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# Investigating the Effectiveness of Direct Cognitive Strategy Instruction in Improving Students' Writing Skills

The case of second year licence students of English at Kasdi  
Merbah university of Ouargla

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## **Dedication**

This study is dedicated to:

My dear parents: Laid and Rokaia for their endless love, support and encouragement.

My brothers: Adnan, Yahya and my beautiful sister: Nour El Yakine. May Allah bless them

My dear family, friends and all who love me

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Finally, I would thank all the teachers and the students who participated in this work for their cooperation which helped me in carrying out this research.

### **Abstract**

The present study aims at investigating the effectiveness of direct cognitive strategy instruction in improving the students' writing skills. To answer the research question and to test the hypothesis an exploratory study was conducted for this research. The researcher used two research tools: A questionnaire was administered to 10 written expression teachers and A quasi-experimental study (pre-test, treatment phase, post-test) for second year license students at the Department of Letters and English at the University "Kasdi Merbah", Ouargla. Between the two tests there was an instructional phase with the aim of teaching students the writing strategies through the use of direct cognitive strategy instruction. The results confirmed the significance and the positive impact of this instruction on the students' writing skills. Based on the findings, we conclude that the writing performance of the experimental group participants' is highly improved compared to the control group.

**Key words: cognition, writing skill, direct cognitive strategy instruction, English as a foreign language**

## **List of Abbreviations**

**CSI:** Cognitive Strategy Instruction

**DCSI:** Direct Cognitive Strategy Instruction

**DCSIW:** Direct Cognitive Strategy Instruction In Writing

**EFL:** English As a Foreign Language

**FL:** Foreign Language

**SL:** Second Language

### List of Table

TABLE .1: STAGES OF CSI.....	24
TABLE 2.1: TEACHING ENGLISH EXPERIENCE.....	30
TABLE 2.2: TEACHERS’ SPECIALTY .....	30
TABLE 2.3: TEACHERS’ EXPERIENCE IN TEACHING WRITTEN EXPRESSION .....	31
TABLE 2.4:THE MOST DIFFICULT SKILL TO TEACH .....	31
TABLE 2.5: STUDENTS’ WEAKNESSES IN WRITING .....	32
TABLE 2.6: STUDENTS ‘STRENGTHS IN WRITING.....	32
TABLE 2.7: WAYS TO IMPROVE STUDENTS WRITING SKILL. ....	33
TABLE 2.8: APPROACHES THAT TEACHERS USE IN TEACHING WRITING.....	34
TABLE 2.9: THE MOST ESSENTIAL ELEMENTS IN WRITING .....	34
TABLE 2.10: THE MOST SUCCESSFUL LEARNERS .....	35
TABLE 2.11: THE IMPORTANCE OF USING COGNITIVE PROCESSES.....	35
TABLE 2.12. TEACHERS ATTITUDES TOWARDS THE STUDENTS’ USE OF THE COGNITIVE STEPS. ....	36
TABLE 2.13. TEACHERS OPINIONS ABOUT THE IMPORTANCE OF DCSI.....	36
TABLE 2.14: TEACHERS’ ENCOURAGEMENT IN USING MIND MAPPING .....	37
TABLE 2.15. THE SIGNIFICANCE OF MIND MAPPING TECHNIQUE.....	37
TABLE 3: STUDENTS’ SCORES IN THE PRETEST AND POST TEST.....	43

**LIST OF FIGURES**

FIGURE1: COMPONENTS OF WRITING (ADAPTED FROM RAIMES, 1983, P. 6).....	7
FIGURE2: THE 3 STEPS PROCEDURE IN THE PRODUCT APPROACH (WHITE 1988, P.5).....	9
FIGURE3: A MODEL OF THE WRITING PROCESS (WHITE AND ARNDT 1996, P. 43). ....	10
FIGURE4: OXFORD’S CATEGORIZATION OF LANGUAGE LEARNING STRATEGIES (1990, P.17) .....	21
FIGURE5: BASIC STRUCTURE OF MIND MAP ( <a href="https://citolkit.com/articles/mind-mapping/">HTTPS://CITOLKIT.COM/ARTICLES/MIND-MAPPING/</a> ) .....	26
FIGURE 6: COMPARE MEANS: INDEPENDENT SAMPLE T TEST .....	42
FIGURE 7: DEFINE GROUPS (CONTROL / EXPERIMENTAL) .....	42

**Content**

<b>Dedication.....</b>	<b>I</b>
<b>Acknowledgments.....</b>	<b>II</b>
<b>Abstract .....</b>	<b>III</b>
<b>List of Abbreviations.....</b>	<b>IV</b>
<b>List of Tables.....</b>	<b>V</b>
<b>List of figures .....</b>	<b>V</b>
<b>Content .....</b>	<b>VII</b>
<b>General Introduction.....</b>	<b>2</b>
<b>1.Statement of The Problem .....</b>	<b>2</b>
<b>2.Aims of The Study.....</b>	<b>2</b>
<b>3.The research Question and Hypothesis .....</b>	<b>2</b>
<b>4.The Research Means.....</b>	<b>3</b>
<b>5.The Structure of The Study .....</b>	<b>3</b>
<b>Chapter One : Writing Skill</b>	
Introduction.....	5
1.1.Definition of Writing .....	5
1.2.Components of Writing .....	6
1.3.Writing Theories .....	8
1.4.Approaches to Teaching Writing .....	9
1.4.1. The Product Approach .....	9
1.4.2. The Process Approach.....	10
1.4.2.1 The Writing Stages.....	11
1.4.2.1.1. Pre Writing .....	11
1.4.2.1.2. Writing .....	11
1.4.2.1.3. Re Writing.....	11
1.4.3. The Genre Approach .....	11



1.4.4. The strategy approach .....	12
1.5. Relationship Between Writing and Other Skills .....	12
1.6. Importance of Writing .....	13
1.7. Writing Difficulties .....	13
1.8. Assessment.....	14
1.8.1. Definition of Assessment .....	14
1.8.2.1. The Holistic Scale .....	14
1.8.2.2. The Analytic Scale .....	15
1.8.2.3. The Primary Trait Scale .....	15
Conclusion .....	<b>15</b>

## **Chapter Two : Direct Cognitive Strategy Instruction**

Introduction.....	18
2.1. Definition of Language Learning Strategies.....	18
2.2.Categorazation of Language Learning Strategies .....	18
2.2.1. Rubin Categorization (1981).....	19
2.2.1.1. Learning Strategies.....	19
2.2.1.2. Communication Strategies .....	19
2.2.1.3. Social Strategies .....	19
2.2.2. O'Malley and Chamot Categorization (1990) .....	<b>19</b>
2.2.2.1.Cognitive Strategies .....	20
2.2.2.2. Metacognitive Strategies .....	20
2.2.2.3. Social / Affective Strategies .....	20
2.2.3. Oxford Categorization (1990).....	20
2.2.3.1. Direct strategies.....	20
2.2.3.2. Indirect strategies .....	21
2.3 . Types of Cognitive Writing Process .....	22
2.4. Cognitive Strategy Instruction .....	22

2.4.1.The Process of Cognitive Strategy Instruction.....	23
2.4.2. Cognitive Strategy Instruction in Writing.....	24
2.4.3.Mind Mapping Technique as an Instance of Cognitive Strategy Instruction .....	25
2.4.3.1. Definition of Mind Mapping.....	25
2.4.3.2. Steps of Mind Mapping.....	26
2.4.3.3. The Significance of Mind Mapping .....	26
Conclusion .....	26

### **Chapter Three : Data analysis and Interpretation**

Introduction.....	29
3.1.The Teachers' Questionnaire .....	29
3.1.1.Description of the Teachers' Questionnaire.....	29
3.1.2.Analysis and Interpretation of the Results of the Teachers' Questionnaire.....	30
3.1.3.Overall Analysis of the Results of Teachers' Questionnaire .....	38
3.2.The quasi-experimental study .....	39
3.2.1. Description of the Tests.....	39
3.2.1.1.Pre-Test & Post-Test.....	39
3.2.1.2.Control group &Experimental group .....	39
3.2.2.The Treatment ( the use of DCSI in writing ) .....	39
3.2.3.Statistical Analysis and Interpretation of the Tests' Results.....	42
3.2.4.Overall Analysis of the Tests' Results .....	46
General conclusion .....	46
Limitations of the study and suggestions for further Research.....	46

### **List of references**

### **Appendices**

### **Résumé**

### **ملخص**

**General Introduction**

<b>1.Statement of The Problem .....</b>	<b>2</b>
<b>2.Aims of The Study.....</b>	<b>2</b>
<b>3.The research Question and Hypothesis .....</b>	<b>2</b>
<b>4.The Research Means.....</b>	<b>3</b>
<b>5.The Structure of The Study .....</b>	<b>3</b>

## **General Introduction**

### **1. Statement of the Problem**

Nowadays, being an expert writer is necessary for second language education. Thus, writing skill is considered essential for EFL students. Nevertheless, producing a well-written piece is a challenging task. In language learning process, writing is usually considered difficult by many students due to a lack of knowledge on how to develop content and to organize the text. In the Algerian context, there are some issues with how writing instruction is addressed. Specifically, in English department, students in various exams have to demonstrate their command over English through writing, but we have observed that this skill is usually neglected.

Through my personal experience, as I was a second year student, it seemed that I was struggling to express myself in a written form. Moreover, my classmates had difficulties in grammar and diction. They were confused in determining the correct grammar, and the right words to be used in constructing sentences. Learners are lost because they lack vocabulary knowledge which would hinder them from putting their ideas together in a written piece.

### **2. Aims of the Study**

English language learners who are explicitly taught effective writing strategies, and motivated to assess as well as monitor their performance in writing will be able to become competent writers. This research aims to investigate the effectiveness of direct cognitive strategy instruction in improving students' writing skill as well as to examine the significance of this instruction in reducing the students' setbacks in writing for academic success. This experimental study is conducted to explore how the cognitive processes can affect the student's writing skill, and to provide evidence to the most effective practice or the combination of processes that help students to develop their performance and become more skilled in writing.

### **3. The research Question and Hypothesis**

The present study attempts to answer the following question:

- To what extent does direct cognitive strategy instruction affect students' writing improvement?

In the light of the previous research question we put forward the following hypothesis:

- If teachers employ direct cognitive strategy instruction this would develop learners' skills in writing

#### **4. The Research Means**

To answer the research question and to fulfill the research objectives, a mixed method approach was employed in this study. By using two research tools which are: a teachers' questionnaire and a students' test. The teachers' questionnaire aims at gathering information about their attitudes towards the students' writing issues and the use of direct cognitive strategy instruction. The students' test is designed to explore the learners' use of the writing strategies.

#### **5. The Structure of the Study**

The dissertation is divided into two parts: a theoretical and a practical one. The first two chapters are theoretical and the third one is practical. The first chapter "writing skill" is attempted to provide general definition of writing, its components, writing theories, approaches to teaching writing, writing and other skills, the importance of writing, writing difficulties. Besides, this chapter presents writing assessment and its rating scales. The second chapter "direct cognitive strategy instruction" sheds some lights on language learning strategies and their categorizations (Rubin (1981), O'Malley and Chamot (1990), and Oxford (1990)). In addition, it introduces cognitive strategy instruction, its process and its uses in writing. These are followed by an overview on mind mapping, its steps and its significance in writing. The third chapter "data analysis and interpretation" provides a description of the research methodology, the participants, the research means and the research procedures. It explains the data analysis and presents the interpretation of the obtained data. Within this part, a general conclusion, some limitations and suggestion for future research are highlighted.

## **Chapter One : Writing Skill**

Introduction.....	5
1.1.Definition of Writing .....	5
1.2.Components of Writing .....	6
1.3.Writing Theories .....	8
1.4.Approaches to Teaching Writing .....	9
1.4.1. The Product Approach .....	9
1.4.2. The Process Approach.....	10
1.4.2.1 The Writing Stages.....	11
1.4.2.1.1. Pre Writing .....	11
1.4.2.1.2. Writing .....	11
1.4.2.1.3. Re Writing.....	11
1.4.3. The Genre Approach .....	11
1.4.4. The strategy approach .....	12
1.5. Relationship Between Writing and Other Skills.....	12
1.6. Importance of Writing .....	13
1.7. Writing Difficulties.....	13
1.8. Assessment.....	14
1.8.1. Definition of Assessment .....	14
1.8.2.1. The Holistic Scale .....	14
1.8.2.2. The Analytic Scale .....	15
1.8.2.3. The Primary Trait Scale .....	15
Conclusion .....	15

## **Introduction**

To become competent in English language, learners need to learn all four language skills: writing, listening, reading, and speaking. According to (Daud & Kasim, 2007), writing is a demanding skill, especially for second language / foreign language learners. Each of these skills is essential but in this study, the researcher focused on writing skill. Writing is usually considered as the most demanding and complex of the four language skills; hence, this skill requires significant effort and continuous practice from the learners to be developed.

This chapter is an overview of the writing skill; it includes its definition and its different components. The chapter sheds light into writing theories and approaches to teaching writing such as the product approach, the process approach with its three stages, the genre approach, and the strategy approach. Additionally, the relationship between writing and other skills, such as reading and listening was addressed. Furthermore, the chapter presents the importance of writing and its difficulties. These are followed by an overview of writing assessment and the different types of scales which are the holistic scale, analytic scale, and the primary trait scale.

### **1.1. Definition of Writing**

The definition of writing has developed through time and has described in different ways. The earliest definitions were about the use of graphical symbols to represent spoken language. According to Bloomfield (Cited in Crystal, 1995, p.178), “Writing is not language, but merely a way of recording language by means of visible marks”. Widdowson (2001) explained that “Writing is the use of visual medium to manifest the graphological and grammatical system of the language” (p.26). In the same way, Crystal (2006) stated that writing is a tool of communication, in which individuals use visual marks made on a surface. It is considered as a graphic representation. Supporting the same idea, Byrne (1991) agreed that writing is the ability to form visual symbols on a surface of some kind. As a result, all these researchers agree on the idea that writing is an important tool, in which we convey our ideas and thoughts through the use of visual symbols.

Moreover, the process of writing has developed over time, in which the definition of writing goes beyond the use of visual symbols to express ideas. Thus, this symbols need to

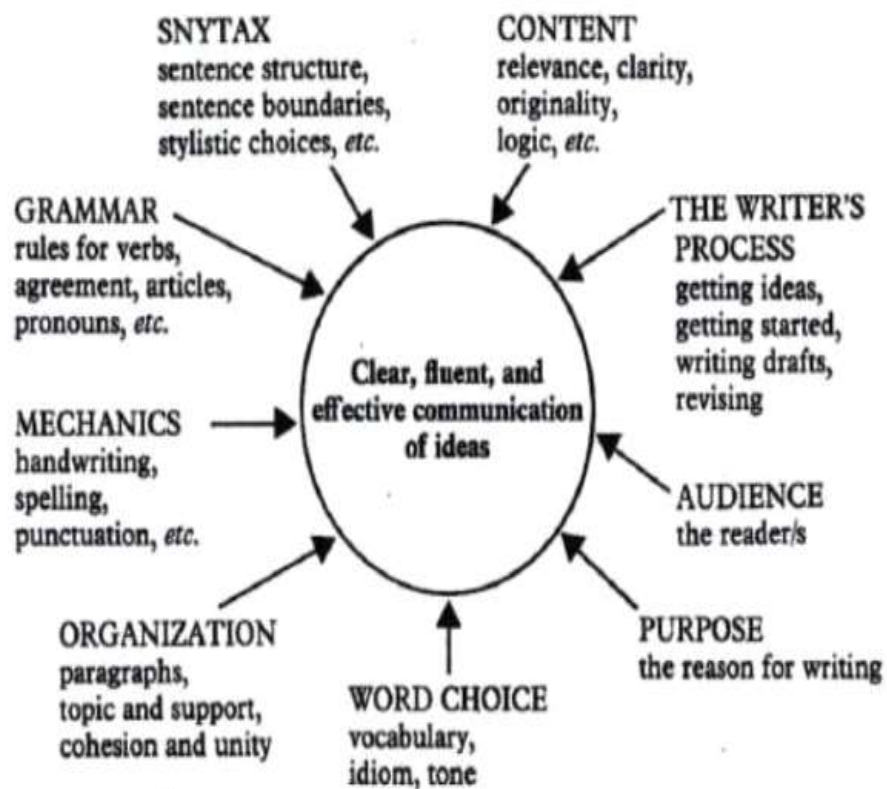
be structured and organized by using specific rules and conventions to form words, sentences, and then a written piece that effectively express writers' ideas and thoughts. According to Hyland (2003, p.12) writing is "marks on page or screen, a coherent arrangement of words, clauses, and sentences, structured according to a system of rules". Moreover, Byrne (1979) explained that writing is more than using graphic symbols, as speaking is more than sound production. Recent studies showed that writers started to focus on the writing process, rather than considering writing as graphic symbols representation. As Lado (1983) pointed out that writing in a foreign language requires being able to use the structures, the lexical elements, and their conventional representation in writing. In the same way, White and Arndt (1991) described that writing is not simply a matter of translating language into written symbols; it is an act of thinking, which requires conscious intellectual effort to be continued over a long period of time. Therefore, learners have to frequently practice and do writing tasks in order to develop their writing performance. For Turk and Kirman (1989), writing is not natural ability, this skill comes with enough practice and learning.

From the presented definitions, writing is the process of using visual symbols and graphic marks to express individuals ideas and emotions in a comprehensive written piece. This symbols have to be structured according to specific rules and conventions in order to form words and sentences that writers used to create a meaningful text. Furthermore, writing is not inborn talent, in which individual should develop their writing process through continuous practice. This leads them to improve their writing ability. In this regard, Vygotsky (1962) explained that there is a difference between writing and speaking in both the structure and mode of function. However, writing development requires a high degree of obstruction and hard work.

## **1.2. Components of Writing**

Writing is a complex task which requires from learners to use some language components in order to create a well-written piece. Heaton (1988) pointed out five kinds of components in writing which are: content, organization, grammar, vocabulary, and mechanical. In the same way, Raimes (1983) suggested the following components: syntax, content, the writers' process, audience, purpose, word choice, organization, mechanics, and grammar.





**Figure1: Components of Writing (adapted from Raimes, 1983, p. 6)**

Content is one of the important components in writing; thus, learners have to write a clear text that includes enough information to help their readers to understand their message. It also refers to the logical connection of the ideas in a written piece. According to Scarry and Scarry (2014), learners should be aware of the method they will use in writing their content.

Organization in writing is concerned with the text structure in which the writers' ideas are presented. It is important, as it provides readers with the information they need. That's why, learners should produce a well-organized written piece to express their ideas in an order way. For Starkey (2004), he highlighted the importance of using organized method in writing because it helps the writers to guide their readers in the text.

Grammar is defined as the rules of language. It is important in writing, as it helps learners to produce a clear, correct, and comprehensive text. Based on Schmidt (1994), grammar is essential in second language learning because it helps students to achieve their academic goals. In the same vein, Frodesen and Holten (2003) highlighted the effectiveness of grammar in academic writing.

Vocabulary is important component in writing, as it helps students to produce meaningful texts. According to Hubbard (1983), writers should have vocabulary background in order to write well texts. In the same line, Duin and Graves (1987) stated that writers who have vocabulary knowledge are able to create a well written texts.

According to Raimes (1983), mechanics are important components in writing. They include the use of punctuation, capitalization, and spelling. Based on Seely (1998) punctuation refers to the learning of fixed rules and the use of norms in writing. In other words, writers should follow certain fixed rules when they use punctuation. Moreover, Graham, Harris & Loynachan (1996; as cited in Terjesm and Thieslking, 2017) explained that correct spelling is an essential element in writing. Therefore, learners need to be aware of how words are spelled. In addition, Murray and Hughes (2008) suggested that both punctuation and capitalization are important in writing, as they show sentence limits and pauses as well as they remove ambiguity. The use of punctuation and capitalization help readers to read and understand written text easily.

### **1.3. Writing Theories**

Recent studies showed that many researchers considered writing as a cognitive activity that related to the writer's thinking process. According to Baker (2006), researchers in the field of writing have developed two essential frameworks one of them was theoretical and the other one was conceptual in order to investigate how writing is used to create new knowledge and to contribute in human development. On the other hands, some researchers focused on writing skills, instead of considering writing as only a tool to create new knowledge. At the end of the 20 century, researchers started to explore writing in its different contexts beyond the school (Nystrand, p. 22). In addition, writing is considered as an output of the writer's mental process in the cognitive approach, Prior (2006) explained that writing is related to the social context and influenced by its communities. Furthermore, the development of writing frameworks are divided into four eras. Hayes and Flower's (1981) research on how to produce a text, they defined the process of writing as a series of stages which are pre writing, writing and re writing. Bereiter and Scardamalia's (1987) worked on two models which are "knowledge telling" and "knowledge transforming". In knowledge telling, the writer generates the necessary information, while in knowledge transforming the writer identifies a specific goal in order to achieve it through writing process. Levelt's (1994) research was about speaking, while Hayes and Kellogg (1996)

work was about text writing and memory(as cited in Leggette, Rutherford, Dunsford & Costello, 2015).

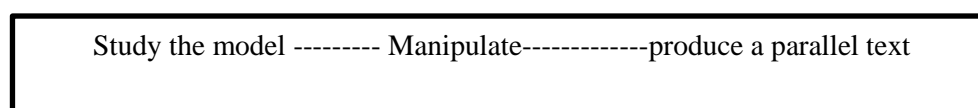
#### **1.4. Approaches to Teaching Writing**

In writing instruction, there are four main approaches that are commonly used: the product approach, the process approach, the genre approach and more recently the strategy approach.

##### **1.4.1. The Product Approach**

In the 1960s, the most used approach to teach writing was the product approach also called the text-based approach. For Nunan (1991), the product approach emphasized on the results in which the learner is supposed to use the language fluently. This means that the product approach focuses on the final product. Moreover, this approach is considered with imitating the teacher's model in order to master the linguistic elements. Students are usually provided with a model text to imitate it in order to produce another version. In the product approach, the role of the teacher is to guide students during the writing process. Moreover, Brown (2002) pointed out that the product approach in writing instruction emphasized on the organization of the text and the grammar accuracy. This implies that learners are expected to create a well-organized written piece that is grammatically correct, while they do not focus on the writing process. In the same way, White (1988) argued that the model text is considered as a starting point. First, the teacher analyzed and studied the text for its content, form, organization, and linguistic items. The obtained input is used as a basis for writing activities, in which students are required to write a text using their information. It indicates that the model text is analyzed in terms of grammar, structure, content, and sentence organization to the students, then they manipulate the aspects and the characteristics of the model text. Finally, they use the information that they have learned through the analysis and the manipulation of the model text to produce new texts.

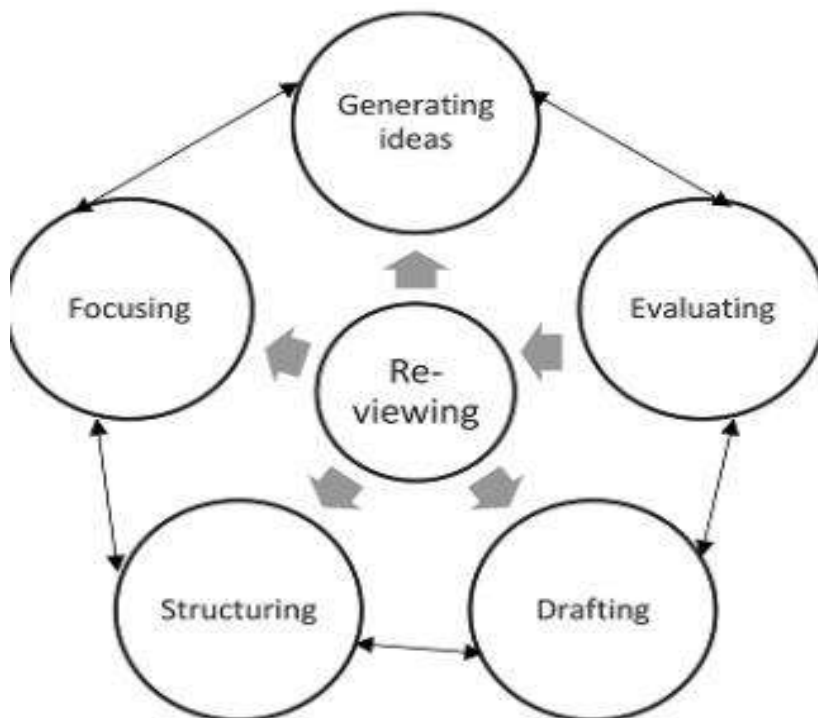
During the product approach, learners follow three steps which are:



**Figure2: The 3 Steps in The Product Approach (White 1988, p.5)**

### 1.4.2. The Process Approach

After 1960s, the way of second language writing instruction was changed, in which the focus shifted from texts to writers. Recent researches showed that teaching grammar did not necessarily develop student's writing skill (Braddock, Lloyd. Jones & Schoer, 1960, cited in Ken, 2000). Moreover, the researchers started to focus on the writing process itself, instead of analyzing and studying model, as they were influenced by cognitive psychology and constructivism fields. According to them, writing is a cognitive task that is produced by the writer. For Badger and White (2000) writing in the process approach is concerned with linguistic skills like planning and drafting with less focus on linguistic knowledge including grammar and organization. In the same way, Nunan (1989) agreed that writing is a complex task that involves not only the results, but all the writing steps. In addition, the process approach viewed writers as active thinkers who use a number of strategies to write a text. For White and Arndt (1996) the writing process is the most effective approach, because it encourages students to be aware of the writing stages to create a written text. Although, not all the writers employ all the stages of the writing process, White and Arndt's model highlighted the essential aspects of the process.



**Figure3: A Model of the Writing Process (White and Arndt 1996, p. 43).**

### **1.4.2.1 The Writing Stages**

There are three stages in the writing process: Pre- writing, Writing, and Re- writing.

#### **1.4.2.1.1. Pre Writing**

For Alodwan and Ibnian (2014), the pre-writing, also called the planning stage help students to get ready to produce a written piece. This means that in this stage, students generate and organize their ideas before starting to write their first draft through the use of brainstorming technique such as mind maps, or outline. Moreover, Pre-writing stage enables writers to generate their ideas to produce a well-organized written piece that helps readers to follow the writer's ideas easily. The purpose of this stage is to provide structure to guide the writers during the writing process in order to produce a well-organized text.

#### **1.4.2.1.2. Writing**

In this stage, the writer produces a text by taking the generated ideas from the pre-writing stage and transforming them into a written form. Katz (2006) explained that when you translate your outline into a written form, this will help you to see what you're doing. Moreover, in the writing stage, students write their first draft without worrying to make it perfect. This means that the writer in this stage puts down his /her ideas in a written form.

#### **1.4.2.1.3. Re Writing**

In this stage, writers review and edit their first draft in order to produce a well presented text; thus, no one can create a well written piece from the first time(Oshima and Hogue, 1990). Moreover, re-writing is a necessary stage that helps learners to check their use of grammar, spelling and punctuation in order to produce a well-organized and well-presented text.

### **1.4.3. The Genre Approach**

The genre approach emerged in the 1980s, as a reaction to the previous teaching approaches. This approach encourages students to study texts through specific genres before writing their own. In this approach teachers teach students specific genres that would help them in specific contexts (Nemouchi, 2008),with a focus on the language and discourse characteristics of these texts as well as their contexts. Moreover, the genre approach considered writing as a social practice that is determined by specific context, purpose, audience, and conventions of different genres. According to Hyland (2003), we

write to achieve some goals by using certain social conventions to organize our texts in order to help readers recognize our goal. The text could be a story, a request for an overdraft, love letter, and so on. Genres are the social ways of using language for a specific purpose. Hyland's definition of the genres provided that language occurs in a specific social context, in which it cannot be understood without its context. Overall, it is important to take into consideration the social context of the text as well as the readers when you write.

#### **1.4.4. The strategy approach**

According to Bos and Vaughen (1998), the strategy approach helps students to solve their problems using goal directed behavior (as cited in Adkins,2005). In this approach, students have to use a strategy. Then, the teacher teaches them how to use this strategy through modeling. After that, the teacher guides their students until they are able to use this strategy independently. The teacher gives feedback to students to motivate them to use this strategy without their help.

### **1.5. Relationship between Writing and Other Skills**

#### **Writing and speaking**

Both writing and speaking are productive skills that produce language outputs. Kress (1998) pointed out that writing and speaking are two skills that improve and complement each other. He argued that those who can write and speak are fundamentally different from those who can only speak (as cited in Tribble, p. 12). According to him, people who are competent in both forms of communication are more creative than others. Thus, developing both writing and speaking skills are necessary for learners to become more competent and successful in second language. Despite the fact that both writing and speaking are productive skills, there are many differences between them. According to Vygotsky (1962), a written piece differs from oral speech in both structure and function's mode. The process of writing differs from the process of speaking in several ways. Similarly, (O'Grady and Dobrovolsky & Katamba 1996) argued that "Speaking and writing are different in both origin and practice spoken language is acquired without specific formal instruction, whereas writing must be taught and learnt through deliberate effort". According to them, many people cannot write. Whereas spoken language comes naturally.

## **Writing and reading**

Nevertheless, writing was an active task and reading was a passive one. Recent research showed that both reading and writing need active skills. Furthermore, if writers know their readers, this would help them to develop their writing quality in order to create a successful written piece. Reid (1994) stated that both writers and readers use their life experiences, in which writers use their background knowledge to produce a text as well as readers use their background knowledge to understand what they are reading. In the same vein, White (1981) pointed out that writing requires from the learners to be able to read. Moreover, reading helps learners to learn new vocabularies, structure, and style which help them to improve their writing ability.

### **1.6. Importance of Writing**

Tribble (1997) highlighted the importance of writing skill, especially for students who want to be part of the international business and academic communities because many students want to improve their writing skill to become expert writers. Nowadays, being able to write is necessary for students, since it may influence their career opportunities and their future success. Based on Roy and Gordon (2012), your opportunities to get your dream job are often determined by your ability to produce a well written piece. In the same line, Tribble (1996) explained that writing helps individuals to become effective in an intellectual organization, in which they are able to manage their daily affairs and to express their ideas. This implies that the ability to write in an effective way is important in intellectual organization. In his turn, Suleiman (2000) explained that writing is an important tool in language; that's why, each language and reading program has to take into account the multidimensional nature of writing in instructional practices, evaluation procedures, and the development of language. Overall, learners should develop their writing skill in order to succeed in their academic life and their future careers.

### **1.7. Writing Difficulties**

Writing is important for individuals to express their thoughts and emotions to others. Alsamadani (2010) described writing as "a complex, challenging, and difficult process", in which writers have to produce a written piece that follows the rules of grammar and the use of right words in order to convey their intended meaning. In the same way, Nunan pointed out that writing a clear, coherent, and long written piece is considered to be the most challenging task (cited in Al-Mahrooqi 2014, p.95). For Hadifield (1992), there are three

areas of difficulty in writing. First, the writer cannot consult the reader because the reader is not present. Second, learners struggle with linguistic difficulties since the language they used in speech differs from the language they used in writing. The difficulty is more serious for EFL students who have no idea about discourse patterns in particular types of writing. The third one is cognitive which refers to the ability to arrange ideas on paper. In addition, Asmari (2013) found that students who have anxiety may not effectively prepare and set goals for writing. Learning effective planning techniques can help those students to improve their writing and reduce anxiety. Furthermore, students struggle with choosing the appropriate words that convey their intended meaning as well as preserving correct spelling, punctuation, style, coherence, and cohesion. Additionally, a lack of motivation can affect their abilities to express their thoughts effectively.

## **1.8. Assessment**

### **1.8.1. Definition of Assessment**

According to Brown (1990), assessment is related to a set of measures applied to evaluate individuals or group of individuals' work. This requires gathering and interpreting information about students' level of achievement of learning goals. In other words, it is a measurement tool used by teachers to evaluate students' performance. The main aim of the assessment is to provide feedback to the teachers about what their students have learned, what they need to improve, and how. Weigle (2002) suggested three rubrics for assessing writing proficiency namely the holistic scale, the analytic scale, and the primary trait scale. Each of these rubrics is used to assess the quality of writing in different ways.

#### **1.8.2.1. The Holistic Scale**

Holistic scale is a technique of assessing writing, in which the teacher looks to the overall quality of the written piece, instead of breaking it down into parts. The teacher take into consideration all aspects of writing such as organization, language use, coherence, and gives a score based on their general impression of the written piece. It is usually used in large scale assessments of writing since it is practical and does not take much time. According to White (1985), holistic scale focuses on identifying the strengths and the positive features of a written piece, instead of pointing on its weaknesses. However, some scholars have criticized the use of holistic scale, as they believe that it is usefulness



especially for the progress of students with a low or medium performance (Martin-Kniep 2000).

### **1.8.2.2. The Analytic Scale**

The analytical scale assesses writing through the examination of each component such as grammar, vocabulary, spelling, mechanics, and organization. Each of these components is analyzed, assessed, and scored independently. The mark is the sum of all the components scores. According to Wiseman (2012), the written piece is breaking down into components in order to assess it. Many scholars prefer this scale as it provides a more detailed and precise evaluation of the students writing performance compared to the holistic scale (Bachman & Palmer, 1996; Weigle, 2002). However this method has also criticized.

### **1.8.2.3. The Primary Trait Scale**

The primary trait scale is the less common type of scoring, which includes assessing a single aspect of writing that is important to success in writing task. In this method, the scoring rubric is based on a single aspect of writing that is identified to be essential for a particular writing task such as vocabulary, tenses, or mechanics. As stated by LIach (2011) in the primary trait scale, a specific aspect of the writing task is highlighted, in which a detailed scoring rubric is used to assess writing performance. However, some teachers avoid using this scale due to its limited scope of evaluation, which does not provide a precise assessment of the student's writing performance.

## **Conclusion**

Writing is essential in second language learning; whereas, both teachers and students considered writing as a difficult skill. The Teachers have to select the appropriate teaching approach for their students in order to develop their writing skill, then they need to use the

suitable assessment scale to evaluate their students' writing proficiency. However, students have to learn how to use some basic components correctly when they are writing. In addition, writing is not an innate task in which learners have to make efforts in order to develop it .

## **Chapter Two : Direct Cognitive Strategy Instruction**

Introduction.....	18
2.1. Definition of Language Learning Strategies.....	18
2.2.Categorazation of Language Learning Strategies .....	18
2.2.1. Rubin Categorization (1981).....	19
2.2.1.1. Learning Strategies.....	19
2.2.1.2. Communication Strategies .....	19
2.2.1.3. Social Strategies .....	19
2.2.2. O'Malley and Chamot Categorization (1990) .....	19
2.2.2.1.Cognitive Strategies .....	20
2.2.2.2. Metacognitive Strategies .....	20
2.2.2.3. Social / Affective Strategies .....	20
2.2.3. Oxford Categorization (1990).....	20
2.2.3.1. Direct strategies.....	20
2.2.3.2. Indirect strategies .....	21
2.3 . Types of Cognitive Writing Process .....	22
2.4. Cognitive Strategy Instruction .....	22
2.4.1.The Process of Cognitive Strategy Instruction.....	23
2.4.2. Cognitive Strategy Instruction in Writing.....	24
2.4.3.Mind Mapping Technique as an Instance of Cognitive Strategy Instruction .....	25
2.4.3.1. Definition of Mind Mapping .....	25
2.4.3.2. Steps of Mind Mapping.....	26
2.4.3.3. The Significance of Mind Mapping .....	26
Conclusion .....	26

## **Introduction**

Effective language learning is related to the use of a number of language learning strategies. Hence, using the appropriate learning approach would help language learners to complete their learning tasks and to achieve their intended goals; especially in writing through direct cognitive strategy instruction. Moreover, the use of mind mapping as an instance of cognitive strategy instruction may enhance students' writing performance. In this chapter, an overview of language learning strategies, and their different categorizations are presented. These are followed by an explanation of the different types of cognitive processes, the definition of direct cognitive strategy instruction and its stages. This chapter is concluded with an overview of mind mapping technique and its advantages in second language learning.

### **2.1. Definition of Language Learning Strategies**

Learners use different strategies in their learning process in order to achieve their academic goals. In the same line, Littlewood (1984) agreed that successful learners are the ones who use strategies when they are learning. In addition, Griffiths (2004) stated that Rubin was the first scholar who define language learning strategies as a set of method used by learners to acquire new knowledge(1975). While, O'Malley and Chamot (1990) defined LLS as thoughts and behaviors used by individuals in order to learn and understand new information. This means that strategies are either observed or unobserved. In the same way, Lee (2013) stated that Oxford's (1990) definition of language learning strategies refers to the learners' actions which help them to make the learning process easier, faster, more engaging and enjoyable, more independent, more successful, more applicable to new contexts. This would lead them achieve their intended goals. Meanwhile, Williams and Burden (1997) described strategies as the processes of managing and coordinating language skills. Overall, the use of LLS can help learners to improve their language skills as well as to achieve their learning goals.

### **2.2. Categorazation of Language Learning Strategies**

Researchers have suggested taxonomies of language learning strategies, which are the one of Rubin (1981), O'Malley (1987) , Oxford (1990) .

### **2.2.1. Rubin Categorization (1981)**

Rubin (1981, 1987) (cited in Williams and Burden 1997) highlighted that there are three major strategies used by learners that we need to pay attention to; they are: learning strategies, communication strategies, and social strategies. The categorizations are determined by whether the strategy is direct or indirect. Concerning Rubin categorization, learning and communication strategies are direct strategies while social strategies are indirect ones.

#### **2.2.1.1. Learning Strategies**

Language strategies are divided into cognitive learning strategies and metacognitive learning strategies. Cognitive learning strategies are techniques used by learners in order to analyze, transform, or combine learning materials (Rubin, 1987). According to him, these strategies can be divided into six types: classification, verification, guessing, inductive inference, deductive reasoning, exercise, memorization, and monitoring. While metacognitive strategies is concerned with self-direct language learning. These strategies include planning, setting priorities and goals, and self-regulation.

#### **2.2.1.2. Communication Strategies**

Communication strategies used by learners when they have a conversation in order to convey their messages. They are direct strategies that speakers use when they face communication difficulties such as being misunderstood or when their communication ends.

#### **2.2.1.3. Social Strategies**

Social strategies are activities used by learners to practice their knowledge. These strategies are used indirectly in the learning process in order to obtain, store, retrieve, and use of language (Rubin and Wenden 1987).

### **2.2.2. O'Malley and Chamot Categorization (1990)**

Chamot and O'Malley (1990, 1996) conducted interviews and think-aloud protocols with adult learners, in which they developed a model that consist of three strategies which are cognitive, metacognitive, social and affective strategies.

### **2.2.2.1. Cognitive Strategies**

For Brown (2007), cognitive strategies used in only specific learning tasks, in which they manipulate learning material. In addition, the most used cognitive strategies are repetition, translation, taking notes, making groups, deduction, contextualization, transfer, key word, and inferring. Moreover, Williams and Burden (1997) defined cognitive strategies as mental processes used by learners to obtain, store, retrieve, and use of language. As a result, cognitive strategies are mental activities used by learners to succeeded in their learning process.

### **2.2.2.2. Metacognitive Strategies**

According to O'Malley and Chamot (1990), metacognitive strategies are executive skills that require planning, monitoring, and assessing the efficiency of the learning process. As they provided some of these techniques: self-management, planning, self-assessment, self-monitoring, selective and direct attention, and delayed production. These strategies involve planning, reflecting, monitoring, and assessing, which are used by learners to manage and improve their cognitive processes.

### **2.2.2.3. Social / Affective Strategies**

Social affective strategies are used by learners when they interact with others. The main social affective strategies are cooperation and question for clarification. Cooperation means working in pairs in order to complete a task and to achieve goals. While question for clarification is related to asking teachers for feedback, explanation, or examples in order to understand unclear information (Brown, 1975). Overall, social affective strategies are important because they help students to improve their learning process.

## **2.2.3. Oxford Categorization (1990)**

Oxford (1990) suggested two types of strategies: direct and indirect strategies which are divided into six categories.

### **2.2.3.1. Direct strategies**

Based on oxford (1990) direct strategies are divided into memory, cognitive, and compensation strategies. Memory strategies used to store and retrieve new information. The main focus of these strategies is meaning, in which all the learners' steps have to be meaningful when they use memory strategies. While cognitive strategies require some

techniques to deal with the target language. This can be through practice, receiving and sending messages, analyzing and reasoning the information, and building a structure for input and output. Moreover, compensation strategies enable learners to use a second language even with limited knowledge by guessing intelligently and overcoming limitations in speaking and writing (as cited in Lavasani &Faryadres, 2011, p.193).

### 2.2.3.2. Indirect strategies

For Oxford (1990) indirect strategies are divided into metacognitive, affective, and social strategies. Metacognitive strategies are techniques used by learners to coordinate their learning process. They include planning and organizing learners' learning processes, evaluating them, and focusing on the learners to develop certain skills. On the other hand, affective strategies tend to manage learner's attitudes, motivation, and emotions toward learning. This strategy can be done through reducing anxiety, self-motivation, and emotional state assessment. Moreover, social strategies are important in language learning, that's why learners have to use the appropriate social strategies when they are learning a new language. These strategies are: questioning, and cooperating (Oxford, 1990; as cited in Lavasani &Faryadres, 2011, p.193).



Figure4: Oxford's Categorization of Language Learning Strategies (1990, p.17)

### 2.3. Types of Cognitive Writing Process

Writing in a second language has improved over time due to the effective use of writing strategies. The application of these strategies has played a vital role in developing learners' writing process and their final written product. Cognitive strategies as explained by (Wenden, 1991; as cited in Mu, 2005, p.6) are mental steps employed by learners to acquire new information and use it in particular learning activities. As a result, Wenden (1999) has proposed six cognitive processes (steps) in writing, which are: clarification, retrieval, resourcing, deferral, avoidance, and verification.

For (O'Malley & Chamot, 1990), **clarification** used by learners to get additional explanations, repetition in another way, and examples from the teacher. This strategy enables learners to take actions such as self-questioning, defining terms, making guesses, comparing to understand unclear parts of the activity which develop their comprehension. **Retrieval** strategy includes steps used by learners in the pre-stage which are reading what was written, re reading the question, writing until the ideas would come, making a summary, thinking in the target language. This strategy helps learners to brainstorm ideas. Moreover, **resourcing** strategy is used by learners to search for more information about the writing task and to check the spelling by using a dictionary or asking the teacher. While **deferral** strategy is concerned with the influence of writers' native languages on their writing in a second. On the other hand, **avoidance** strategy is used when learners are unsure about specific words, sentences, or structures. Here learners avoid to use those specific one and they tend to use them and use more familiar structures to reduce errors in order to produce a comprehensible text. Finally, **verification** strategy is used by learners to review and edit their texts. It is essential because it helps them to produce high-quality texts (Wenden,1991; as cited in Mafton & Seyyidrezaei,2012, p.1599).

### 2.4. Cognitive Strategy Instruction

According to Dalziel & Grismer and Thompson (2008), cognitive strategy instruction (CSI) is the explicit teaching of strategies to students, in which they teach them how and when they have to use strategies. Also, teachers help students to find suitable strategies and motivate them to make strategic behaviors in their learning process. Teaching CSI to students helps them to focus on the linguistic and semantic aspects of language by identifying the problem's structure. This instruction improves students' ability in understanding problems and developing effective problem-solving skills (Swanson &



Beebe, 2004; Swanson & Jerman, 2006). Furthermore, being able to use effective strategies is a necessary skill for academic success. Therefore, CSI deals with teaching students how to use effective strategies independently which improves their learning process. As for Chamot, Meloni, Gonglewki, and Bartoshesky (2011), students who have control over their learning process are considered successful learners. In the same way, Krawek and Montague (2012, p.1) pointed out that “CSI is an explicit instructional approach that teaches students specific and general cognitive strategies to improve learning and performance by facilitating information processing”. Overall, CSI refers to the explicit teaching of cognitive strategies to students in order to help them in learning how to use these strategies independently to improve their learning process.

#### **2.4.1. The Process of Cognitive Strategy Instruction**

The cognitive strategy instruction (CSI) approach follows six steps which are: develop students’ background knowledge, describe and discuss the strategy, model the strategy, memorize the strategy, support the use of the strategy, and the independent use (Harris, Graham, Brindle, & Sandmel, 2009). By using procedures of explicit instruction such as scaffolding, guided practice, and self-monitoring, students can learn and apply cognitive strategies. This would help them to use the strategy independently to develop their academic performance (as cited in Krawec, Montague, & the DLD/DR, 2012). The stages are explained in the table below.

**Table .1: Stages Of CSI (Walaa M. El-Henawy, 2019)**

The stages	Description
1. To develop background knowledge	The teacher teach students the necessary knowledge to use the strategy successfully.
2. Describe and discuss the strategy	The teacher explain and discuss the strategy, its purpose and benefits.
3. Model the strategy	The teacher models how to use the strategy and introduces self-instruction.
4. Memorize the strategy	In this stage students memorize the steps of the strategy.
5. Scaffolding	The teacher supports students to master the strategy.
6. Independent use	The teacher lets students use the strategy independently.

In the same way, Montague and Dietz (2009) described cognitive strategy instruction as explicit instruction which includes: well-structured and organized lessons, suitable cues and prompts, guided practice, modeling, student teacher interaction, giving feedback, scaffolding, overlearning, and mastery.

#### **2.4.2. Cognitive Strategy Instruction in Writing**

According to Englert (in Knuuttila,2010), cognitive strategy instruction in writing (CSIW) refers to the use of a number of strategies such as improving students' metacognitive knowledge about writing strategies, scaffolding during writing sessions, the use of think-sheet, and collaboration in writing conferences. Moreover, Englert's definition in Abadiano and Jeeze (2004) highlighted that CSIW is a discursive process that is based on three principles. First, effective writing is a holistic task in which writers use these strategies: planning, organizing, writing, revising, and editing. Second, it is helpful for inexperienced writers to have writing apprenticeships with teachers who use "think-aloud" to model thoughts and inner dialogue which leads to effective writing. Moreover, teachers

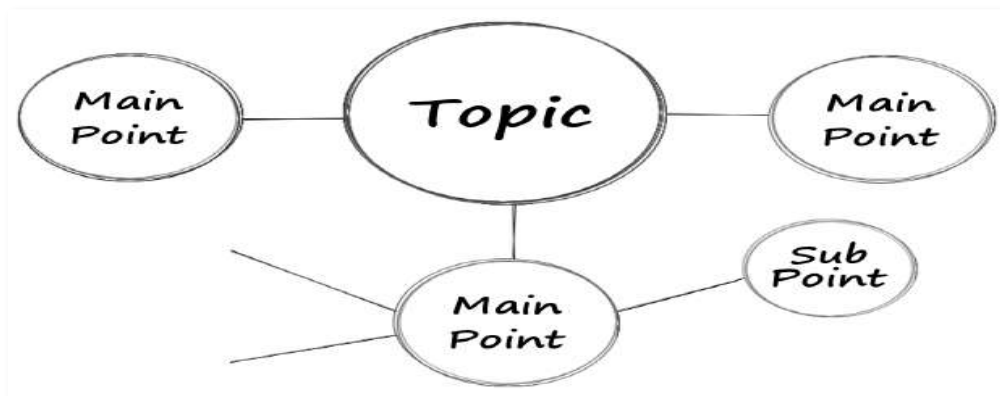
scaffold students' use of writing strategies through teacher-student and student-student discussions. Third, students appreciate the social nature of writing by producing pieces for authentic purposes and collaborating with others within the writing process. Overall, the strategy mentioned above encourages students to develop their writing skill by using strategies independently with confidence (as cited in Ramli& Ardiana, 2018).

### **2.4.3. Mind Mapping Technique as an Instance of Cognitive Strategy Instruction**

Second language learners need to use some strategies in order to develop their writing performance. One of these effective strategies is the use of mind mapping technique as a pre-writing tool. As Naqbi (2011) pointed out that mind mapping helps students to plan and organize their thoughts for writing tasks. This technique aims at enhancing students' writing performance by helping them to brainstorm and generate their ideas in the pre-writing stage

#### **2.4.3.1. Definition of Mind Mapping**

Hedge (1988) explained that mind mapping is a note-taking technique, in which individuals write down their ideas about a topic and connect them in a visual way. It is used to brainstorm and organize ideas before writing. According to (Bhattacharya, 2000; as cited in Wright, 2006), mind mapping is a visual strategy used for organization. In the same line, Buzan (2011) described mind mapping as an effective visual technique that is considered to be a universal key, as it allows for the brain's potential. Furthermore, mind mapping enables learners to move from one topic to another and save ideas through the use of visual symbols, images, and colors which is similar to how our brains work. Therefore, the most meaningful and effective mind maps are the colorful ones. Additionally, the use of mind mapping technique motivates learners to search and gather information about unfamiliar topics. Eppler (2006) highlighted that mind mapping follows a particular structure, in which a concept is provided as the core theme. The central idea is surrounded by pictures, ideas, and words and connected to the main ideas, while supporting ideas stem from the main ones as it is explained figure5.



**Figure5: basic structure of mind map (<https://citoolkit.com/articles/mind-mapping/>)**

#### **2.4.3.2. Steps of Mind Mapping**

Buzan (2005) has proposed seven steps to create a mind map. First, start to draw from the center of a blank page, which provides more freedom for the brain to express ideas. Then, use an image in the middle of the mind map, thus it helps to visualize the central ideas and make logical connections. Also, the use of colors is effective, as it makes the mind map more creative and eye-catching. After that, draw lines or sub-branches connected to the main picture in the center, this will make ideas more remembered and understood. Additionally, connect the branches with the bowline, and use one key word or image in every line to provide new ideas if it is possible. Finally, use images when it is possible as they help people to make logical connections between ideas and move from the prewriting stage to the writing stage with much information.

#### **2.4.3.3. The Significance of Mind Mapping**

Mind mapping technique is considered as one of the effective tools in writing by many scholars, as it helps students to organize their ideas in the pre-writing stage. According to McGriff (2007), mind mapping technique helps students to overcome their problems in organizing ideas. Also, Mahmud, Rawshon, and Rahman (2011) pointed out that is important for academic writing at university because it helps students to develop their writing skill and to generate ideas.

#### **Conclusion**

Indeed, language learning strategies primarily cognitive strategy instruction can improve the process of learning a second/foreign language; thus, they enable learners to take control of their learning process. In addition, the implementation of these strategies

helps learners to view writing as a simple task, in which they apply appropriate strategies independently. Moreover, the study demonstrated the effectiveness of mind mapping as an instance of cognitive strategy instruction in the prewriting stage and its impact on the student's final draft.

### **Chapter Three : Data analysis and Interpretation**

Introduction.....	29
3.1.The Teachers' Questionnaire .....	29
3.1.1.Description of the Teachers' Questionnaire.....	29
3.1.2.Analysis and Interpretation of the Results of the Teachers' Questionnaire.....	30
3.1.3.Overall Analysis of the Results of Teachers' Questionnaire .....	38
3.2.The quasi-experimental study .....	39
3.2.1. Description of the Tests.....	39
3.2.1.1.Pre-Test & Post-Test .....	39
3.2.1.2.Control group &Experimental group .....	39
3.2.2.The Treatment ( the use of DCSI in writing ) .....	39
3.2.3.Statistical Analysis and Interpretation of the Tests' Results.....	42
3.2.4.Overall Analysis of the Tests' Results .....	46
General conclusion .....	46
Limitations of the study and suggestions for further Research.....	46
List of references	
Appendices	
Appendix I: The Teachers' Questionnaire	
Appendix II: The Pre Test	
Appendix III: The Lesson Plans	
Appendix IV: The Post Test	
Résumé	
ملخص	

## **Introduction**

The research is conducted by using the mixed approach; two research tools are used to collect the data: a teachers' questionnaire and a students' test. The questionnaire was administered to 10 written expression teachers at the Department of Letters and English at the University of "Kasdi Merbah" Ouargla to get a better insight into they use direct cognitive strategy instruction in writing. It aims at gathering information about their attitudes towards students' writing problems, and the use of direct cognitive instruction in writing. Concerning the students' test, it is designed to explore the learners' use of writing strategies. The main aim is to assess the effect of direct cognitive strategy instruction on the learners' second language writing; thus, the post-test has been administered to highlight the impact of cognitive strategy instruction on students' performance in writing. Two groups are randomly selected (each group consists of 30 students). The difference between our samples is that the experimental group received the treatment, while the control group did not. At the beginning of the year, both groups had a pre-test at the same time, and after the treatment phase, the researcher administered a post-test. Between the tests, the experimental group was taught how to use direct cognitive strategy instruction specifically the use of mind mapping technique in writing. The pre-test and the post-test were similar in the form (questions, categories, and division), but the only difference was in the context to avoid biased results.

### **3.1. The Teachers' Questionnaire**

#### **3.1.1. Description of the Teachers' Questionnaire**

The teachers' questionnaire consists of 20 questions, which are divided into three sections. Section one "**Teachers' Profile**" (Q1, Q6), provides insights into teachers' experience and specialty (Q1, Q2), the most modules they have taught (Q3), their experience in teaching written expression, and the most difficult skill to teach and why (Q5, Q6). Section two "**The Writing Skill**"(Q7, Q12)concerned with the students' weaknesses and strengths in writing ( Q7, Q8),ways to improve students' writing skill (Q9), writing activities that teachers usually provide to their students, and the aim behind them (Q10), teachers' approaches in teaching writing (Q11), and the essential elements teachers should teach to their students(Q12). Section three "**Awareness of direct cognitive strategy instruction implementation, and its significance**" (Q13,Q20) is designed to know teachers' opinions about the most successful learners (Q13), the use of strategies by

students (Q14), the significance of using cognitive processes (Q15), and which cognitive step their student use while writing (Q16) the effectiveness of direct cognitive strategy instruction with the justification (Q17, Q18), the use of mind mapping and its significance (Q19, Q20).

### 3.1.2. Analysis and Interpretation of the Results of the Teachers' Questionnaire

#### Section One: Teachers' Profile

#### Q1. How long have you been teaching English?

**Table 2.1: Teaching English Experience**

Options	N	%
Less than five years	2	20 %
Five to eight years	4	40%
Eight to twelve years	2	20%
More	2	20%
Total	10	100%

As Table 2.1 shows that two teachers have a long experience in teaching English representing 20% plus two who exceed that ( more than twelve years ) representing 20%. While 4 of them taught English for five to eight years representing 40% and 2 teachers taught less than five years representing 20%. This implies that our teachers are experienced in teaching English, which means that the collected data can be relied on.

#### Q2. Are you specialized in...?

**Table 2.2: Teachers' Specialty**

Options	N	%
Linguistics	5	50%
Translation	0	0%
Literature	3	30%
Didactics	2	20%
Total	10	100%



The results show that the majority of teachers representing (50%) are specialized in linguistics, 3 teachers are specialized in literature, and only two of them in didactics while none of the teachers are specialized in translation.

**Q3.What is/are the module(s) you have taught the most?**

The obtained results show that all teachers have taught written expression and other modules; they are: oral expression, grammar, ESP, research methodology, didactics, creative writing, phonetics, linguistics, civilization and literature. This indicates that the responses are qualified to provide valid data.

**Q4.How long have you been teaching written expression?**

**Table 2.3: Teachers' Experience in Teaching Written Expression**

Options	N	%
1-4 years	6	60%
5-10 years	1	10%
More than 10 years	3	30%
Total	10	100%

Concerning teachers' experience in teaching written expression, 30% have been teaching this module for more than 10 years, and only one teacher has taught written expression between 5 to 10 years representing 10%.whereas 6 teachers (60%) have less than five years' experience in teaching written expression. This indicates that our teachers have taught written expression, which makes their contribution to the study can be relied on.

**Q5.What is the most difficult skill to teach? (Choose one)**

**Table 2.4:The Most Difficult Skill To Teach**

Options	N	%
Reading	0	0%
Writing	10	100%
Listening	0	0%
Speaking	0	0%
Total	10	100%

As expected all teachers (100%) have chosen writing as the most difficult skill for teachers to teach, thus this skill requires effort and practice from learners to be developed.

**Q6. Please, explain why.**

All teachers agree that writing is the most difficult skill to teach, due to the fact that it requires much effort from them to get students used to all the skills needed to write better. Moreover, they confirmed that students understand the written expression lessons very well but when it comes to writing they struggle in constructing sentences because of many reasons such as lack of vocabulary knowledge, grammar, mechanics, coherence and cohesion.

**Section Two: The Writing Skill**

**Q7. What are your students' weaknesses in writing (choose one)**

**Table 2.5: Students' weaknesses in writing**

Options	N	%
Vocabulary	2	20%
Grammar	3	30%
Spelling, punctuation	4	40%
Ideas/content	1	10%
Self-confidence and motivation	0	0%
Total	10	100%

According to teachers, Spelling, punctuation (40%) and Grammar (30%) are the most students' weaknesses in writing. while 20% of teachers have said vocabulary and 10% of them have chosen ideas /content. They added other elements like language interference (Arabic / French), fluency and coherence.

**Q8. What are your students' strengths in writing? (Choose one)**

**Table 2.6: Students 'Strengths in Writing.**

Options	N	%
Grammar	2	20%
Vocabulary	3	30%
Spelling, punctuation , capitalization	0	0%
Content/ideas	5	50%
Total	10	100%

As Table 2.6 shows that 50% of teachers (half of the respondents) answered by content / ideas. The other five teachers answered by vocabulary (30%) and grammar (20%).

### **Q9.How can you improve your students' writing skill?**

**Table 2.7: Ways to Improve Students Writing Skill.**

Options	N	%
Through practice	1	10%
Through reading	0	0%
Both	9	90%
Total	10	100%

The results obtained that the majority of the teachers (90%) agree that both practice and reading help students to improve their writing skill. While only 10% of them concentrate on practice only. They added other elements like collaborative writing and direct instruction.

### **Q10. Which writing activities do you usually provide to your students? State the aim behind these activities.**

The following activities are provided by teachers to their students:

- Give students something to read to see the structure then show them how to write.
- Practice writing through: paragraph writing, fill in the gaps, paraphrasing, grammar based activities, essay writing .
- Brainstorming to map and organize their thoughts in a form of mind map.
- Pair work: to help students share ideas and check their mistakes.

### Q11. Which approaches do you use in teaching writing?

**Table 2.8: Approaches That Teachers Use in Teaching Writing**

Options	N	%
The Product approach	0	0%
The process approach	1	10%
Both	7	70%
The genre approach	1	10%
The strategy approach	1	10%
Total	10	100%

As seen from Table 2.8, the results show that most of the teachers (70%) use the product process approach, which focuses on both the different steps of writing process and the students' final product. This indicates that the most used approach of teaching writing is the product process approach.

### Q12. According to you, what are the most essential elements in writing that should be taught?

**Table 2.9: The Most Essential Elements in Writing**

Options	N	%
Grammar	0	0%
Vocabulary	0	0%
Spelling, punctuation, capitalization	1	10%
All the previous mentioned ones	9	90%
Total	10	100%

As it is indicated in the table above, the majority of teachers (90%) agree that all the elements: grammar, vocabulary, spelling, punctuation, and capitalization should be taught to the students, thus they are essential in writing. They added discourse-based approach with reference to discourse makers as essential elements in writing.

### Section Three: Awareness of Direct cognitive strategy instruction implementation, and its significance

#### Q13. The most successful learners are strategic ones.

**Table 2.10: The Most Successful Learners**

Options	N	%
Agree	8	80%
Disagree	0	0%
Not sure	2	20%
Total	10	100%

As Table 2.10 shows that only two teachers are not sure. While, the majority of teachers (80%) agree that the most successful learners are strategic ones. This indicates that teachers are aware of the significant role of strategies.

#### Q14. According to you, do your students apply some strategies when writing a paragraph?

All teachers agree that only part of their students apply some strategies when they are writing a paragraph. This means that students' problems in writing are due to limited use of strategies.

#### Q15. To which extent do you think the use of cognitive processes is essential in writing a paragraph?

**Table 2.11: the Importance of Using Cognitive Processes**

Options	N	%
Important	9	90%
Somehow Important	1	10%
Optional	0	0%
Total	10	100%

The majority of teachers (90%) think that the use of cognitive processes is essential in writing a paragraph as they help students to produce a high-quality written piece. This

implies that written expression teachers are aware of the importance of applying cognitive processes in writing.

**Q16. Which of the following cognitive steps do you think the students use while writing a paragraph?**

**Table 2.12. Teachers Attitudes towards the Students' Use of the Cognitive Steps.**

<b>Options</b>	<b>N</b>	<b>%</b>
Clarification	1	10%
Retrieval	0	0%
Resourcing	0	0%
Deferral	0	0%
Avoidance	0	0%
Verification	2	2%
All of them	7	70%
<b>Total</b>	<b>10</b>	<b>100%</b>

As expected 70% of teachers answered that their students apply all the cognitive steps when they are writing a paragraph. Whereas, 20% of the teachers answered verification and 10% of them choose clarification. According to teachers' respondents, their students are able to use the cognitive steps while writing.

**Q17. Is it important for learners to be aware of direct cognitive strategy instruction which would help them learn how to write more effectively?**

**Table 2.13. Teachers Opinions about the Importance of DCSI**

<b>Options</b>	<b>N</b>	<b>%</b>
Yes	10	100%
No	0	0%
Total	10	100%

The aim of this question is to know teachers' opinions about the effectiveness of direct cognitive strategy instruction in improving students' writing skill. Our teachers have

answered positively representing 100% that student need to be taught DCSI and how/when to use it to develop their writing performance.

**Q18. Please, explain why.**

The question is formulated to let teachers explain their opinions about the importance of using DCSI in writing. They said writing is a cognitive process in which students are going to brainstorm ideas, recall and organize them, and then put them in order. DCSI will help them to be more methodical and performing. Moreover, they emphasize that students must be aware of DCSI and writing strategies to know how the paragraph or the essay is structured and the way it will be easy to write it.

**Q19. Do you encourage your students to use Mind Mapping technique?**

**Table 2.14: Teachers' Encouragement in Using Mind Mapping .**

Options	N	%
Yes	10	100%
No	0	0%
Total	10	100%

As Table 2.14 shows, all teachers (100%) said that they encourage their students to use mind mapping technique. This indicates that they are aware of its significance in the pre-writing stage.

**Q20. Do you think that Mind Mapping technique would help students develop their ideas easily?**

**Table 2.15. The Significance of Mind Mapping Technique**

Options	N	%
A lot	10	100%
A little	0	0
Not at all	0	0
Total	10	100%

According to the results, all teachers (100%) have chosen the first option in which they agreed that mind mapping techniques would help students develop their ideas easily. This

means that teachers encourage their student to use mind maps before writing to produce a well-organized text.

### 3.1.3. Overall Analysis of the Results of Teachers' Questionnaire

From the analysis of the teachers' questionnaire, the obtained results provide us with the following points for discussion. Starting with section one **Teachers' Profile**, reveals that the majority of the teachers are experienced in teaching English language as well as written expression module that's why they admit that writing is the most difficult skill to teach to learners (representing 100%). In section two, the questionnaire was more focused on **writing skill**. The teachers agreed that students' difficulties in writing are: spelling, punctuation, grammar, vocabulary, language interference, fluency, and coherence as seen in Table 2.5. On the other hand, they mentioned content and ideas as the most students' strength in writing (representing 50%), which reveals that many students are unable to produce correct and comprehensive written pieces. As a result, our teachers suggested that both practice and reading help students to improve their writing quality as shown in Table 2.6. Concerning the activities they mentioned: pair work activities, fill in the gaps, paragraph writing, and the use of mind mapping as pre writing technique. As seen in Table 2.8, 70% of the teachers use the process product approach in teaching writing in which they focus on both the writing processes and the final product. They emphasized on teaching grammar, vocabulary, punctuation, capitalization, and spelling as they considered essential in writing. Additionally, section three was concerned with **The Teachers' Awareness of direct cognitive Strategy instruction use in writing**. The majority of the teachers are aware of the vital role of using strategies, as they agreed that the most successful learners are the strategic ones. However, only parts of EFL students apply some strategies when they are writing a paragraph. The obtained results from the Tables 2.11, and 2.12, show that the majority of the teachers are conscious about the importance of using all the cognitive steps in producing a written piece. Moreover, our teachers in (Q17) unanimously agreed on the effectiveness of direct cognitive strategy instruction in making students more strategic which affect their writing quality positively. From (Q19,Q20) we notice that all the teachers are aware of the vital rule of mind mapping as a prewriting technique that's why they advise their student to use it in their writing process which help them to organize their ideas easily.



## **3.2. The quasi-experimental study**

### **3.2.1. Description of the Tests**

#### **3.2.1.1. Pre-Test & Post-Test**

Two tests were administered to the students: the pre-test and the post-test. The participants who took part in this experiment are Second Year students at the Department of Letters and English University “Kasdi Merbah” Ouargla. They are divided into two groups: the experimental group and the control group, to examine the effectiveness of DCSI, particularly the use of mind mapping as a pre-writing technique in developing students’ writing quality. The tests were done in the written expression sessions. Moreover, the pre-test was about “writing an introductory paragraph to describe someone you look up to”. It was taken by both the experimental group and the control group, at the beginning of the year. After the treatment phase, the same groups had the post-test which was about “writing an introductory paragraph to describe three vacation spots in your country ”.

#### **3.2.1.2. Control group & Experimental group**

Each group consists of 30 students. Concerning the control group, they were taught using traditional instruction. While, the experiment group has received a treatment, in which they are supposed to have sufficient information on the use of mind mapping technique as an instance of CSI in the writing process. These students also dealt with the steps of creating mind maps and aware about how to transform their mind maps into well-organized introductory paragraph.

### **3.2.2. The Treatment ( the use of DCSI in writing )**

In the Department of Letters and English, at the University “Kasdi Merbah” Ouargla, Second year students have written expression sessions twice a week; each session lasts (1h30mins).The teacher employs CSI as it is presented in the following lesson plan to the students followed by a sample mind map with an introductory paragraph. (See appendix for the other lesson plan)

**Lesson plan:01**

Time: approximately 60 minutes

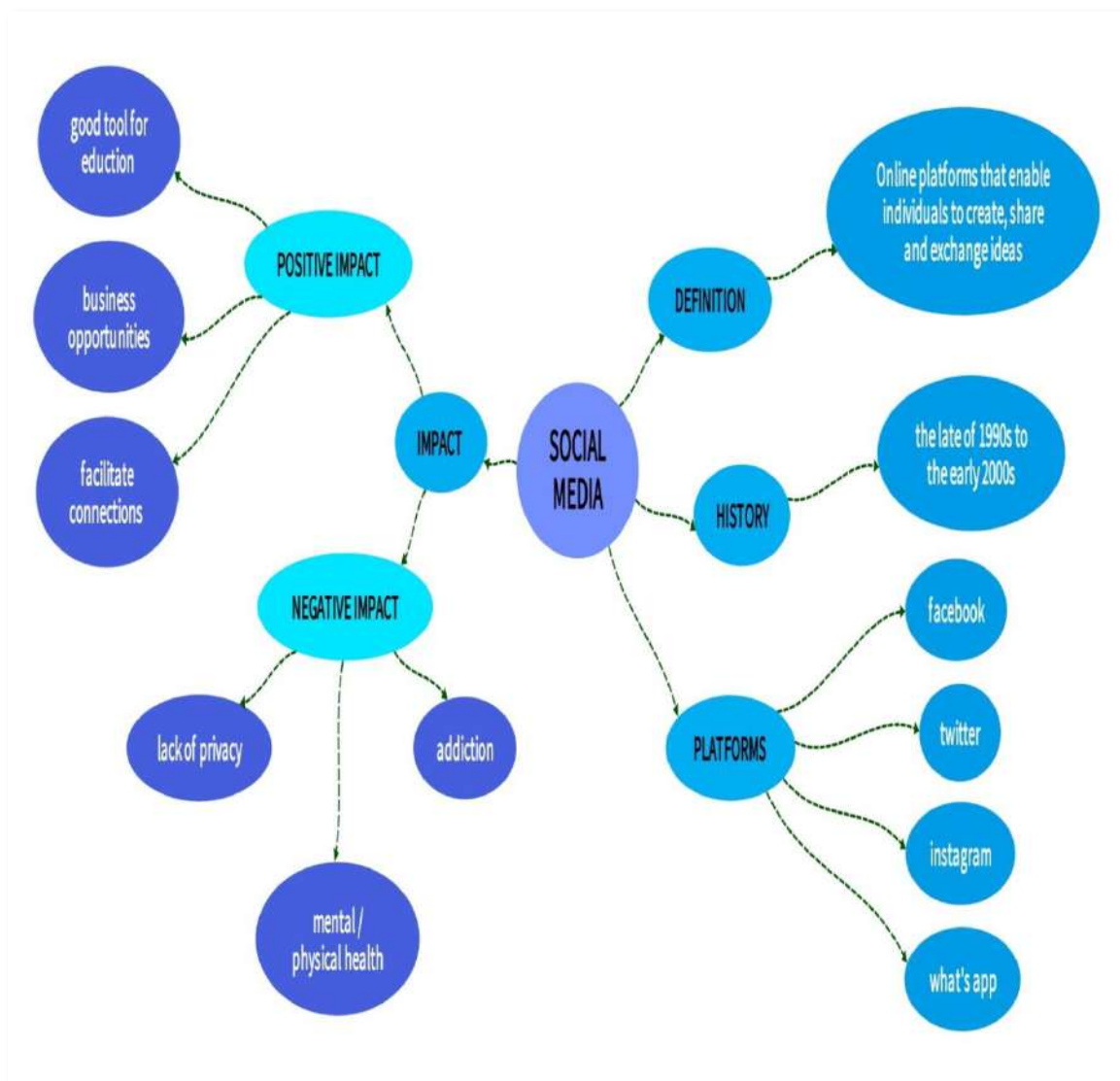
Module: Written Expression

Topic: Mind Mapping Technique

Class: 2nd Year English L.M.D

<b>Learning style:</b> visual	<b>materials:</b> whiteboard , papers, pencils, and colored pens
<b>Mind map use :</b> creating mind maps by hands	<b>session :</b> organizing and planning before writing an introductory paragraph
<b>Objectives:</b>	
<ul style="list-style-type: none"> <li>. to create and use mind map to write an introductory paragraph</li> <li>.to participate their ideas about the topic</li> <li>.to work in groups to create mind maps</li> </ul>	
<b>Warming up:</b> ask students about mind mapping technique and its significance	
<b>procedures :</b> <ul style="list-style-type: none"> <li>. Explain how to write an introductory paragraph</li> <li>. Introduce the concept of mind mapping to the class.</li> <li>.Present how to create a mind map on the whiteboard</li> <li>.Give an example (drawing a mind map about social media), and transform this mind map into a paragraph with students.</li> <li>. Break the class into groups.</li> <li>.Provide a topic to the students: smoking</li> <li>. Let students present their ideas to the class and discuss.</li> <li>.Ask students to start creating their min maps</li> <li>. Assess the mind maps and let students share their findings</li> </ul>	
<b>Practice:</b> ask students to choose a topic and draw a mind map (15minutes) then transform the mind map into an introductory paragraph.	
<b>Evaluation:</b> collect students' mind maps and their paragraphs to correct them .	

### The mind map



### Social media introductory paragraph

Social media emerged in the late of 19990S to the early 2000s. It refers to online platforms that enable individuals to create, share, and exchange information through virtual communities by using social sites including Facebook, Twitter, Instagram, and what’s app. While social media provides many benefits including such as facilitating connections, good tool for education, and business opportunities. It also has a negative impact on individuals’ mental/physical health, addiction, and lack of privacy.

### 3.2.3. Statistical Analysis and Interpretation of the Tests' Results

Our experiment was about dividing students randomly into two groups: the control group and the experimental group, in which the experimental group received treatment, while the control group did not. For that reason, we use the software SPSS22 to calculate the independent sample t.test by considering the test as one tailed significance.

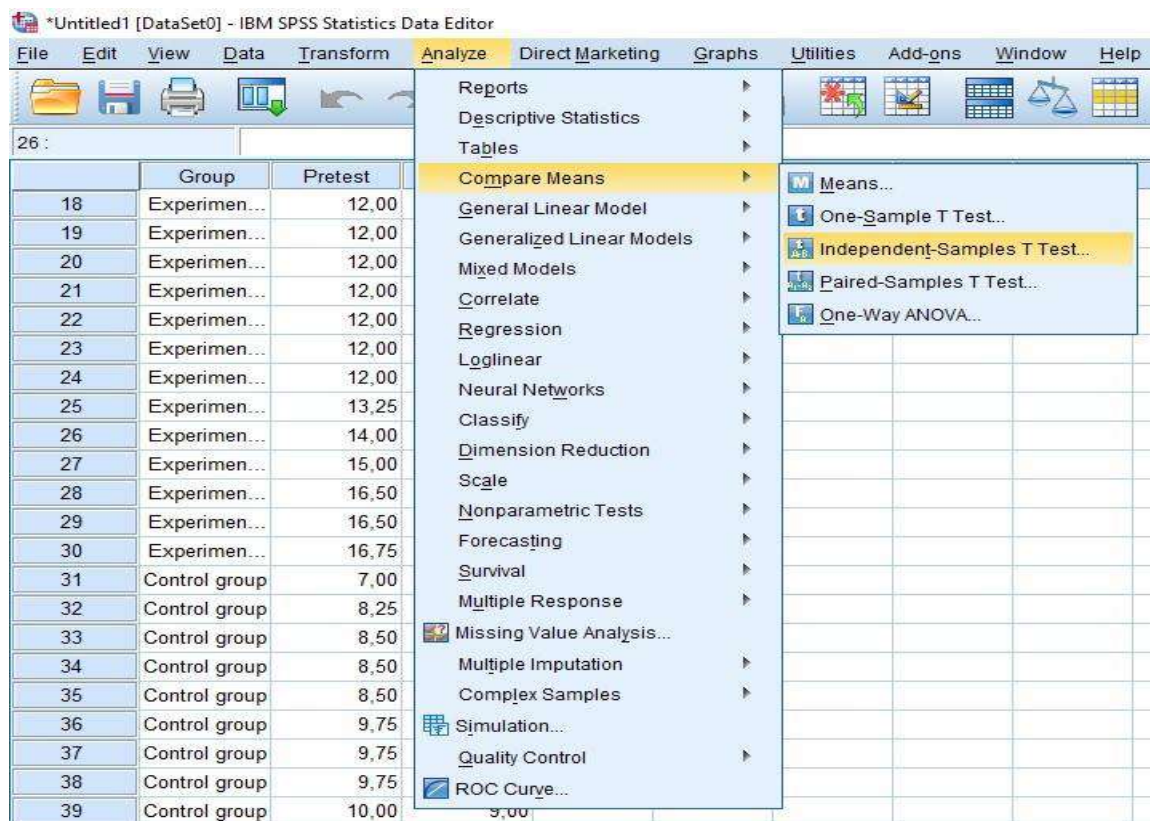


Figure 6: Compare Means: Independent Sample T Test

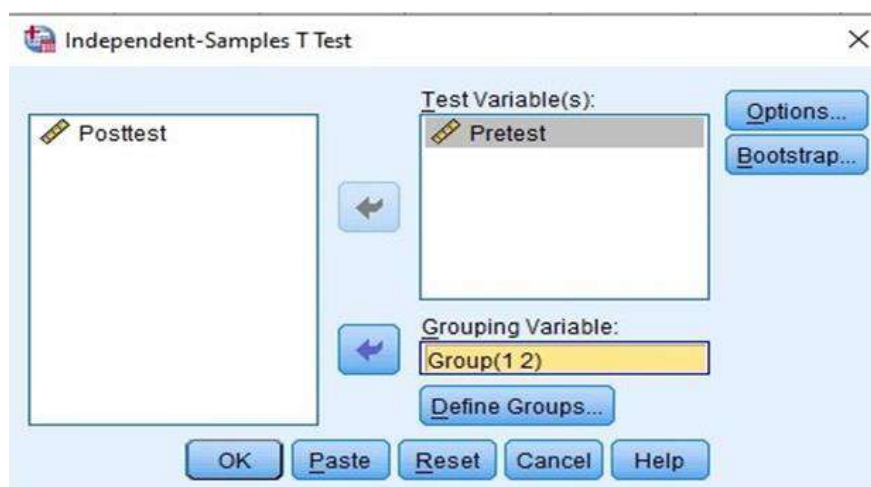


Figure 7: Define Groups (control / experimental)

**Students' scores in writing****Table 3: students' scores in the pretest and post test**

Pre Test Scores		Post Test Scores	
<b>Pre_ test control group</b>	<b>pre_ test experimental group</b>	<b>Post_ test control group</b>	<b>Post_ test experimental group</b>
7.00	7.00	8,00	9,00
8.25	7.00	8,25	9,00
8.50	8.25	8,25	9,50
8.50	8.25	8,25	10,00
8.50	8.25	8,50	10,50
9.75	9.50	8,50	11,00
9.75	9.50	8,75	12,50
9.75	9.50	8,00	12,00
10.00	9.50	9,00	12,00
10.00	10.00	9,50	12,00
10.00	10.50	9,50	12,00
10.00	11.00	9,50	12,00
10.00	11.00	9,75	12,50
11.25	11.00	10,00	12,75
11.50	12.00	10,00	12,75
11.50	12.00	10,75	13,00
11.50	12.00	11,00	13,75
12.75	12.00	12,00	13,75
12.75	12.00	12,50	14,50
12.75	12.00	12,75	14,50
12.75	12.00	12,50	14,75
12.75	12.00	12,50	14,75
12.75	12.00	12,50	14,75
12.75	12.00	12,50	14,75
12.75	12.00	12,50	14,75

12.75	13.25	12,50	15,50
12.75	14.00	12,50	15,25
12.75	15.00	13	15,25
14.50	16.50	13,25	15,50
16.75	16.50	13,25	17,00
17.00	16.75	17,00	17,00

### Pre Experimental versus Pre Control

#### Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pre-test	Experimental Group	30	11,4083	2,58350	,47168
	Control group	30	11,3833	2,35139	,42930

#### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pretest	Equal variances assumed	,053	,819	,039	58	,969	,02500	,63780	-1,25169	1,30169
	Equal variances not assumed			,039	57,493	,969	,02500	,63780	-1,25193	1,30193

The previous table was the description of the results of both pre-test experimental / pre-test control groups. As it is observed in the table the “sig (2-tailed)” is 0.969 which is greater than 0.05. Here we can say that there is not a significant difference between both groups in the pretest scores.

### Post experimental versus Post Control

#### Group Statistics

	Group	N	Mean	Std. Deviation	Std. ErrorMean
Post Test	Experimental Group	30	13,1167	2,20670	,40289
	Control group	30	10,8083	2,20861	,40323

#### Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Post test	,059	,810	4,050	58	,000	2,30833	,57001	1,16733	3,44934
Equal variances assumed									
Equal variances not assumed			4,050	58,000	,000	2,30833	,57001	1,16733	3,44934

In this study the required t is 1.98 at 0.05 level of significance and with 58 degree of freedom. The obtained t is 4.050 except we did not want two-tailed test, our hypothesis is one-tailed and there is no alternative way to specify one-tailed test in SPSS software, we will divide the found t by 2; hence, it is 2.025 which is higher than 1.98. It leads to provide

our hypothesis to be valid. In other words, the treatment phase impacted positively the experimental group by developing students' writing skill through the use of DCSI.

### **3.2.4.Overall Analysis of the Tests' Results**

From the analysis of the students' test, we find that the obtained results of the pretest scores of both groups of students reveal that they have the same level concerning writing performance. Meanwhile, in the post-test it is observed that there is a significant difference concerning the performance of both groups. Since the mean of the control group is 10.80 while the mean of the experimental group is 13.11, thus the treatment phase had a positive impact on experimental group. This indicates that teaching DCSI improves students' writing skill and this answers our research question.

### **General conclusion**

In this study, the main aim is to investigate the effectiveness of direct cognitive strategy instruction in teaching writing to improve the students' writing skill, thus two research tools have been used to answer the research question and to test its hypothesis. The data gathered from the teachers' questionnaire showed that most of them use the product process approach in teaching writing. They think that their students have difficulties in grammar, vocabulary, and spelling. That's why these elements are essential to be taught to students. They are also aware of the effectiveness of DCSI, and the use of mind mapping as a pre-writing technique to organize ideas and to enhance students' writing quality. Then, pre and post tests were administered to students of second year license to confirm the results obtained from the teachers' questionnaire. The data gathered reveals that in the pretest both groups have approximately the same level, while in the post test, the experimental group scores are higher than the control group scores. This implies that indeed the use of direct cognitive strategy instruction improves the students' writing performance. As a result, the students of the experimental group are aware enough of the use of cognitive strategy instruction specifically the use of mind mapping, which help them to develop their writing skill; hence, our hypothesis "if teachers employ direct cognitive strategy instruction this would develop learners' skills in writing" is confirmed.

### **Limitations of the study and suggestions for further Research**

Although the research has reached its aims, there were a number of limitations. First, the study was concerned with 60 students of second year license from the University of



Kasdi Merbah. In future research, researchers could use a large sample from different universities. Second, the treatment focused on using mind mapping in writing an introductory paragraph. Therefore, further research might expand the use of this technique in writing the whole essay. Finally, the research was conducted in a short time (one semester).

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## Appendices

### Appendix I: The Teachers' Questionnaire

Dear teachers,

This questionnaire is part of a research work. It aims at investigating whether and to what extent direct cognitive strategy instruction improves learners' writing skill. I would be very grateful if you could fill in the following questionnaire. Please, tick (✓) the appropriate box or give a full statement when necessary. Thank you, in advance, for your time and collaboration.

Bencheikh Aya

Department of Letters and English

Faculty of Letters and Languages

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#### Section One: Teachers' Profile

1. How long have you been teaching English?

- a. Less than five years
- b. five to eight years
- c. Eight to twelve years
- d. More

2. Are you specialized in...?

- a. Linguistics
- b. Translation
- c. Literature
- d. didactics

3. What is/are the module(s) you have taught the most?

.....  
.....

4. How long have you been teaching written expression?

- a. 1-4 years
- b. 5-10 years
- c. More than 10 years

5. What is the most difficult skill to teach? (Choose one)

- a. Reading
- b. Writing
- c. Listening
- d. Speaking

6. Please, explain why.

.....  
.....

**Section Two: The Writing Skill**

7. What are your students' weaknesses in writing (choose one)

- a. Vocabulary      b. Grammar      c. Spelling, punctuation
- d. Ideas/content      e. Self-confidence and motivation

Other.....

8. What are your students' strengths in writing (choose one)

- a. Grammar      b. Vocabulary      c. Spelling, punctuation, capitalization
- d. Content/ideas

Other.....

9. How can you improve your students' writing skill?

- a. Through practice
- b. Through reading
- c. Both
- d. Other: Please,

specify.....

.....

10. Which writing activities do you usually provide to your students? Specify the aim behind these activities

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

11. Which approaches do you follow when teaching writing?

- a. The Product Approach(focus on the student's final product)
- b. The Process Approach(focus on the different steps of the writing process)
- c. Both (a mixture of the above-mentioned approaches)
- d. The genre approach (focusing on the written genre)

- e. The strategy approach (teaching students appropriate writing strategies)  
other.....

12. According to you, what are the most essential elements in writing that should be taught?

- a. Grammar b. Vocabulary c. Spelling, punctuation, capitalization

d. All the previous mentioned ones

others, please specify.....

**Section Three: Awareness of Direct cognitive strategy instruction implementation, and its significance**

13. The most successful learners are strategic ones.

- a. Agree
- b. Disagree
- c. Not sure

14. Do your students apply some strategies when writing a paragraph?

- a. Yes: All of them
- b. Yes: Most of them
- c. Yes: Part of them
- d. No: None of them

15. To which extent do you think the use of cognitive processes is essential in writing a paragraph?

- b. Important
- c. Somehow Important
- d. Optional

16. Which of the following cognitive steps do you think your students use while writing a paragraph?

a. Clarification
b. Retrieval
c. Resourcing
d. Deferral
e. Avoidance
f. Verification
g. All of them

17. Is it important for learners to be aware of direct cognitive strategy instruction which would help them learn how to write more effectively?

-Yes

-No

18. Please, explain why.

.....

.....

19 .Do you encourage your students to use Mind Mapping technique?

-Yes

-No

20. Do you think that Mind Mapping technique would help students develop their ideas easily?

-A lot

-A little

-Not at all

Thank you for your cooperation



### Appendix III: The Lesson Plans

#### Lesson plan:01

Time: approximately 60 minutes Module: Written Expression

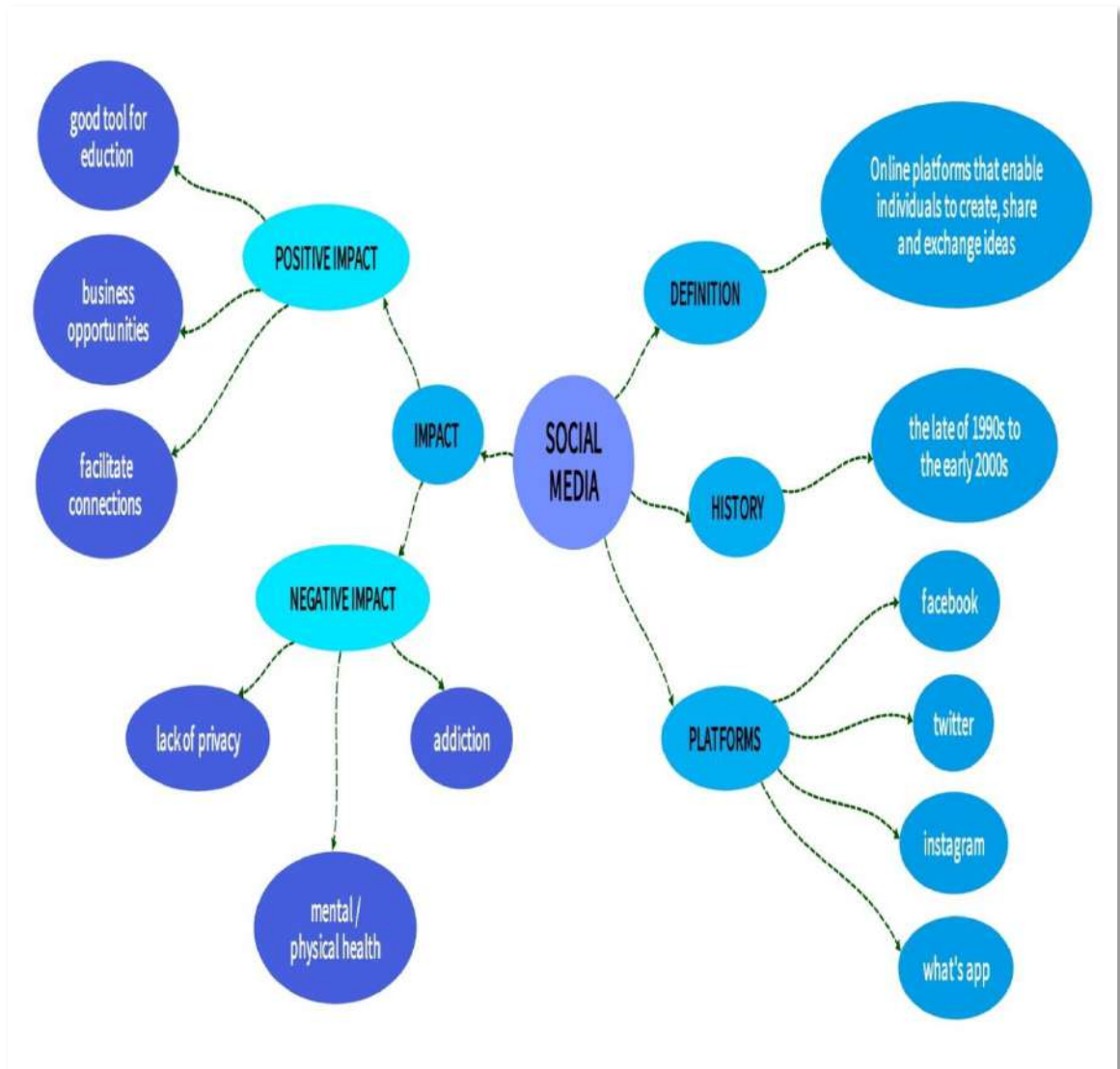
Topic: Mind Mapping Technique

Class: 2nd Year English L.M.D

<b>Learning style:</b> visual	<b>materials:</b> whiteboard , papers, pencils, and colored pens
<b>Mind map use :</b> creating mind maps by hands	<b>session :</b> organizing and planning before writing an introductory paragraph
<b>Objectives:</b>	
<ul style="list-style-type: none"><li>. to create and use mind map to write an introductory paragraph</li><li>.to participate their ideas about the topic</li><li>.to work in groups to create mind maps</li></ul>	
<b>Warming up:</b> ask students about mind mapping technique and its significance	
<b>procedures :</b> <ul style="list-style-type: none"><li>. Explain how to write an introductory paragraph</li><li>. Introduce the concept of mind mapping to the class.</li><li>.Present how to create a mind map on the whiteboard</li><li>.Give an example (drawing a mind map about social media ), and transform this mind map into a paragraph with students .</li><li>. Break the class into groups .</li><li>.Provide a topic to the students: smoking</li><li>. Let students present their ideas to the class and discuss.</li><li>.Ask students to start creating their min maps</li><li>. Assess the mind maps and let students share their findings</li></ul>	
<b>Practice:</b> ask students to choose a topic and draw a mind map (15minutes) then transform the mind map into an introductory paragraph.	
<b>Evaluation: collect</b> students' mind maps and their paragraphs to correct them.	



## The mind map



## Social media introductory paragraph

Social media emerged in the late of 19990S to the early 2000s. It refers to online platforms that enable individuals to create, share, and exchange information through virtual communities by using social sites including Facebook, Twitter, Instagram, and what’s app. While social media provides many benefits including such as facilitating connections, good tool for education, and business opportunities. It also has a negative impact on individuals’ mental/physical health, addiction, and lack of privacy.

## Lesson plan 2

Time: approximately 60 minutes

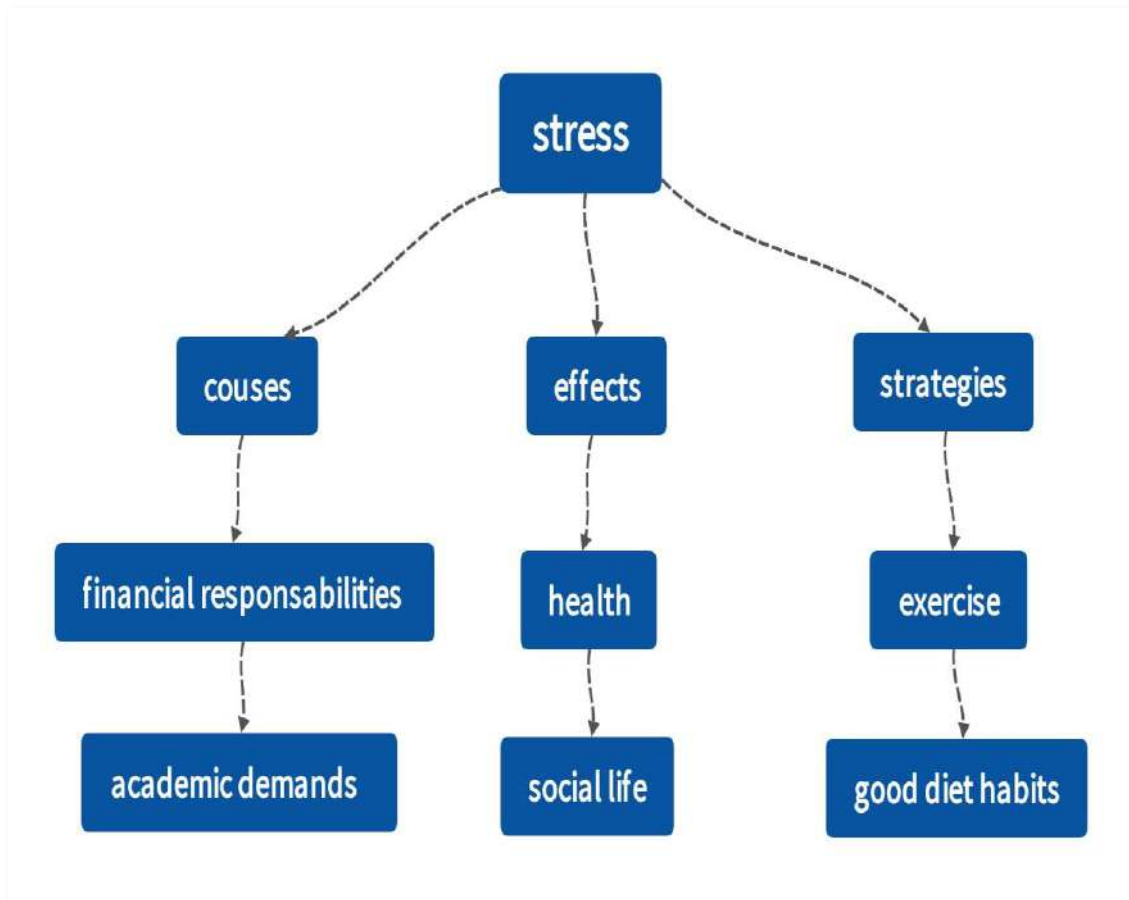
Module: Written Expression

Topic: Mind Mapping Technique

Class: 2nd Year English L.M.D

<b>Learning style:</b> visual	<b>materials:</b> whiteboard, , papers, pencils, colored pens
<b>Mind map use:</b> creating mind maps by hands	<b>Session:</b> using mind maps to write a strong thesis statement
<b>Objectives :</b>	
<ul style="list-style-type: none"><li>• To get students brainstorm their ideas</li><li>• To produce a mind map in order to organize information.</li><li>• To create a strong thesis statement.</li></ul>	
<b>Warming up:</b>	
<ul style="list-style-type: none"><li>• Ask students about the significance of using mind mapping in writing an introductory paragraph</li><li>• Introduce the concept of using mind mapping technique to develop a strong thesis statement.</li></ul>	
<b>Procedures:</b>	
<ul style="list-style-type: none"><li>• Explain to the students how to mind maps to write a strong thesis statement.</li><li>• Provide a topic (stress)and ask students to create their mind maps</li><li>• Get students determine the main ideas to use them when they write their thesis</li><li>• Assess the mind maps and provide feedback</li><li>• Let students write their introductory paragraph</li></ul>	
<b>Practice :</b> ask students to choose a topic and draw a mind map (15minutes)then transform the mind map into an introductory paragraph with a strong thesis statement	
<b>Evaluation</b> collect students' work and correct them	

### The mind map



### The introductory paragraph

Nowadays, stress is a common problem that we can define as the negative feelings and reactions that resulted from difficult situations, while small amounts of stress can be good for us to be motivated to achieve our goals such as taking on new tasks and starting new project. There are many reasons for stressing out including financial responsibilities, and academic demands, which affect individuals' health and social life. Therefore, individuals should take steps to reduce it by exercise, and good diet habits.



## **Résumé**

Le but de l'étude c'est l'enquête de la l'efficacité de l'instruction directe des stratégies cognitives pour améliorer la compétence rédactionnelle sur les étudiants universitaire de répondre sur la question de la recherche, nous faisons le travail de terrain qui représente un questionnaire visé 10 enseignant de la langue anglaise et un test visé des étudiants de la 2 eme année universitaire. Il y a une phase d'instruction d'enseigne les étudiants sur les stratégies cognitives, ou il est apparu les résultats qui a été fait de plus sur le niveau des intervenants dans le groupe expérimental et lui l'instruction directe des stratégies cognitives l'impact de façons positive sur la compétence d'écriture. Donc, on a basé sur les résultats de recherche, nous avons trouvé que l'apprendre de l'instruction directe des stratégies cognitives est amélioré de compétence d'écriture.

**Mots clés: cognition, compétence d'écriture, instruction de stratégie cognitive, L'anglais comme langue étrangère**

## ملخص

الهدف من الدراسة هو التحقق من فعالية تدريس الاستراتيجيات المعرفية بطريقة مباشرة لتحسين مهارة الكتابة لدى طلاب الجامعة . للإجابة عن سؤال البحث. قمنا بعمل ميداني يتمثل في اجراء استبيان وجه الي اساتذة اللغة الإنجليزية و اختبار لطلبة سنة ثانية جامعي لغة إنجليزية .فهنالك مرحلة تعليمية لتدريس الطلاب الاستراتيجيات المعرفية. حيث اظهرت النتائج التي تم الحصول عليها زيادة في مستوى المشاركين في المجموعة التجريبية و منه فان تدريس استراتيجيات المعرفية يؤثر بشكل ايجابي على مهارة الكتابة. لذلك استنادا على نتائج البحث توصلنا الي ان الاستراتيجيات المعرفية تعمل على تحسين مهارة الكتابة لدى الطلاب.

**الكلمات الرئيسية: الإدراك, مهارة الكتابة, تدريس الاستراتيجيات المعرفية , لغة انجليزية كلغة اجنبية**