantages thoroughly. To conclude, all options are obviously highlighted in the above figure (figure 20).

### Q 19: Could You Identify the Disadvantages of Technology from the Given Options?

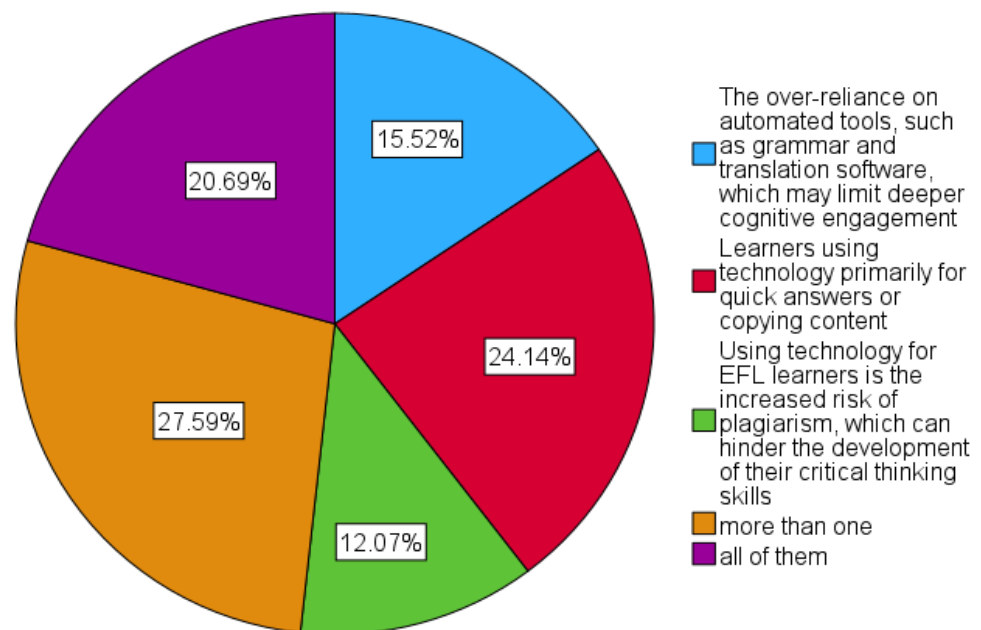
**Table 22. Disadvantages of Technology**

| Disadvantages                                                                                                                             | Number | Percentage% |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|
| The over-reliance on automated tools, such as grammar and translation software, which may limit deeper cognitive engagement               | 9      | 15.52%      |
| Learners using technology primarily for quick answers or copying content                                                                  | 14     | 24.14%      |
| Using technology for EFL learners is the increased risk of plagiarism, which can hinder the development of their critical thinking skills | 7      | 12.07%      |
| More than one                                                                                                                             | 16     | 27.59%      |
| All of them                                                                                                                               | 12     | 20.69%      |
| Total                                                                                                                                     | 58     | 100%        |

The disadvantages of technology are elucidated above in figure 20. After the data was collected, the outcomes expose that (15.52%) of learners, properly nine of them determined the first choice. furthermore, (24.59%) exactly fourteen participants selected option two. The minority of the respondents only seven of them around (12.07%) adopted option three. On the other side, the majority of them of sixteen participants (27.59%) combined between multiple answers that involve various ideas of technology disadvantages. At last, a notable number of EFL learners, twelve of them (20.69%) suggested the overall choices. This indicates how technology affects negatively across different aspects in learning process.

#### Q20: How Do you Think teachers' Use of Technology Affect your Writing

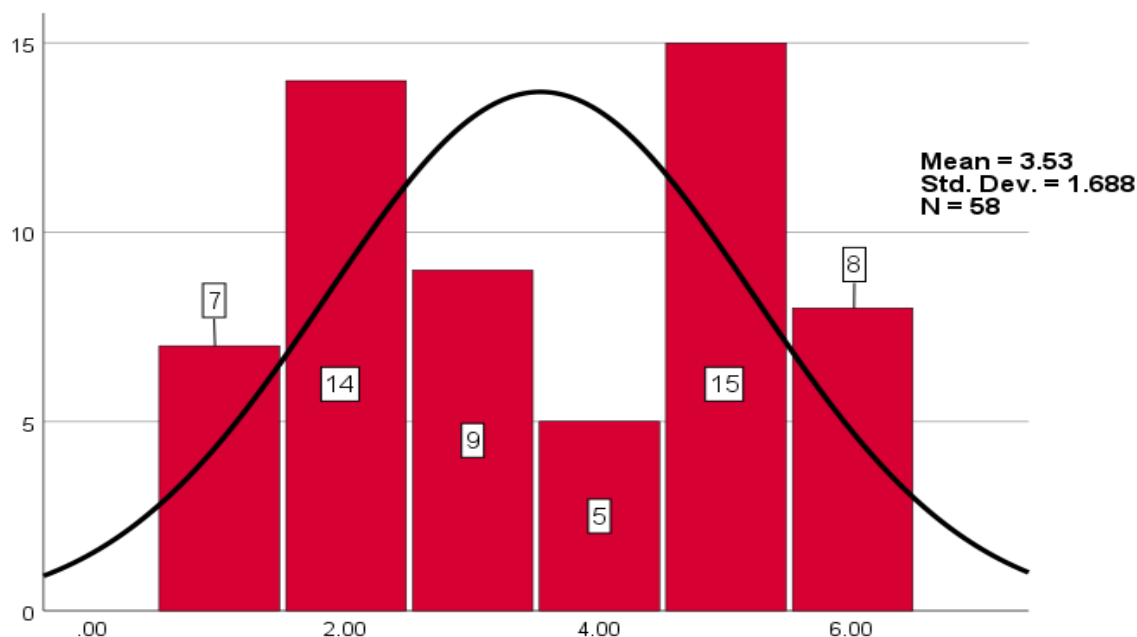
**Figure 21. Disadvantages of Technology and Critical Thinking Skills?**



**Figure 21. Disadvantages of Technology**

**Table 23. Teachers' Use of Technology**

| <b>The Effects</b>                                                                                 | <b>Number</b> | <b>Percentage%</b> |
|----------------------------------------------------------------------------------------------------|---------------|--------------------|
| It saves learners' writings which enables them to evaluate their progress over time                | 7             | 12.07%             |
| It motivates learners to try different types of writing                                            | 14            | 24.14%             |
| Teachers help young writers to grow from a simple consumer of new media tools to talented creators | 9             | 15.52%             |
| It creates new opportunities for learners to learn more and expand their cognitive abilities       | 5             | 8.62%              |
| More than one                                                                                      | 15            | 25.86%             |
| All of them                                                                                        | 8             | 13.79%             |
| Total                                                                                              | 58            | 100%               |



**Figure 22. Teachers' Use of Technology**

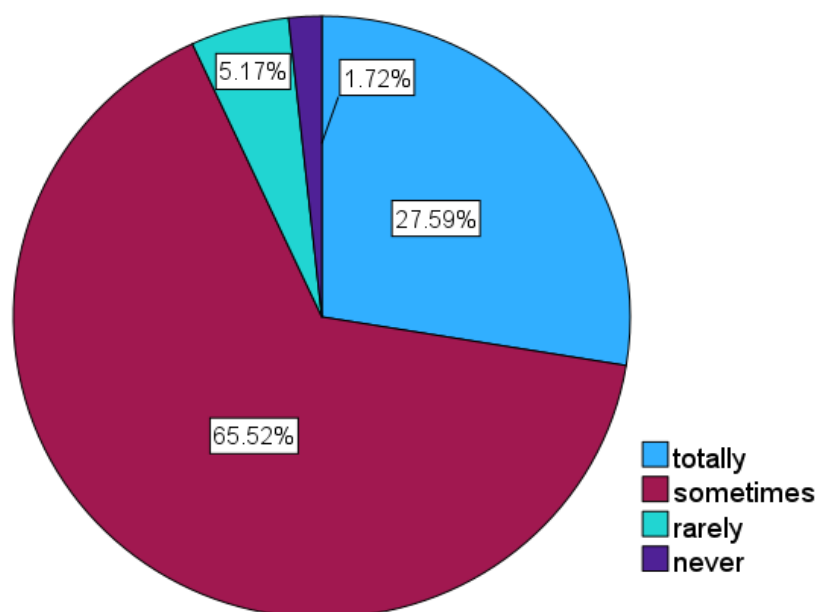
The above bar graph reveals the learners' responses about whether teachers' use of technology affects their writing skills and CT or not. (8.62%) of the informants selected the fourth choice. (12.07%) of them chose all the given options. While (13.79%) collected all the given choices "all of them", and (15.52%) determined the third one. Additionally, (24.14%) of the sample defined the second preference. Lastly, the fifth "more than one" was selected by (25.86%) of the participants. Ultimately, the options are punctually presented above (table and figure 22).

**Q21: In a Situation of Critical Thinking's Task, How Frequently Do You Depend on Technology Tools (Chatgpt, Google Sites and Online Resources...)**

**Table 24. Reliance on Technology Tools**

| Frequencies | Number | Percentage% |
|-------------|--------|-------------|
| Totally     | 16     | 27.59%      |
| Sometimes   | 38     | 65.52%      |
| Rarely      | 3      | 5.17%       |
| Never       | 1      | 1.72%       |
| Total       | 58     | 100%        |

.Contradictory, the majority of them around (65.52%) accurately thirty-eight participants



**Figure 23. Reliance on Technology Tools**

advocate that they depend on technology devices occasionally, definitely based on the given situation and their needs. Furthermore, three of the learners (5.17%) suggested ‘rarely’ they use these devices on their assignments. Finally, only one informant with the percentage of

(1.72%) asserted that should ‘‘never’’ depend on technology in the production of their tasks. Eventually, the results explore that almost of the sample use technological tools intermittently.

### **Justification for Using or Not Using Technology Tools**

Opinions on technology use were divided. Some participants avoided tools like ChatGPT, arguing that overreliance could weaken CT and creativity, preferring books or independent reasoning instead. Others defended technology, citing its efficiency, accessibility, and ability to enhance writing (e.g., grammar checks, vocabulary expansion). A middle-ground approach emerged, with many using technology selectively—for difficult tasks or verification—while relying on their own analysis for simpler problems. This debate underscores the tension between convenience and intellectual autonomy, suggesting that while technology is widely adopted, its role in education remains a topic of discussion.

### Analysis of Teachers' Interview

The researchers interviewed three EFL teachers of writing, regarding the role of CT in enhancing EFL learners' writing skills and the technology's effects on their writing, aimed at gathering their invaluable perspectives and explanations to accomplish the objectives of the present study effectively.

**Question One:** How many years of experience do you have in teaching writing?

**Teacher 1:** 3 years

**Teacher 2:** 9 years

**Teacher 3:** 10 years of teaching writing

This question is about EFL teachers' experience in teaching writing aimed at recognizing their proficiency in the field. Furthermore, it seeks to collect credible data about CT and its application to EFL learners' writing skills in the EFL classrooms. The responses demonstrated that teachers' experience ranged from three to ten years of teaching writing, indicating that the sample of the study is adequately expert in the field.

**Question Two:** Do you think critical thinking should be a priority in EFL writing courses?

**Teacher 1:** yes

**Teacher 2:** yes

**Teacher 3:** yes, because it enhances learners' ability to analyze, evaluate, and construct arguments effectively. Critical thinking help students develop reasoning skills, engage with texts meaningfully, and produce well-structured compositions.

The researchers asked this question to highlight the prominence of CT in EFL writing classes. All teachers' responses highly confirmed that CT is an effective process to enhance EFL learners' writing expertise through helping them to analyze, evaluate, and construct arguments effectively as the third teacher claimed. Through deep thinking, learners

will expand their knowledge to (n+1) which refers to the prior background along with new information. This encourages them to foster their curiosity, sustain their thinking to find out deeper data, and learn how to evaluate it critically. In addition to the sample justification, he mentioned that CT process helps learners to engage with texts meaningfully and produce well-structured compositions, the statement implies that CT promotes EFL learners readiness and engagement in producing different types of written expressions by applying their long-term memory and the existing data package. Therefore, the diversity of information and sufficient knowledge allow EFL learners to promote their writing skills successfully.

**Question Three:** Do you consider that EFL (English as a Foreign Language) learners are aware of the importance of critical thinking in learning process?

**Teacher 1:** Yes

**Teacher 2:** I can't be sure that all of them are aware of this. But, I'm sure that they know it

**Teacher 3:** EFL learners' awareness of critical thinking varies. Some students recognize its importance in improving their writing and comprehension, while others may focus more on grammar and vocabulary. Raising awareness through explicit instructions and practical exercises can help learners understand how critical thinking contributes to their overall language development.

The aim of this question is to explore whether EFL learners are conscious of how significant CT is in the learning process, regarding teachers' opinions. The outcome reveals that only one teacher adjusted that EFL learners are mindful of the value of CT. However, the second one argued that they know CT concept but the instructor was uncertain whether learners are familiar with CT process or not. While the third respondent discussed that only some learners acknowledge the significance of CT in developing their writing, while others are not, perhaps they focus more on other aspects as grammar and vocabulary, and he added, explicit

instructions and practical exercises as a suggestion to raise EFL learners' awareness and understand its contribution to their overall language development. As a result, teachers were doubtful if EFL learners recognized the notability of CT, because of its strict application. Most EFL learners avoid using it in their writing, and only few of them, who are more knowledgeable, apply the process in their compositions effectively. Therefore, teachers presented a higher level of uncertainty in their answers to the point that one of them recommended some insights for fostering analytical skills and decision-making processes.

**Question Four:** Do you agree that critical thinking and writing skills create a well-structured combination? In what way?

**Teacher 1:** yes, through writing learner can express and analyze point of view

**Teacher 2:** I think if students apply the strategies for their writing, they will develop it.

: If a student revises his work, he will recognize his problems.

**Teacher 3:** Critical thinking and writing skills create a well-structured combination, because writing requires logical organization, coherence, and argumentation. Critical thinking enables students to assess sources, construct evidence-based arguments and refine their ideas through reflection and revision. Together, they foster deeper engagement with content and improve writing quality.

Question 4 is formulated to assess the relationship between CT and writing skills through teachers' justifications. The obtained outcomes show that both variables are highly interrelated in terms of learners' improvements. According to the respondents, firstly, writing can foster learners' various skills such as analysis, evaluation, and reflection; then they cannot discover their based-problem unless they reflect, revise, and review their writing texts. Additionally, CT can never develop without writing, because the latter provides an opportunity for learners to articulate their different thoughts, distinct opinions and judgements freely. On the other hand, as the informant explained, CT is the key direction to find out different sources,

evidence and construct powerful arguments, through reflecting and revising ideas and looking for deeper research and investigations about the given topic, altogether seeking to write effective written pieces. Consequently, CT and writing expertise encourage learners' engagement, to discover information that is more dynamic in order to write meaningful content. Thus, through deep thinking and distinguished investigation, learners' writing quality will be inherently enhanced. To conclude, CT and writing abilities are one sides of paper that can never be separated, since writing consistently substantially promotes learners' cognitive abilities; likewise, thinking critically helps them to create worthwhile written structures.

**Questions Five:** What strategies do you use to develop critical thinking in your writing classes?

**Teacher 1:** Providing feedback and do brainstorming, mind- mapping.

**Teacher 2:** The use of examples from real life, so that the student can relate his experience to his written work.

**Teacher 3:**

- Encouraging students to question assumptions and analyze different perspectives.
- Using debates and discussion activities to promote reasoning skills.
- Assigning problem-solving writing tasks that require evaluation and synthesis.
- Providing structured feedback that challenges students to refine their arguments

This question is addressed to the teachers for exploring the possible strategies that they implemented to develop CT's level in their writing courses. The sample suggested varied strategies to achieve the aim; they highlighted structured feedback as a tool of evaluating learners' writing skills based on arguments and opinions so that they learn from their errors and seek to broaden their intellectual abilities to enhance their overall writing content. In addition, brainstorming and mind mapping are effective because they allow EFL learners to generate infinite ideas. These strategies assist in enhancing their creativity by visualizing the different

thoughts that may motivate learners to increase their CT. Furthermore, questions, debates and discussions activities are highly recommended since they are considered the immediate source of boosting CT and reasoning abilities through exchanging and analyzing multiple perspectives aimed at solving problems in their written texts. Finally, putting learners in real world-contexts in writing is one of the best strategies to write well, by engaging in authentic situations, learners will link their experiences to their written expression. As a result, they will produce higher-quality compositions.

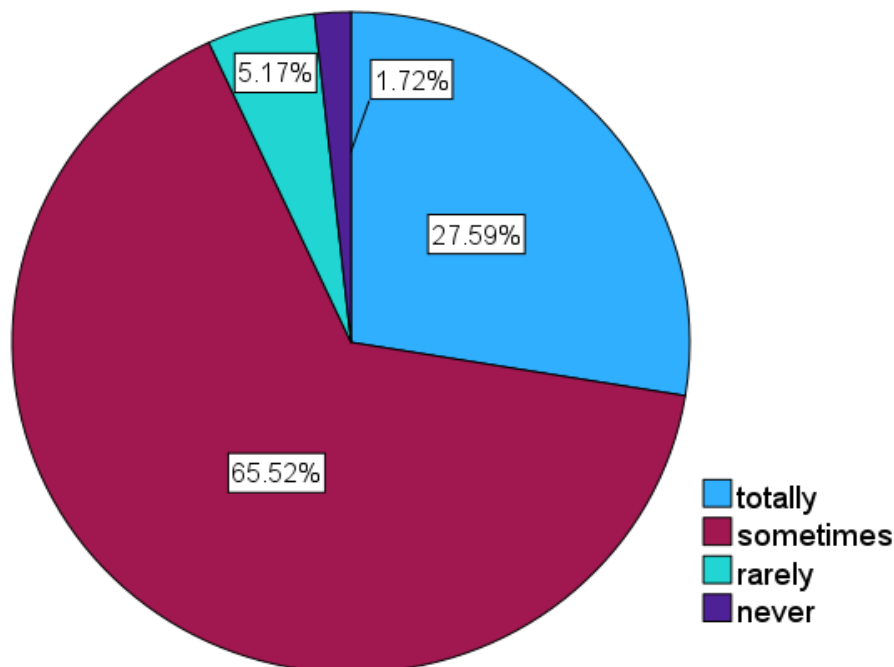
**Question Six:** Do you agree that “Metacognition” is the most effective strategy that can be implemented in critical thinking for enhancing learners' writing skills? Explain

**Teacher 1:** yes, metacognition is an effective strategy as it promotes self-awareness, planning, and critical evaluation.

**Teacher 2:** yes, because if the writer should think many times about the ideas and the words for writing and this can't happen without metacognition

**Teacher 3:** Metacognition as an effective strategy in critical thinking enhances learners' writing skills by helping them become aware of their thought processes. When students reflect on their writing strategies, identify weaknesses, and adjust their approach, they develop stronger analytical and problem-solving abilities. Metacognition strategies such as self-questioning, peer review, and revision cycles improve writing outcomes.

Question 6 is constructed to recognize the significance of metacognition strategies in the CT process, which improves learners' writing capacities. Based on the teachers' opinions and the available results, metacognition is one of the best strategies that improves learners' cognitive abilities, fosters self-awareness, and promotes critical evaluation of their thinking. Besides, thinking about their own thinking (reflection), self-questioning, and reviewing their own thoughts; are the sub-strategies of metacognition that highly advance EFL learners written work.



**Figure 23. Reliance on Technology Tools**

**Questions Seven:** In your experience, how does critical thinking influence learners' writing skills?

**Teacher 1:** improve your learners think critically about the writing process, and suggest strategies.

**Teacher 2:** If a student has a critical thinking this will help him evaluate oneself.

**Teacher 3:** critical thinking influences learners' writing skills by enables them to construct logical arguments evaluate evidence and engage with texts critically. It helps students move beyond surface-level writing to produce well- reasoned and coherent compositions.

This question aims to assess how influential CT is in learners' writing abilities. The researchers considered the second and third teachers' answers only because the first one was irrelevant to the posed question. Therefore, concerning the informants' responses the findings confirmed that CT significantly influences learners' written work, because the process itself is based on analysis and evaluation of different thoughts of their own written texts, which can enhance EFL learners' writing quality. Moreover, building powerful and reasonable arguments and establishing coherent content in written tasks is essentially the result of enhancing higher level of thinking expertise. Furthermore, thinking critically alone is the key point in enhancing

EFL learners' writing abilities because the process itself involves varied skills such as evaluation, reflection, and analysis that help learners to write effectively.

**Question Eight:** What are some challenges EFL learners face when trying to apply critical thinking in writing?

**Teacher 1:** Challenges like language barriers, cultural difference, and unfamiliarity with critical thinking.

**Teacher 2:**

- Weak knowledge about the rules that govern writing.
- The level of the student in the other skills does not allow him/her to evaluate himself.
- Because they are passive learners they just want to imitate

**Teacher 3:** Challenges are:

- Linguistic limitations, cultural differences, lack of exposure to analytical reasoning, difficulties in structuring arguments, limited resources, fear of mistakes, and teachers expectations that prioritize correctness over depth of thought.

The question seeks to identify the range of challenges that EFL learners encounter while engaging in the CT process. According to the teachers' responses, the findings highlighted multiples barriers that hinder learners' CT application, the respondents demonstrated that the limited resources demolish learners' motivation for deeper thinking; therefore, analysis would decrease.

In addition, cultural diversity can be a negative factor in their thinking because reasoning varies from culture to another, regarding different customs, origins, norms, and cultural prohibitions. Taking the fact that, some ways of thinking can be a taboo for learners that come from different cultures. Furthermore, teachers stated that linguistic limitations from which most of EFL learners struggle arise because they lack vocabulary and lexical background, which significantly hinders their ability to construct linguistic structures. Another

serious issue that the informants noted is that, due to the weak knowledge and intermediate level of learners, they cannot master CT skills; such as, evaluation and analysis. Moreover, the teacher argued that learners lacking exposure to CT, this because of insufficient practice in classrooms. Even some of them are not familiar with the concept, which may hinder their ability to structure arguments effectively.

The results also indicate that learners often exhibit passivity by imitating responses as they are rather than depending on themselves and engaging in deep thinking, this negative habit can prevent learners to apply their analytical reasoning productively. The Fear of making mistakes is a common barrier from both teachers' perspectives and learners' answers. Anxiety surrounding external feedback from peers and educators that prevents them to take risks in their thinking. Finally, the teacher added another important challenge that eliminates EFL learners' CT development is that often the instructor prioritizes correctness and feedback over depth of thought. This implies that when the teacher focuses on the errors rather than learners' production, this implicitly devastates their creativity. Thus, EFL learners' CT will progressively reduce.

**Question Nine:** What techniques have you found helpful in overcoming these challenges?

**Teacher 1:** Techniques like scaffolding, mind mapping, writing (peer review), encouraging self- assessment, authentic materials of writing

**Teacher 2:**

- Make them write a lot.
- Give them examples and compare their own ones with the examples.
- Oral expression should precede written expression.
- Asking them many questions after listening to their writings and giving them feedback.

**Teacher 3:** Techniques to overcome these challenges include: Teaching structured writing frameworks (e.g., thesis statements, supporting arguments), providing guided practice in analyzing texts and constructing arguments.

- Encouraging peer collaboration and feedback.
- Using real –world examples to illustrate critical thinking applications.

The current question is formulated to explore the possible techniques that EFL teachers use to overcome the distinct barriers that learners encounter in applying CT skills in their writing. After the data was collected from teachers' perspectives, the results suggest various techniques, among them scaffolding and mind mapping that may help EFL learners break down the complexities of CT's process into systematic steps in writing. These are beneficial especially for learners at an intermediate level. Besides, using real-world examples to express different thoughts in their written tasks help them compare their experience with the current situation. By implementing this strategy, teachers can boost EFL learners' engagement in their writing activities. Furthermore, the informants insisted on employing collaboration through inspiring peer feedback and discussing it orally, which can successfully transform learners from passive participants to active ones. Then, asking learners different questions and providing feedback to them is one of the best strategies for EFL learners, which makes them feel that their participation is valuable. Thus, they will work best by reflecting on their own thoughts, which significantly increases EFL learners' self-assessment and, consequently, CT as well. Another important technique that the respondents mentioned is making EFL learners write many structured writing frameworks supported by constructing and analyzing logical arguments related to the given task. Such authentic activities aid the writer in thinking critically in their written texts. Finally, all the suggested techniques are useful for confronting such challenges in applying CT aimed at improving EFL learners' writing skills.

**Question Ten:** In your opinion, what are the possible suggestions and recommendations that can be considered to boost EFL learners' critical thinking in EFL classrooms?

**Teacher 1:** Encourage peer review, mind mapping.

**Teacher 2:** Time should be allowed to practice any skills that students want to get, So that they recognize.

**Teacher 3:**

- Integrate inquiry-based learning and problem-solving activities.
- Encourage students to engage in debates and discussions.
- Use authentic materials that require analysis and interpretation.
- Provide explicit instruction on reasoning and argumentation techniques.

The goal of this question is to gain valuable insights from teachers' opinions about the possible recommendations that instructors can consider to boost EFL learners' CT in EFL classrooms. Based on the samples' responses, the findings highlight again mind mapping and peer review through providing and exchanging constructive feedback as a merit suggestions that require the use of multiple CT skills as analysis and evaluation. Additionally, authentic materials are useful in encouraging learners to engage in discussions on various points, creating a sense of debate among the participants to find out a reasonable response. By applying these activities in EFL classrooms, learners' cognitive abilities will be gradually advanced.

Another proposed teaching strategy is integrating inquiry-based learning along with problem-solving by creating structured writing activities that need to be investigated, analyzed, and interpreted through using one's self reflection on the existing problem aimed at retrieving relevant solutions to the given issue. This vigorous assignment can outstandingly improve EFL learners' logical reasoning competencies. Finally, the respondent exhorted one of the important tips that should be implemented in EFL classes which is 'time', as it serves as the key element

that enables learners to undertake any skills of CT freely. This is because the process necessitates a higher level of concentration. Therefore, time is exceedingly required.

**Question Eleven:** How do you think technology or ICT tools affect learners' critical thinking? Please explain.

**Teacher 1:** Technology enhancing critical thinking by providing resources, online platforms, multimedia resources.

**Teacher 2:**

- It will result in passive learners from the negative side.
- Looking at the positive side, it helps and guides students to do their job in the best way, and to assist them whenever they need help.

**Teacher 3:** Technology and ICT tools affect learners' critical thinking by offering opportunities for interactive learning, access to diverse perspectives, and digital collaboration. However, over- reliance on technology can hinder deep thinking if students passively consume information without critically evaluating it. Effective integration of technology should focus on fostering analytical skills through research, discussion forums, and writing platforms.

The last question is designed to evaluate to what extent technology and ICT tools affect learners' CT. According to the teachers' explanations, the obtained outcomes demonstrate that technology has two main sides: a negative and a positive impact. The first instructor replied that technology offers many resources of information, multimedia resources, and online platforms that can enhance CT. While other teachers highlighted both possibilities, they provided the positive effect as one side in terms of guiding EFL learners to do their tasks successfully because the diversity and the availability of information, which motivates them to look for more perspectives and exchange various data through digital collaboration among participants. Thereby, increasing their overall comprehension and improving their thinking effectively. On the other hand, the negative aspect, as the second facet, was argued by teachers

who stated that over-reliance on ICT tools may impede learners' deep thinking because the easy access to infinite data can foster laziness among learners. They tend to become passive recipients of knowledge. Moreover, they will depend on copying and pasting the given answers as they are, without attempting in-depth analysis. Therefore, the overuse of technology may eliminate EFL engagement and creativity. Ultimately, the EFL teacher added that technology should be integrated with a focus on fostering analytical skills through research, discussion forums, and writing platforms, which implies that it is preferable to use ICT tools in conducting complementary work to CT abilities rather than contradictory applications, by discussing different facts, opinions, and information aimed at enhancing CT expertise.

### **Conclusion**

This chapter clarifies the obtained outcomes from the EFL learners' questionnaire and teachers' interview towards the role of CT in enhancing EFL learners' writing skills and the impact of technology on their writing. The collected data were interpreted using both quantitative and qualitative methods concerning both sources of information. Finally, the researchers will provide a comprehensive discussion about the findings in the following chapter, to find relevant answers to the research questions and validate the posed hypotheses.

## **Chapter Five**

### **Discussion and Recommendations**

## Chapter Five

### Discussion and Recommendation

#### Introduction

This chapter reviews and interprets the key findings presented in the previous chapter, linking them to the research objectives. It aims to address the research questions and evaluates the validity of the proposed hypotheses. Additionally, it discusses the implications of the findings and offers practical suggestions for learners, teachers, and educational authorities. Finally, it highlights areas for further research.

#### Discussion of the obtained results

##### Question One: Correlation Between Critical Thinking and Writing Skills

The first research question explored the relationship between CT and writing skills in EFL classrooms using learners' questionnaire and teachers' interview tools in order to find logical and appropriate answers to the research questions. First, some points should be discussed; starting by the findings that revealed a significant lack of familiarity with CT among learners. A majority of learners (60.34%) reported being unfamiliar with CT, while only (5.17%) stated they were frequently taught it in class. This aligns with existing studies suggesting that insufficient instructional focus on CT in EFL settings contributes to learners' uncertainty about its definition and applications.

Based on learners' responses, despite the limited exposure (87.93%) of learners agreed that CT affects their writing, indicating an intuitive recognition of its importance. Most learners associated with problem-solving and understanding, reflecting its role in organizing and refining ideas in writing. This confirms the significant role of CT in enhancing EFL learners' writing skills.

Interestingly, when learners were asked about the impact of CT on their writing, (44.83%) of learners rated it as highly impactful and (25.86%) of learners chose a higher level. These responses demonstrate that while learners may not be well-trained in using CT, they still recognize its potential influence in enhancing the quality and coherence of their writing. Furthermore, when teachers were asked about the relationship between CT and writing, they argued with reliable perspectives that approve the notion of the correlation. According to the instructors' answers, CT and writing skills are two of interrelated aspects of complementary work, as they serve each other in terms of EFL learners' improvements. CT facilitates learners to construct evidence-based arguments in their written work through reflection and revision; create new knowledge based on the previous studies; compare and analyze different opinions through a deeper thinking.

In the other hand, to write well, several CT skills must be used because writing requires powerful argumentation, logical organization, coherence of ideas. Moreover, the ability of learners to analyze, synthesize and evaluate various thoughts aimed at creating a higher quality of writing content. In other manner, EFL learners need to be critical thinkers to create productive structures of writing; likewise they require writing consistently aims to foster their cognitive abilities.

When learners were asked to evaluate their writing' level. (56.90%) of learners rated them as "good", and (32.76%) as "average", suggesting moderate confidence in their abilities. CT and writing are intrinsically linked and mutually reinforced in EFL classrooms. The hypothesis that mentioned the positive correlation between CT and EFL writing skills was strongly confirmed.

### **Question Two : Metacognition as a Strategy for Writing Development**

The second question examined the role of metacognition in enhancing CT and writing. The results demonstrated that only (3.45%) of learners explicitly identified metacognition as a

strategy, indicating limited understanding to its valuable role in self-regulation and cognitive development. Therefore, this unconsciousness results in the destruction of awareness of CT capabilities. In addition, more than half of the learners (55.17%) reported using techniques like brainstorming, summarizing, and mind mapping, suggesting that while learners may not recognize metacognition formally, they employ related strategies intuitively.

Relying on teachers' perspectives about metacognition, the findings highlighted that metacognition promotes self-awareness, analytical thinking, and problem-solving. Because deep thinking reflects meaningful ideas.

Furthermore, by applying metacognitive techniques as self-questioning, revision, peer review and self-recognition leads to their consistent exposure in classroom tasks, EFL learners can significantly enrich their knowledge and gain deeper understanding across various topics, enhancing their ability to write worthwhile written content.

Despite low explicit awareness, metacognitive strategies are valuable for fostering CT and writing skills. Systematic instruction in metacognition is needed to maximize its benefits. The effectiveness of metacognitive strategies received partial confirmation that confirms the hypothesis.

### **Question Three: Challenges in Applying Critical Thinking**

The third research question investigated difficulties EFL learners face when applying CT in writing. The results showed that learners face linguistic barriers including grammar (15.52%), vocabulary (12.07%), and spelling (12.07%) as the main barriers to applying CT in writing. Additionally, learners struggle with the cognitive and affective issues such as lack of knowledge, terminology, and creativity, as well as fear of judgement or making mistakes. Teachers added that cultural diversity influences reasoning styles, further complicating CT application.

Moreover, the fear of making mistakes and of being judged through peer and teacher feedback is one of the common challenges were mentioned by EFL learners and teachers in their responses. Overly critical feedback focused on errors, rather than fostering reasoning, was mentioned as demotivating and detrimental to analytical engagement.

The researchers conclude that linguistic limitations, knowledge gaps, and affective factors are significant barriers to applying CT in EFL writing. EFL classroom environments need to address these challenges. The Challenges to CT application were found that the hypothesis was validated.

#### **Question Four: Impact of Technology on Writing and Critical Thinking**

This research question searched to discover technology's role in enhancing writing and CT. Based on learners' response, the majority of them acknowledged the positive role of technology in fostering both CT and writing abilities. Most notably, (81.03%) agreed that technology aids CT, and (79.31%) noted its benefits for writing tasks; such as improving grammar, spelling, and motivation.

These outcomes align with current research suggesting that digital tools can help in enhancing higher-order thinking when used purposefully, and of course leading to the improvement of the writing skills.

However, some learners (24.14%) warned against dependency on technology for quick answers, while others (15.52%) noted it hinder deep engagement.

Whereas teachers provided more accurate and justified perspectives, one teacher only proved technology positively as it widely can support learners by providing valuable resources that enhance their writing skills. However, an over-reliance on technology can lead to negative consequences, potentially hindering overall learning, CT development and absolutely writing skills too.

To conclude, technology is a valuable tool for supporting CT and writing but it must be used critically to avoid dependency or superficial learning. The hypothesis of the technology's impact was confirmed to be both positive and negative.

### **Discussion of the Findings in Relation to Previous Studies**

Even though learners who took part in this study claimed to be unfamiliar with the CT concept, they agreed that CT improves their writing skills by using different strategies. This explains their awareness of its significance in developing their writing proficiency. In addition, when teachers were asked about the relationship between CT and writing, they adopted the interrelated link between both of them. This leads to the foundation of the role of CT in enhancing EFL learners' writing skills through improving their writing abilities by assisting them to construct effective arguments and produce well-structured compositions, thus EFL learners' writing skills remain in permanent growth. Equivalently to what Benjerid (2022) discussed in her article titled *"The Role of Critical Thinking in Improving English as a Foreign Language Students' Academic Writing Skills"* that it assist them construct adequate reasoning, particularly in argumentative genre of writing. In addition, the author clarifies that every teachers believe that CT as a significant portion for learners' writing composition. The above findings collectively confirm that CT plays a substantial role in enhancing EFL learners' writing competency.

Regarding metacognition, the study revealed that the strategy is not sufficiently valuable by EFL learners due to their lack of awareness of their recognition. Whereas, teachers' attitudes prove that metacognition is one of the most effective strategies that can be implemented in CT for enhancing learners' writing skills, by raising their awareness of metacognition so that they learn to think from different angles and rethink about their thinking.

These findings are closely identical with what Rivas SF, Saiz C, and Ossa C. (2022) asserted that reflecting about thoughts can inherently raise CT production. Awareness of how learners approach problem solving and decision-making help them perform better.

The results show that they deduced that metacognition improves individuals' ability to reflect on their thought processes and outcomes, as it helps in decision-making and evaluating effective problem-solving strategies. Additionally, in (2018) a dissertation study by Jaramillo Astudillo demonstrated that learners' awareness can be increased in their written production through metacognitive strategies, aligning with the results of this study. Collectively, these findings underscore the effectiveness of metacognition as a valuable tool for improving EFL learners' writing outcomes.

This study also explores the challenges EFL learners encounter when applying CT. According to responses from both learners and teachers, the research identified several critical barriers that hinder EFL learners' CT development. Including unfamiliarity of CT, difficulties in applying CT as a process, imitation, also the cognitive and affective issues such as lack of knowledge, terminology, and creativity, as well as fear of judgement or making mistakes because of the lack of confidence.

In parallel, Tahira and Haider (2019) argued almost the same findings in their article; insufficient subject knowledge, lack of confidence, cultural differences in constructs of knowledge, linguistics barriers and other challenges that were found after examining learners' CT, and added more challenges.

Besides, Wekwete and Higgs (2024) determined other common problems addressing conceptualization of CT, capability, cultural beliefs, belief systems, classroom atmosphere that included lack of motivation, teachers' controlled.

Furthermore, Samanhudi and Linse (2019) in their article highlighted other common barriers involving the difficulty to write with plain thoughts and to write in English as a foreign

language, knowledge deficiency and the difficulties to produce structured ideas. This aligns with the researchers' assertions that teachers and peer feedback can influence learners' CT by instilling a fear of being judged for making mistakes. Moreover, the article revealed one of most focal issue is that the lack of awareness in engaging with CT in writing which powerfully reinforces the study's findings, suggesting that a lack of familiarity with CT leads to learners' unawareness of its importance.

Lastly, the research work sought to examine the effect of technology on EFL learners' CT and inherently writing. The outcomes showed that technology exerts both positive and negative effects therefore; it must be applied critically to minimize the negative effects while maximizing the positive ones. Other previous studies had another terms, Edwards (2016) through classroom observation claimed that the ability of learners to enhance their deep reasoning skills could be the teachers' role in effectively using technology. What is more, he found that some learners agree that the utility of technology was insignificant. Finally, the previous investigation findings are inconsistent with the results of our research work because the author believes that technology did not necessarily improve learners' higher order thinking skills. However, he powerfully insist on the teachers' centered role and sufficient efficiency to enhance learners' CT skills using technology.

A study by Arabloo, Hemmati, Rouhi, and Khodabandeh (2022) highlighted the benefits of technology integration in CT, which contrasts with this research findings. Their research suggested that structured technology-assisted project-based learning could highly useful for millennial EFL learners.

Finally, Kerma (2025) acknowledged the advantages of artificial intelligence (AI) in education, but emphasized its potential drawbacks on learners' engagement and cognitive growth. His study examined the adverse effects of AI on EFL learners' CT, addressing challenges such as over-reliance on technology, deep learning reduction, declining creativity

and innovation, and risks of academic dishonesty. This study opposes our findings that explored the impact of technology on EFL learners' CT in both positive and negative effects.

In Conclusion, after the above previous studies and their different findings, our research work reached to both impacts of technology on EFL learners' CT and definitely writing, this provides new insights for further studies.

### **Pedagogical Implications**

Based on the findings of the study, the following pedagogical implications are recommended to enhance learners' outcomes:

- Teachers should prioritize enhancing a supportive, interactive and comfortable classroom environment to encourage learners by collaboration, motivational, and more enjoyable tasks.
- Instructors should integrate more CT tasks in lectures to help learners improve their thinking and writing capabilities.
- Educators should raise learners' awareness regarding metacognition and Bloom's Taxonomy strategies to empower learners' deep thinking.
- Teachers should be more conscious of learners' experienced challenges and find suitable solutions for them to demolish the main barriers learners face.
- CT should be applied consistently in classroom activities to minimize the amount of challenges EFL learners encounter.
- Including real-world topics must be a highlighted point that teachers should take into consideration as a way to provoke learners' CT.
- Teachers ought to use technological tools wisely in incorporating CT in writing exercises.

## **Recommendations and Suggestions for Further Studies**

To raise learners' CT in the teaching-learning process, the researchers recommend some tips for EFL teachers, learners, Ministry of Education, and for further studies.

### **Recommendations to the Teachers**

- ❖ Teachers should prioritize CT application as an effective tool to enhance EFL learners' writing skills.
- ❖ Instructors should consider the relationship between CT and writing in teaching.
- ❖ Teachers have better to train learners in using CT strategies such as metacognitive techniques and Bloom's Taxonomy.
- ❖ Educators should focus on learners' deep thinking over direct feedback to demolish their fear of being judged and making mistakes.
- ❖ Teachers should be motivators rather than controllers so that they provoke learners' CT effectively in writing tasks.
- ❖ Teachers should incorporate digital tools to support learners in using them in writing without over-relying on them that hinders their CT.
- ❖ Teachers should offer targeted help for the linguistic knowledge to reduce language-related problems.
- ❖ Fostering questioning among learners to improve their CT and writing.

### **Recommendations to the Learners**

- Learners should be aware of the significance of CT in enhancing their writing proficiency.
- Learners should value the different CT strategies that develop their writing.
- Learners should get rid of their psychological problems to focus more on their engagement.
- Learners should use technology wisely during the process of producing a written piece.

- Engaging in collaborative discussions with peers to exchange the different perspectives.
- Learners should not concentrate on errors but the overall coherence because mistakes are part of the learning process.

### **Suggestions for the Ministry of Education**

To elevate academic performance, especially in writing skills, the Ministry of Education should reconsider the teaching methods used to align with the current conditions, and to consider learners' problems through learning in the Algerian classrooms.

- Update the teaching strategies to suit the modern world achievements.
- Integrate CT in the curricula of teaching writing.
- Support universities with authentic materials for better achievements.
- Train teachers to teach CT while teaching writing.

### **Suggestions for Further Studies**

- The research work suggests undertaking "Triangulation " method to evaluate the participants' comprehension of the CT abilities.
- Investigate solutions for learners' encountered challenges.
- Investigate the effects of the most used topics in EFL writing that are controlled by teachers on learners' CT.
- The Effect of Group Size on EFL Learners' argumentative Written Compositions.
- Explore how can AI assisted writing tools enhance learners' CT without encouraging over-relying on them.

## **Conclusion**

In conclusion, this chapter summarizes the research work that was done through discussing the findings on the correlation between CT and EFL learners writing skills, revealing that although the learners' awareness of CT's importance, they still lack familiarity

and training in its application. Moreover, metacognition is a very effective strategy in enhancing writing but it is underutilized because of the learners' low awareness. Then, this research presents the challenges learners encounter in enhancing their writing that are; linguistic barriers, affective factors, and technological dependency. The findings answer the research questions and validate the hypotheses of this research. Besides, it discussed the research findings in relation to previous studies under to the same topic, and the pedagogical implications of the study. Lastly, it proposes some recommendations for teachers, learners, and the Ministry of Education, along with some suggestions for further studies to develop the writing's teaching programs using CT.

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## **Appendices**

## Appendices

### Appendix A

#### Questionnaire

**Dear Learners,**

This questionnaire aims to gather information about critical thinking and its importance in improving writing skills. Furthermore, it aims to collect various data about how technology affects critical thinking process. Your feedback is valuable for us; please answer the following questions honestly, by ticking the correct answers and providing a full response to the given questions. Your participation is highly appreciated. Rest assured that the information you provide would be used solely for academic purposes and will be treated with confidentiality.

#### **Section A: Learners' Background. (Tick the appropriate answer)**

**1. Gender**

Male

☐

Female

☐

**2. Age**

19 o 20

☐

20 to 23

☐

23 or More

☐

#### **Section B: Critical Thinking and Writing Skills**

**1. How familiar are you with critical thinking?**

☐ Very Familiar

☐ Somewhat Familiar

☐ Not Familiar

**2. Have you been taught critical thinking in classroom?**

☐ Frequently

☐ Occasionally

☐ Rarely

☐ Never

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3. Among these definitions, how do you define critical thinking? (Tick the appropriate definition, you can choose more than one)

☐ The intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation experience, reflection, reasoning or communication as a guide to belief and action.

☐ Critical thinking as any mental activity that helps formulate or solve problem, make a decision, or fulfill a desire to understand. It is searching for answers while reaching for meaning.

☐ Critical thinking as a system of individual's self –control of thinking in various scope of thoughts.

☐ All of them

➤ You can add your definition

.....

.....

.....

4. How would you evaluate your writing skills regarding level and effectiveness?

☐ Excellent

☐ Good

☐ Average

☐ Poor

☐ No sure

5. Do you believe critical thinking affect your writing?

☐ Yes

☐ No

☐ Unsure

6. Regarding your perspective, choose the appropriate option that identifies the correlation between critical thinking and writing skills.

☐ Critical thinking and writing skill are an integral framework under ultimate goals ‘Successful learning process’.

☐ A successful final piece of writing merely is the result of earning a higher-quality of critical thinking skills.

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☐ Critical thinking along with writing skill are the key path of fostering flexibility of thinking which itself considered the most fugitive aspect of creativity

☐ All options

7. On a scale of 1-5, how impactful do you think critical thinking could be in enhancing your writing?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

8. Select the most appropriate strategy that you believe, it helps in improving your writing product. (You can choose more than one)

☐ Metacognition

☐ Note-Taking

☐ Mind-mapping

☐ Summarizing

☐ Brainstorming

If there are 'others' please suggest

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

9. Among these definitions, which one is the closest to the concept of Metacognition?

☐ Metacognition as an individual's self-awareness and self-regulation of using cognitive outputs they generate.

☐ By taking control of their own learning process students develop self-direction skills and make informed decisions about how to approach and solve educational problems.

☐ Metacognition strategy holds two major components, 'knowledge of cognition and regulation of cognition are interrelated.

☐ All of them

10. In what way do you believe critical thinking is essential in Writing? (Please select the most appropriate option)

☐ Critical thinking is the most suitable technique for motivating EFL learners to engage in writing activity thus their writing ability will be developed

☐ Critical thinking skill provides EFL learners regular direction in their writing products, consequently EFL learners' writing skills remains in permanent growth.

## Appendices

☐ Thinking skills have a contribution in increasing EFL learner's creativity and effectiveness in their writing piece through collecting diverse information with their backgrounds knowledge of the topic

☐ The higher level of thinking helps learners to acquire complexity which refers to the ability to create content about whatever topic in any field without difficulties.

You can add further options if there are

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**11. What challenges do you face when trying to apply critical thinking skills to your writing in English?**

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**12. Select the most effective solution that can be applied to solve those challenges.**

☐ Relying on backgrounds knowledge

☐ Applying one of the mentioned strategies

☐ Using digital tools (Technology)

You can add further assumptions if you have:

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### **Section C: Technology and Its Impact**

**13. Do you agree that technology can be used as a tool to think critically?**

☐ Yes

☐ No

**14. Do you believe that ‘Technology’ can assist you to be critical thinker?**

☐ Absolutely agree

☐ Almost agree

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- ☐ Somewhat agree
- ☐ Disagree
- ☐ Strongly disagree

15. In your perspective, how do you evaluate the impact of technology on critical thinking tasks?

- ☐ Positive impact
- ☐ Negative impact

16. Depending on your previous answer (question 15), select the appropriate advantages of technology, you can choose more than one option).

- ☐ Technology is very useful in enhancing students' encouragement in writing skills.
- ☐ It is helpful for improving grammar and spelling, checking plagiarism and citations.
- ☐ It can enhance learners' critical thinking by promoting them to analyze, evaluate, and reflect.
- ☐ Digital tools foster learner autonomy and improving writing fluency by giving students opportunities to draft, edit, and publish their work in meaningful contexts.

17. Could you identify the disadvantages of technology from the given options? (You can select more than one choice)

- ☐ The over-reliance on automated tools, such as grammar and translation software, which may limit deeper cognitive engagement
- ☐ Learners using technology primarily for quick answers or copying content
- ☐ Using technology for EFL learners is the increased risk of plagiarism, which can hinder the development of their critical thinking skills.
- ☐ All of them

18. How do you think teachers' use of technology affect EFL learners' writing and critical thinking skills?

- ☐ It saves learners' writings which enables them to evaluate their progress over time
- ☐ It motivates learners to try different types of writing

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☐ Teachers help young writers to grow from a simple consumer of new media tools to talented creators

☐ It creates new opportunities for learners to learn more and expand their cognitive abilities

☐ All of the above

19. In a situation of critical thinking's task, how frequently do you depend on technology tools (chatgpt, Google sites, online resources...)

☐ Totally

☐ Sometimes

☐ Rarely

☐ Never

**Please justify your response:**

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**Thank you for your valuable participation.**

## Appendices

### Appendix B

#### Teachers' Interview

Dear Teachers,

Above all, the researchers are so grateful in advance and we really appreciate your consideration and participation. We are actually conducting a research about EFL teachers' valuable perspectives towards the role of critical thinking in enhancing EFL learners' writing skills. This interview is an important part of Master degree dissertation. Therefore, we need some of your indispensable time to accomplish this interview. Your esteemed insights would be highly valued by our research team and we would inform you that the information you provide would be anonymous just for academic goals.

*May you please answer the following questions?*

1. How many years of experience do you have in teaching writing?

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2. Do you think teaching critical thinking should be a priority in EFL writing courses?

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3. Do you consider that EFL (English as a Foreign Language) learners are aware of the importance of critical thinking in the learning process?

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4. Do you agree that critical thinking and writing skills create a well-structured combination? In what way?

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## Appendices

**5. What strategies do you use to develop critical thinking in your writing classes?**

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**6. Do you agree that «metacognition is the most effective strategy that can be implemented in critical thinking for enhancing learners' writing skills»? Explain.**

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**7. In your experience, how does critical thinking influence learners' writing skills?**

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**8. What are some common challenges EFL learners face when trying to apply critical thinking in writing?**

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**9. What techniques have you found helpful in overcoming these challenges?**

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**10. In your opinion, what are the possible suggestions and recommendations that can be considered to boost EFL learners' critical thinking in EFL classrooms?**

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## **Appendices**

**11. How do you think technology or ICT tools affect learners' critical thinking? Please explain.**

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**Thank you for your invaluable cooperation.**