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**The Effects of Brainwriting Strategy on EFL Middle School**

**Learners' Writing Proficiency**

Dissertation submitted in partial fulfilments of the requirements for the degree of Master in

Didactics of foreign languages

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## **Declaration**

I hereby declare that the dissertation entitled ‘‘Effects of Brainwriting Strategy on EFL Middle School Students’ Writing Proficiency and Attitudes’’, is my own work and all the sources I have used have been acknowledged by means of references. I also certify that I have not copied or plagiarized the work of other students or researchers partially or fully. In case my material is not documented, I shall be responsible for the consequences.

**Signature**

**Year**

Amel BEN BRAHIM

2023

## **Dedication**

I dedicate my humble work to my beloved family, the reason of what I have become today. I am thankful for their unparalleled care and support, and for being patient with me all time.

A special feeling of gratitude to my loving parents, Slimane and Fatiha LEBSIR, whose words of encouragement and push for tenacity ring in my ears. My sisters Hana and Nour Elhouda who have never left my side and are very special.

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## **Abstract**

This study investigated the effectiveness of the brainwriting strategy in enhancing writing proficiency among fourth-grade middle school Algerian learners. More specifically, the study had two main objectives: firstly, to examine the impact of using the brainwriting strategy on writing proficiency, and secondly, to gauge the learners' perspectives on the major difficulties they face in writing tasks and their opinions on the utility of the brainwriting strategy. Thus, it was hypothesized that implementing the brainwriting strategy would lead to improved writing skills among the learners. To achieve these aims, data were collected through a quasi-experiment conducted on 28 fourth-grade middle school learners from Mohamed Ibn Rochd Middle School in Jijel. A researcher-developed questionnaire was also administered to the same group. The participants underwent a pre-test and post-test to assess their initial writing proficiency and improvement, respectively. They also received four treatment sessions, and an assessment grid developed by the researcher was used for evaluation purposes. The experiment aimed to practically test the potential effectiveness of employing the brainwriting strategy on the conveniently selected sample's writing proficiency. Additionally, the questionnaire aimed to explore the learners' attitudes toward brainwriting, its impact on their writing proficiency, and the writing difficulties they encountered. The results from both data collection tools were descriptively and statistically analyzed and then interpreted. The findings obtained revealed that 25 (89.28%) out of 28 learners demonstrated enhanced writing proficiency, as reflected in their total scores following the implementation of the brainwriting strategy. The improvement was particularly notable in vocabulary and writing fluency. These findings confirmed the research hypothesis. Based on these results, a number of recommendations for further research and for pedagogical practices were suggested.

**Keywords:** fourth-grade, middle-school learners, brainwriting strategy, writing proficiency, quasi-experiment, writing fluency.

## **List of Abbreviations**

**CAF:** Complexity, Accuracy and Fluency

**CAR:** Classroom Action Research

**EFL:** English as a Foreign Language

**P:** Participant

**Q:** Question

**SLA:** Second Language Acquisition

**%:** Percentage

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ملخص

## **General introduction**

Language is a universal means of spoken and written communication; hence, it rightfully holds a crucial position in language teaching. While the process of acquiring one's mother tongue may occur unconsciously, learning a second or foreign language follows a more structured and controlled manner. In essence, second language learning involves developing the ability to communicate with others, encompassing understanding, speaking, and writing. Proficiency in these four major language skills—listening, reading, speaking, and writing—is vital for English as a Foreign Language (EFL) students.

Writing is one of the most essential yet complex skills learners find difficulty to reach proficiency in even for native speakers. Writing in a second language necessitates comprehensive and specialized instruction. Harmer (1998) mentioned various reasons for teaching writing to EFL students, including reinforcement, language development, learning style, and emphasizing writing as an independent skill (p.79). Writing, as a skill, is regarded equally important as the other three skills—listening, reading, and speaking. However, many students struggle to construct meaningful and coherent written passages. Raimes (1983) mentioned the importance of writing in any language course. She described the efforts students exert in organizing their ideas and sentences (p. 3). Starting the writing process, organizing ideas, and making thoughts comprehensible to readers are common challenges faced by students, often hindering the flow of ideas right from the beginning.

Additionally, Harmer (1998) suggested different types of writing activities that students should do, taking into account their age, interests, and proficiency level (p. 80). Age plays a crucial role in determining how and what to teach, as people vary not only in age but also in needs, competencies, and cognitive skills (Harmer, .2007, p. 81).



Since writing skill is a fundamental component of mastering a foreign language, extensive research has been conducted in this area. The crux of the problem in Algeria is that foreign language learners face numerous difficulties in developing their writing skills due to the inherent complexity of writing as a skill. As a means of communication, writing is not innate or natural; it requires extensive practice to master its rules. EFL learners must employ their linguistic competencies to generate the main idea, provide supporting arguments, and conclude effectively. However, the prevailing teaching method neglects students' competencies and cognitive capacities by focusing on individual paragraph writing. Consequently, students struggle with gathering and developing ideas, employing grammar effectively, and selecting appropriate vocabulary to build coherent pieces of writing. Actually, teachers can adopt various strategies and creative techniques to improve students' writing proficiency. One such technique is Brainwriting, which can contribute to the improvement of EFL students' writing proficiency.

Wilson (2013) described brainwriting as a strategy that facilitates generating ideas by asking students to write down their thoughts on paper and anonymously exchange them. This strategy encourages creative problem-solving and fosters innovative solutions. Brainwriting is akin to brainstorming, but instead of verbal discussion, it promotes written idea sharing among students.

## **1. Background of the Study**

Research in education exploring effective approaches to develop writing skills has been proliferating in modern times. Innovative techniques are constantly fashioned to enhance students' abilities to master writing proficiency. Students encounter various difficulties in writing such as limited vocabulary, challenges with grammar usage, struggles in initiating writing, and maintaining the flow of ideas. Many studies shed the light on the implementation of the brainwriting strategy and its effectiveness in improving students'

writing skills. However, there is a limited number of research studies specifically those scrutinizing the improvement of writing proficiency through the implementation of the brainwriting strategy in the Algerian context.

Many studies have been conducted on the use of the brainwriting strategy to improve writing proficiency across different academic levels. For instance, Filda Hulwani Dewi (2015) conducted a study titled “The Use of Brainwriting 6-3-5 Technique to Improve students’ Writing Ability of Recount Text” (2015). She conducted classroom action research with 32 eighth-grade students, and the data were collected through observation and tests. Her study aimed at explaining the effectiveness of implementing the brainwriting 6-3-5 technique (a type of brainwriting that will be discussed in the next chapter) to improve students’ ability in writing recount text. The results demonstrated improvement in students’ writing ability throughout the two cycles of the study.

Similarly, Ratih Purwati (2017) investigated the use of the brainwriting strategy to improve the writing skills of 28 students in VII B class. The study, titled “The Use of Brainwriting Strategy to Improve the Students’ Writing Skill in Descriptive Text” (2017), used classroom action research (CAR) as the method, with observation sheets, documentation, and writing assignments as instruments. The results gained from data analysis indicated the successful and effective implementation of the brainwriting strategy, with 81.77% of students achieving the targeted score.

In Indonesia, Aditya Astu Bhairawa, Abdurrahman Faridi and Rudi Hartono (2020) gave special attention to the use of brainwriting and brainstorming strategies by EFL students of MT’s Ma’arif NU Kembaran. Their study compared the effect of brainstorming and brainwriting strategies on writing proficiency. Using a 2x2 factorial design of experimental research, they collected data from 60 participants divided into two experimental groups. Each group was subjected to different treatment: brainstorming

strategy and brainwriting strategy. The instruments of the research included an observation checklist, questionnaire, and pre-test and post-test. The data was analysed using ANOVA to test the hypothesis and the results showed that the brainwriting strategy was more effective in teaching writing to students with both high and low interest levels.

However, the current study separates itself from the aforementioned research studies as it aims to use the brainwriting strategy to compare the level of writing proficiency among fourth-grade EFL learners at Mohamed Ibn Rochd middle school using a quasi-experimental design.

Most of the previous research studies discussed the utility of the brainwriting strategy in enhancing EFL students' writing proficiency. They focused on testing the benefits gained from its implementation. Similarly, the current study aims to test the improvement in writing proficiency through the use of the brainwriting strategy.

## **2. Statement of the Problem**

Attempting to reach a proficient level in writing in a foreign language requires mastering various language components. In other words, success in achieving an up-to-standard performance in writing demands from the writers to master syntax, grammar, content, mechanics of writing, word choice, the audience, organization, purpose and the writer's writing process (Raimes, 1983, p. 6). For instance, students with limited vocabulary often struggle selecting appropriate words, resulting in errors in their writing. Furthermore; students frequently complain about the difficulties they encounter in generating meaningful ideas and spend excessive time in the planning stage often resulting in confusion about how to start their writing. Consequently, many students find writing challenging and to some extent intimidating, leading to decreased interest in the skill.

Moreover, teachers rely primarily on textbook materials and activities that are ineffective in encouraging and supporting students' learning.

Nevertheless, a plethora of factors can help students in overcoming these challenges and improving their writing proficiency. Strategies such as guided writing, pair or group work, and the writing process are promising as methods to address these issues. To further enhance efficiency, the present study suggests the implementation of the Brainwriting Strategy as a possible technique to enhance EFL Algerian Middle School Learners' deficiencies in improving their writing proficiency.

### **3. Research Question**

In light of the above, the present study intends to answer the following question:

- 1) To what extent does the brainwriting strategy contribute in the improvement of fourth-grade EFL middle school students' writing proficiency?

### **4. Research Assumption**

In view of the research question, the study at hand hypothesizes that:

- ✓ The implementation of brainwriting strategy has the potential to enhance the writing proficiency of Algerian fourth-grade students studying English as a foreign language in middle school.

### **5. Aim of the Study**

The objective of this study is to investigate the effect of the brainwriting strategy on the writing proficiency of middle school students. Additionally, it aims to determine the challenges faced by fourth-grade students when using the brainwriting strategy and raise teachers' awareness to the brainwriting strategy for future writing sessions.

## **5. Research Methodology**

To ensure the validity of the study's hypothesis, a quasi-experimental design was employed. The study was conducted with 28 fourth-grade students at Mohamed Ibn Rochd Middle School in Jijel, Algeria, who formed the experimental group. The participants underwent four treatment sessions after completing a pre-test, which assessed their initial writing proficiency through individually written paragraphs related to the syllabus. After receiving the treatment, a post-test, identical to the pre-test, was administered to measure the improvement in their writing proficiency. Additionally, a questionnaire was given to the students to gather their feedback on the implementation of the brainwriting strategy and its impact on their writing proficiency.

## **6. Structure of the Study**

The study at hand consists of two main chapters. The first chapter focuses on the theoretical aspect which was divided into two main sections namely: Writing and Brainwriting. The second chapter delves into the practical part, comprised of three sections. The first section discusses the research methodology, the second section presents the data analysis, and the third section provides data's discussion and interpretation. This research concludes with a discussion of the limitations of the study and some recommendations for teachers and further research.

## **Chapter One: Literature Review**

The present chapter reviews different definitions of the key terms related to writing based on many scholars' work. First, writing is defined alongside its main approaches of teaching writing. Besides, it sheds light on the status of writing among the other language skills. Ultimately, this section underscores the strategies of teaching writing. Additionally, an in-depth exploration of brainwriting strategy is provided as it is the main focus of this study. This includes its definition. Then, it discusses the various types of brainwriting. After that, it tackles the different steps followed to accomplish a group brainwriting activity. It also presents the advantages and disadvantages of the strategy. Finally, the brainwriting strategy is focused on as a method employed by teachers to improve the writing skill. The chapter at hand aims at highlighting the merits of using the brainwriting strategy as far as writing skills are concerned.

### **Section One: Writing**

#### **Introduction**

Writing is one language skill that is acquired and used by humans as an indirect communication tool, and an activity of distributing and transferring ideas and opinions. Writing skill is specific abilities that help writers put their thoughts into words in a meaningful form and mentally interact with the message. It helps learners to gain independence, comprehensibility, fluency and creativity writing.

Kane (1988, p. 3) proposed that ‘writing is a rational activity’ and that ‘it is a valuable activity’. He explained that to say writing is rational, simply, refers to the fact that it is a mental exercise requiring the mastery of skills that anyone can acquire. He added that one who knows what writing comprises and how to use words, phrases and paragraphs, will be able to express oneself in a way that other people can comprehend.

Kane (1988, p. 3) said that learning to write is worthwhile. In other words, writing has an instant practical benefit for almost any work or career. There are plenty of positions where a person can function without having good writing skills. However, a person can get along better and further if he / she can write. Kane (1988) considered another value of writing in which writing is an important part of our growth as human beings, as it helps us to understand and use language to become more complex and interesting. It is a way of growing and becoming more human (p. 3-4).

### **1.1.1. Definition of Writing**

Before immersing in the nuts and dots of writing, it will be more convenient to define it first. Linse & Nunan (2005) defined “writing is a physical act of forming letters as well as the act of expressing oneself” (p. 99). When writing, learners transfer and communicate their thoughts and opinions by marking letters and signs using a pen, a pencil, and/or a keyboard. Writing makes language visible.

Bell and Burnaby argued that writing is a purely cognitive task that is characterized by complexity. They stated that writing is “a cognitive activity mainly complex in the way that the writer is simultaneously required to control a number of variables, such as content, format, sentence structure, vocabulary, punctuation, orthography and letter formation at the sentencing level” (as cited in Nunan, 1989, p. 36). This view suggests that writing requires constant monitoring of what is being written. Distinctly, according to Harmer (2004), writing can be defined as: “an activity that pushes students to focus on accurate language use, and provokes language development as the students resolve problems which the writing puts into their minds” (p. 31). Harmer emphasized language development and accuracy as inevitable results of writing which he considered as an active, productive task which requires time to think about what is supposed to be written. He also implicitly suggested that writing is a solitary activity allowing the individual to enjoy certain merits.

Sokolik (2003) made a grouping of three contrasts that can be used to define and describe writing. First, writing requires both mental and physical effort. It is essentially the physical process of committing thoughts or words to a paper by manipulating a pen, pencil, or keys on a keyboard. Writing, on the other hand, is the mental process of generating ideas, considering how to convey them, and arranging them into sentences and paragraphs that are comprehensible to a reader. Second, writing has two purposes: to express and to impress. "Writers", she said, "typically serve two masters: themselves, and their own desires to express an idea or feeling, and readers, also called *audience*, who need to have ideas expressed in certain ways". Writers select the ideal format for their writing - among the options is: a novel, an academic essay, a shopping list, meeting notes, or poetry. The complexity of each kind of writing varies, depending on its aim. The third contrast that Sokolik draws is between process and product. The process refers to the steps of organizing, drafting, editing, reading and rereading that writers go through in order to create a piece of writing. This writing process is frequently cyclical and sometimes disorganized. Product, on the other hand, is the final work obtained: an essay, letter, narrative, or research report (as cited by Nunan, 2003, p. 88).

### **1.1.2. Types of Writing**

Rivers (1968, p. 242-243) identified four types of writing. Firstly, *notation* which refers to the process of recording verbally conveyed information in typical visual forms. This process might not involve more than the accurate matching of typical graphic symbols to sounds that, to the writers, have no significance and no meaningful connections. Next, *spelling* refers to the procedure of involving recognizable foreign language units. Then, *writing practice* involves creating graphic representations of word combinations that might be used in particular contexts. This type of writing is included in grammatical exercises, building simple dialogues, and basic translation exercises. The last type is *composition*.



Writing refers to the sequential expression of thoughts in a language using its grammatical and visual conventions; a writer's ultimate goal, using this type, is to be able to express himself in a refined scholarly form, which demands the use of particular vocabulary and specific structural improvements. In writing, it is essential to understand the basic system of a language, and this includes knowledge of grammar, punctuation and sentence structure; vocabulary is also necessary as is spelling.

### **1.1.3. Approaches to Teaching Writing**

Despite the availability of myriads of views asserting writing as a productive skill, there is no consensus as to how writing should be taught. However, literature on the process of writing puts forward three major approaches on the process of writing: the product approach, the process approach and the genre-based approach.

#### **1.1.3.1. Product-oriented Approach**

As the name suggests, product-oriented approach focuses on the final product, that is, the imitation of a model text to produce a similar composition. Product-oriented approach focuses on the final product of writing with a special emphasis on correctness and conformity. Students frequently copy a model text to create one. Nunan (2015, p. 82-83) clarified that:

In a product-oriented classroom, learners spend much of their time studying and then imitating model text: provided by the teacher or textbook. Teachers concentrate on ensuring grammatical accuracy at the sentence level, the sentence being seen as the basic building block of the text.

In other words, students mimic a model composition provided by the teacher. For instance, in writing classes, teachers give samples or model compositions to students, who then produce their own compositions based on the models.

The product approach is a classroom activity that focuses on model texts to make students aware of the text features. It involves analyzing the students' writing to identify and quantify their strengths and weaknesses, leading to accuracy. It also attempts to make the student familiar with the conventions of writing through a model before they get their final product. However, the product approach relatively neglects the process of writing and solely occupies itself with grammar, structure, and syntax. It restricts students as it stresses accuracy in mimicking rather than fostering their creativity.

### **1.1.3.2.Process-oriented Approach**

The process-oriented approach, in contrast, gives a considerable attention to how the final product is obtained. It focuses on the procedures that the writers follow in order to reach the final product. The writing process comprises four steps: planning, drafting, revising and editing. Harmer (2007, p. 326) stated that:

By spending time with learners on pre-writing phases, editing, redrafting and finally producing a finished version of their works, a process approach aims to get to the heart of the various skills that most writers employ – and which are, therefore, worth replicating when writing in a foreign language.

Harmer (2007, p. 326) added that a process approach requires students to think again about the steps in creating a high-quality piece of work. This approach allows writers to go back and forth while editing their work. It fosters creativity as well when writers develop their own composition. As a result, it is considered a dynamic approach as a recursive process occurs. He believed that “ It is better to see writing as a kind of process ‘wheel’ , where writers move both around the circumference of the wheel and across the spokes” (p. 326).



Figure 1: The process wheel by Harmer (2007, p. 326)

In the process-based approach, the writing process is more complicated than it seems to be. There is a recursiveness of the different stages of drafting, reviewing, re-drafting and writing; writers loop backwards and forwards between the different stages of the process (Tribble, 1996, p. 39). He added:

During each phase of the process writers may find themselves returning to earlier phase in order to refine the meaning they are trying to. In this sense ‘publishing’ simply marks a point when the writer decides to stop writing. The text itself is never really ‘finished’. (p. 14)

Since the writing process allows for revision and editing over time, the writers’ work transforms into something that is very well thought out and written much better than their first draft. Due to its advantages, the approach is used. Once scaffolding takes place, students’ writing skills can be improved in the classroom. Additionally, students benefit from their teachers’ and peers’ feedback which gives them the opportunity to improve as writers.

Despite all of its advantages, the process-oriented approach has drawbacks. It is time consuming and focuses on process above grammar and structures. Harmer (2007, p. 326) elaborated:

One of the disadvantages of getting students to concentrate on the process of writing is that it takes time: time to brainstorm ideas or collect them in some other way, time to draft a piece of writing and then, with the teacher's help, perhaps, review it and edit it in various ways before, perhaps, changing the focus, more ideas, re-drafting and so on. This cannot be done in 15 minutes.

The process approach encourages students to improve their writing by going through different stages like finding new ideas, new words or new sentences, and revising before writing. It also gives students enough time to get more ideas and express them in new language forms, and encourages them to write as much as possible without worrying about mistakes. Moreover, it gives them opportunities to review, clarify and reorganize what they have written on their own. In contrast with the product-based approach, the process-based approach encourages students to write as much as possible without worrying about mistakes. Thus, the focus is on fluency rather than accuracy. Despite its importance, the process-oriented approach may be inappropriate in certain cases where the classroom has a limited time, in which the student is asked to write quickly.

### **1.1.3.3. Genre-based Approach**

The genre-based approach to teaching writing is mainly concerned, as the name indicates, on teaching particular genres that students need control of in order to succeed in particular situations. This might include an emphasis on the content of text as well as the context in which the text is produced. Hyland (2009, p. 15) defined genre:

Genre is a term for grouping texts together, representing how writers typically use language to respond to recurring situations. Every genre has a number of features which make it different to other genres: each has a specific purpose, an overall structure, specific linguistic features, and is shared by members of the culture.

According to Hyland (2009), the concept of genre is based on the idea that members of a community can identify similarities in texts they use frequently and draw on their experiences to read, understand and write them easily. This is because writing is a practice

based, and the reader's chances of interpreting the writer's purpose are increased if the writer takes the trouble to anticipate what the reader might be expecting based on previous texts they have read (p. 15).

When teachers focus on genre, first read texts in the genre in which they plan to write before starting writing their own work (Harmer, 2007, p. 327). He added that ‘‘A genre approach is especially appropriate for students of English for Specific Purposes. However, it is also highly useful for general English students, even at low level, if we want them to produce written work they can be proud of’’ (p. 327). Harmer (2007) elaborated students who are writing within a genre need to consider a variety of factors, such as knowledge of the topic, conventions, style, context, and readers (p. 327). For instance, a newly appointed Head of Department of English Language may have problems writing a departmental report because he or she is not familiar with institutional expectations. He or she would have to refer to examples of previous reports. This scenario implies that genre knowledge is important.

The genre-based approach to language teaching is based on the idea that language is functional, and that it is used to achieve certain goals. This view sees language as occurring in particular cultural and social contexts, and that particular genres are used to fulfill social functions in those contexts. The objective of adopting this approach is to enable students to use appropriate registers which are important for them.

#### **1.1.4. Writing Fluency**

Teachers often talk about the need to develop and practice students’ speaking fluency. However, the term ‘writing fluency’ is less frequently used. Fluency is defined, in the Cambridge Online dictionary, as the ability to speak or write a language easily, well, and quickly. ‘Fluency is ‘the processing of language in real time’ (Schmidt, 1992, p. 358) with a focus on the ‘primacy of meaning’ (Foster & Skehan, 1996, p. 304); hence, it is

related to the production pressures that a language user faces while communicating a message in either writing or speech” (as cited in Inagaki, Kim & Wolfe-Quintero, 1998, p. 13). In other words, fluency is the real-time processing of language with an emphasis on meaning, which is connected to the production demands that language users confront when writing or speaking. The term fluency has been defined differently. Fillmore (1979) defined fluent speakers in terms of how quickly they speak as well as how coherent and refined their speech is. Second language writers can be called fluent if they can generate written language quickly, clearly, properly, and creatively (as cited in Inagaki, Kim & Wolfe-Quintero, 1998, p. 13). From their perspective, Inagaki, Kim & Wolfe-Quintero viewed that fluency refers to the ability to access many words and structures in a given amount of time, whilst lack of fluency refers to the ability to access only a few words or structures ( p. 14). They added that fluency is a measure of how many words or structural units a writer can include in their writing within a given period of time. It is not a measure of how sophisticated or accurate the words or structures are (p. 14).

Tompkins (2017) described “fluent writers spell words automatically and write quickly so that they can focus on developing their ideas. Their writing seems to flow effortlessly, and it’s distinctive. Fluent writing sounds like talking- it has voice” (p. 198). According to Tompkins (2017), there are three characteristics of fluent writers. They are automaticity, speed and writer’s voice. *Automaticity*, fluent writers write most words automatically and accurately without having to think about how to spell them. Students must know how to spell high-frequency words and be able to apply strategies to spell other words, otherwise, they may forget the sentence they are writing or the one that follows. *Speed*, students need to write 10 words per minute to be considered fluent writers, according to researchers (Graham, Weirtrab & Berninger, 1998). They must be able to write with sufficient speed to keep up with their ideas. *Writer’s voice*, writers develop their

voices through the words they choose and how they string them into sentences, which are unique and can be identified by teachers (p. 198).

According to Inagaki, Kim & Wolfe-Quintero (1998):

Fluency measures reveal how comfortable the second language writer is with producing language. Part of language development is the ease with which the language user can retrieve the language items that he or she needs, which can vary for native speakers and language learners depending on context and abilities (p. 13).

They explained that “the primary way to measure fluency is to count the number, length, or rate of production units. Production units include sentences, T-units, clauses, and phrases” (p. 14). They added that fluency may also be measured by evaluating the length of production units and esteeming the average number of words in them (p. 14). “Another way to consider the rate of production, which in writing is the number of words per minute” (Arthur. 1979 as cited in Inagaki, Kim & Wolfe-Quintero, 1998, p. 14).

Based on the above, we can end up with a definition of fluent writing as the act of writing the maximum number of language units in a limited time while also considering coherence and consistency of ideas within the piece of writing, and utilization of words and sentences in an advanced manner.

#### **1.1.5. The Relationship of Writing with the Other Language Skills**

When we learn a foreign language, there are four fundamental skills of language learning that we need for a proficient communication. Johnson (2008) acknowledged that the four language skills work together to enhance the development of each other: listening, reading, speaking and writing (p. 7). Johnson (2008) articulated that listening and hearing other people use language enhances children's ability to speak. Young children first learn to speak by hearing others use language for real purposes. As they grow, they increase

their vocabulary and hear different ways of expressing themselves. This auditory exposure to words and language also enhances our ability to read and write (p. 7). Hence, writing is not an isolated skill; its development requires the development of the other language skills.

#### **1.1.5.1. Writing and Speaking**

Writing and speaking are clearly known to be productive skills (Johnson, 2008, p. 7). They are skills in which students create an output based on the input that they are exposed to (receptive skills: listening and reading). Tribble (1996) made a distinction between writing and speaking as physical acts (p. 15). He stated that learners need to understand the differences between written and spoken language to become confident writers, and to see how different types of language are constructed i.e. It is not sufficient for learners to understand the various social roles they take when speaking or writing (p. 16). Moreover, learners have to comprehend that written texts are not simply spoken.

Learning to write requires more than just orthographic skills; it also demands acquiring new cognitive and social skill (Tribble, 1996, p. 12). Writing is more than being a matter of transcribing language into symbols. It is more than the production of graphic symbols; these symbols have to be arranged according to some conventions to form words, and to combine them to form sentences. A sequence of sentences, short or long, but coherence and maintaining a certain flow of ideas are adequate means of communication.

This view was supported by Kress (1989, p. 46):

Command of writing gives access to certain cognitive, conceptual, social and political arenas. The person who commands both the forms of writing and of speech is therefore constructed in a fundamentally different way from the person who commands the forms of speech. (As cited in Tribble, 1996, p. 12)

There is a certain relationship between the two. Though they go hand in hand, speaking enables verbal communication, writing on the other hand nourishes the mind, the



perception of the world and this in turn gives opportunity to take part in social and political domains. In other words, writing grants access to domains of greater social and political scales.

#### **1.1.5.2. Writing and Reading**

Johnson (2008, p. 3) defined “Reading is the practice of using text to create meaning”. Clearly, reading is the process of making sense of writing. The keywords ‘creating’ and ‘meaning’ are crucial. Reading, as an act, cannot occur if meaning is not constructed. It is a constantly developed skill that can be improved through practice. In addition, reading combines knowledge that is both visual and verbal. When reading, the non-visual information in the brain and the visual information on the page come together to generate meaning. In this manner, the process of creating meaning involves both what is in your head and what is on the page i.e. reading combines visual and non-visual information to create meaning. Furthermore, reading is the process of linking ideas. It is fundamentally about connecting ideas to form logical wholes (Johnson, 2008, p. 4).

Reading is an essential skill that allows learners to acquire information and knowledge. It is the ability to look at words or symbols and understand what they mean, as the Cambridge Dictionary stated (p. 778). In other words, reading is a receptive skill that goes through two major phases: the reception of words and the understanding of their meaning. The Online Merriam Webster Dictionary also defined reading as “receiving or taking in the sense of (letters, symbols, etc.) especially by sight or touch” which emphasizes the importance of decoding the meaning behind the written symbols over reading fluency. This is also applicable when it comes to text reading. Koda (2007) expressed this same idea by describing reading as constructing text meaning based on visually encoded information. She also explained that, since we read to understand the meaning intended by the author who wrote the message, and then when reading, we have

to make a link between the language and its writing system (Volume 57, Issue s1, p. 1). In other words, the reader bridges the visual representation of the words with their meaning.

Johnson (2008, p. 7-8) listed some impacts that reading and writing have on each other, they are:

- *Reading helps students become better writers.* They encounter the grammar principles while reading and they gain better understanding of the grammatical structures while expanding their vocabulary.
- Writing improves reading fluency and phonic understanding. Writing exposes children to more words and sentences and improves their capacity to rapidly understand and think when they are in a receptive mode.
- *Reading and writing affect the way we think, just as thinking affects our ability to perform all of them.* Language is a tool of thought, used to help us interact with others and form our own thoughts. Reading and writing help us to gather and organize our thoughts in order to clearly communicate them.

Reading is a pre-requisite for writing because it contributes significantly to the improvement of the latter. Reading provides a model for writing. For instance, students may note the features of a narrative story as they read and use those insights to guide their own narrative writing. Furthermore, reading and writing both help students build their vocabulary. When students use vocabulary words in writing, it may help them strengthen their understanding of them when they encounter them in books, and vice versa. In short, the two skills are complementary, and dealing with the first requires the manipulation of the second.

### **1.1.6. Teaching Writing Strategies**

The aim of teaching writing is to reach high level of proficiency in communication. As a form of communication, writing can help students to recognize that they have opinions, ideas, and thoughts that are worth sharing with the world; writing is an effective way of getting these ideas and thoughts out.

According to Raimes (1983, p. 5), ‘There is no one answer to the question of how to teach writing in ESL classes. There are as many answers as there are teachers and teaching styles, or learners and learning styles’. To promote writing, Nunan (2003, p. 96) devised some techniques that teachers may use to teach writing. He added that these techniques are all a component relates to the process approach. Kroll (2001, p. 220) claimed that ‘[T]he ‘process approach’ serves today as an umbrella term for many types of writing courses...What the term captures is the fact that student writers engage in their writing tasks through a cyclical approach rather than through a single-shot approach (as cited in Nunan, 2003, p. 96).

Nunan (2003, p. 96) explained that these activities boost the cyclical processes of brainstorming, drafting, writing, feedback, writing and editing. These kinds of activities promote the notion that writing instruction entails developing a variety of skills in addition to the final product. He illustrated some strategies that teachers may use in their writing courses. They are: brainstorming, word mapping and quickwriting (p. 97). In addition to the previously mentioned strategies in the improvement of the writing skill, there is another strategy which will be discussed in the coming section and that is the Brainwriting strategy.

## **Section two: Brainwriting**

### **Introduction**

The arena of current teaching has been marked by a thorough adjustment in paradigm, to particularize, the shift from traditional instruction to contemporary teaching following the world's tremendous changes in different domains. As a result, this evolution brought about significant advancements that outpaced all the spheres in this era of globalization, and education was no exception; teaching and learning underwent radical changes.

Writing is considered to be a form of art and an integral part of language learning that requires creativity. As creativity is regarded as one of the 21<sup>st</sup>-century skills, the search for the introduction of some creative and effective teaching techniques among those that already existed in the broad range of teaching has been necessary.

VanGundy (2004, p. 4) claimed that "There is nothing mysterious about creativity; it is just a matter of applying the right attitude and technology in a climate receptive to creative thinking and new ideas". Creativity pertains to the workings of the mind and the quality of ideas. Generally speaking, humans tend to be more creative when not restricted by rules. In relation to writing, rules entail respecting the components of writing like punctuation, grammar, sentence structure and form. Some techniques of creativity is generating creative ideas which are presented by brainstorming and brainwriting. Wilson (2013) defined brainstorming as an individual or group effective method for generating ideas and finding solutions to problems (p. 2). Brainstorming pertains to the typical verbal idea generation in a group. However, the term brainwriting which was first used in Germany describes the silent, written generation of ideas in a group situation (VanGundy, 2004, p. 6). He contended that "brainwriting group generates more ideas than brainstorming groups" (p. 6). In other words, when interacting verbally, we can become

discouraged, inhibited, and sidetracked by hidden agendas (VanGundy, 2004, p. 6). In a brainstorming session, participants can be uncomfortable voicing creative ideas in a group session, and they may think at different speeds and not everyone excels at rapid idea generation. Brainstorming can sometimes lead to losing interesting thoughts or forgetting them that is to say; brainwriting records the flow of thoughts and saves them for later use.

### **1.2.1. Definition of Brainwriting**

Brainwriting is a word which was coined in Germany to describe technique to generate ideas in educational and professional settings. The technique requires participants to generate ideas in a silent way. Brainwriting is used to “generate ideas and solutions to problems with relatively large groups” (Wilson, 2013, p. 46). Wilson (2013) defined brainwriting as a variant of brainstorming in which each member of the group writes their ideas on paper before passing it to a colleague who reviews the initial list (of the generated ideas) and adds new ones. Brahm & Kleiner (1996) clarified that “Brainwriting (sometimes called “individual brainstorming”) is a method for rapidly generating ideas by asking participants to write their ideas on paper (or online) and exchanging written ideas rather than shouting those ideas out as happens during traditional brainstorming (as cited in Wilson, 2013, p. 44). Hence, brainwriting shares the process of coming up with ideas about a topic like brainstorming, but it differs in the aspect of documentation. The latter characteristic ensures the preservation of the generated ideas.

Higgins (1994, p. 125) illustrated that the fundamental brainstorming guidelines (to generate as many ideas as possible during the session-quantity of ideas is favored over quality, criticizing ideas is not allowed, and participants are encouraged to build on other ideas) are applicable to the non-oral brainstorming technique known as brainwriting. He added, participants write down their ideas and pass them to their neighbors, who brainstorm for five minutes.

Despite the fact that brainwriting is less well-known than traditional group brainstorming (Osborn, 1963), Paulus and Brown (2003) presented evidence that it frequently generates more ideas. As opposed to brainstorming, where only one idea can be “shouted out”, the process includes parallel activity because each person is writing ideas at the same time (as cited in Wilson, 2013, p. 44). According to Spreng (2007), if you have four people brainstorm for 20 minutes, you are actually brainstorming for 20 minutes. However, if you ask four people to spend 20 minutes each writing down responses to a brainwriting question; you are actually brainstorming for 80 minutes (as cited in Wilson, 2013, p. 44). During the process of brainwriting, the student receives the list which includes the ideas classmates have generated already, which in turn will push the student to expand his/her idea generation to possibly avoid redundancy.

### **1.2.2. Types of Brainwriting**

There are two types of brainwriting strategy; they are brainwriting with related stimuli and brainwriting with unrelated stimuli. Brainwriting with related stimuli refers to the communication of the group members’ thoughts in a silent and written form with stimuli related to the problem. Regardless of the stimuli used, group members can generate ideas in this activity (VanGundy, 2004, p. 329). Examples of activities of brainwriting with related stimuli are: Brainwriting 6-3-5, Brain Purge, Group Not, and Idea Mixer Idea Pool.

Brainwriting with unrelated stimuli requires group members as well. However, unlike brainwriting with related stimuli, the source of stimulation in this activity is not directly related to the problem. Unrelated stimuli may lead to innovative ideas (VanGundy, 2004, p. 355). Some example activities for brainwriting with unrelated stimuli are: Altered States, Bouncing Ball, Puzzle Pieces, and Pass the Buck.

Due to the focus of the present study, brainwriting strategy with related stimuli will be explored elaborately. VanGandy (2004) explained several types of the brainwriting with related stimuli, such as As Easy As 6-3-5, Brain Purge, and Group Not.

#### **1.2.2.1. As Easy As 6-3-5**

Six people, three ideas, five minutes, that's where the name for Brainwriting 6-3-5 comes from. One type of the related stimuli is As Easy As 6-3-5. It is a very simple brainwriting process that organizes how learners communicate and develop ideas. This activity comes in at least three different variations; the first and second versions are viewed to be similar, the only difference between them is that the participants in the second version are asked to draw the columns themselves. On the other hand, the third version is somewhat more organized with no time restriction (VanGundy, 2004, p. 330). According to VanGundy (2004), As Easy As 6-3-5 aims at assisting participants on how to use the activities to generate as many creative ideas as they can, and also aids participants in learning how to produce ideas using the activities (p. 330).

#### **1.2.2.2. Brain Purge**

Before we can think of unique ideas, we frequently have to get rid of more conventional or obvious thoughts. Brain Purge, which Geschka (1979) first created as Pin Cards, enables learners to express thoughts that come to mind right away or that they have been holding back on saying. It is also a useful way to come up with many ideas quickly for almost any issue case (VanGundy, 2004, p. 333). The purpose of Brain Purge is "to help participants generate as many creative ideas as possible, and to help participants learn how to use activities to generate ideas" (VanGundy, 2004, p. 333). The Brain Purge activity is done with groups composed of four to seven participants who generate as many ideas as possible.

### **1.2.2.3. Group Not**

“When is a group not a group?” It is a pertinent issue in small-group problem solving, and it is also the subject of this activity. The response is that when people do not talk to one another while participating in a group activity, a group is not a group. Nominal groups refer to those non groups. The Nominal Group Technique, created by Delbecq and Van Ven (1971), is the foundation of Group Not, one of the small-group idea generation activities that have been the subject of the most researches. Though discussing idea is allowed during this activity, it does not occur until all the ideas have been generated (VanGundy, 2004, p.335). It is noticeable that in a Group Not activity, the participants do not see each other’s ideas during the generation of ideas.

### **1.2.3. Procedure of Brainwriting**

Brainwriting activities are divided into activities which require participants to share their ideas, and others do not need any sharing. According to VanGundy (1993), sharing should result in more and better ideas (as cited in VanGundy, 2004, p. 329).

One of the useful methods to ensure that there are many ideas in a group is through brainwriting, whether or not sharing is involved. The previously described Brain Purge activity has been found to be particularly helpful in increasing idea quantity in groups when compared to traditional brainstorming activities (VanGundy, 2004, p. 329). VanGundy (1993) believed that Brain Purge groups produce four times as many ideas as traditional brainstorming groups. He added that “idea quantity is often linked directly to idea quality” (as cited in VanGundy, 2004, p. 329). According to VanGundy (2004), Brain Purge activity is similar to As Easy As 6-3-5 activity (p. 331).

VanGundy (2004) and Wilson (2013) listed various steps to be followed in a brainwriting session. They are:



- Introduce the procedure and explain what will be discussed.
- Make groups of four to six participants.
- Hand out a paper for each participant to write down ideas.
- Provide a clear and legible problem statement.
- Describe the timing of the brainwriting (for instance, three minutes for the first round, and five minutes for the subsequent rounds).
- Explain the process of passing the papers; share their papers that contain their thoughts or ideas to the person on the right.
- Read silently, and then add new ideas with no talking to other participants.
- Check the participants' understanding of the problem statement or the brainwriting process.
- Remind participants to read the ideas quickly before adding their own ideas and to feel free to add, modify and combine ideas.
- Announce the end of each round and ask participants to pass their papers to another person.
- Give back the papers with the thoughts to the brainwriting facilitator for feedback, comments and discussion.

#### **1.2.4. Advantages of Brainwriting**

As stated previously, according to Higgins (1994, p. 125), the fundamentals of brainstorming extend to the non-oral brainstorming technique known as brainwriting. In a circle, participants write down their solutions to a given issue and then pass their papers to their circle neighbors, who then brainwrite the solutions for a predetermined amount of time, say five minutes, before passing the papers to the next participant. The idea behind this is to assist learners in expanding and improving others' thoughts. Higgins (1994) added that the main benefit of brainwriting is that the facilitator is less likely to improperly

affect participants (p. 125). In other words, the facilitator does not interfere during the generation of ideas; the participants are totally free to write any idea that comes to their minds.

Wilson (2013, p. 47-48) listed some benefits of the brainwriting technique. They are as follow:

- Brainwriting is a useful tool to rapidly generate questions and suggestions.
- Requires little instruction from facilitator and participants.
- Unlike group brainstorming, which is advised to use a professional facilitator, minimal facilitation is needed.
- Can generate more thoughts than standard group brainstorming (Paulus & Brown, 2003).
- Can be used in conjunction with group brainstorming and other creative methods to increase the number of ideas generated for a specific topic or issue (Spreng, 2007).
- Provides support for reluctant colleagues who might hesitate to speak up during group brainstorming.

VanGundy (2004, p. 329) added that:

Brainwriting activities compensate for sessions deficiency of most brainstorming groups. Specially, only one person can generate ideas at a time during brainstorming. This is known as ‘production blocking’. Brainwriting overcomes production blocking by enabling all group members to generate ideas at the same time since they all are writing down ideas –more or less- at the same time.

From the same perspective, Wilson (2013, p. 44) stated that blocking effects of face-to-face brainstorming (e.g., evaluation anxiety and competition for speaking time) are reduced by writing ideas privately.

### **1.2.5. Disadvantages of Brainwriting**

Brainwriting is a technique that triggers sessions where everyone sits at a table together to simultaneously tackle a problem; each participant thinks and records ideas individually, without any verbal interaction. The main focus in brainwriting is the amount of ideas generated by participants; this can target one aspect and could as a result pay little to no attention to other elements that may come into play or have a great influence on the production or process of writing. Hence, this may lead to the point that brainwriting cannot be used without any downsides. Higgins (1994, p. 125) stated that “the main disadvantage is the lack of spontaneity”.

According to Wilson (2013, p. 48), brainwriting has some weaknesses which are:

- It is less popular than the technique of group brainstorming.
- It is less social than group brainstorming. Participants write their ideas without talking to each other.
- It may not be effective for team building as conventional group brainstorming (VanGundy, 1984).
- Participants may feel limited in their ability to express their thoughts in writing.
- Handwriting can be little challenging to read for the person who must transcribe and understand what is written.

VanGundy (2004, p. 329) highlighted “one downside of brainwriting is that most people enjoy the social satisfaction that accompanies brainstorming. In brainstorming groups, productivity often takes a back seat to satisfaction of social needs. Thus, he suggested combining both brainstorming and brainwriting, as they are complementary (p. 329). Like brainstorming, brainwriting is a beneficial way to share new ideas, encourage creativity, and develop innovative ideas. The combination of both techniques

may lead to better results; brainstorming can help learners, who sometimes feel blocked to start writing, activate and enrich their knowledge, and brainwriting may aid shy or introvert learners, who are reluctant to speak up in a brainstorming session, to overcome these limitations by allowing them to write down their ideas instead.

## **Conclusion**

In a globalized world, the English language has become influential and dominant in all domains, especially in education. As for Algeria, English has been a compulsory subject that should be taught in schools from elementary until university. A good mastery of the English language demands the mastery of its four skills: listening, speaking, reading and writing. This latter is regarded as a challenging skill which many EFL students face difficulties to reach high level in. This chapter discussed both writing as an English language skill, and brainwriting strategy as a technique that may help in the improvement of EFL students' writing proficiency. Two sections were devoted to these two elements. The first section was concerned with writing wherein a full and thorough definition was provided. Then, it went through the approaches of teaching writing. Besides, it highlighted the one significant writing aspect which is writing fluency. Additionally, it shed light on writing among the other language skills. Lastly, it tackled the writing teaching strategies. The second section was devoted to brainwriting; its definition and where it was first used. After that, it drew attention to the various types of brainwriting. Moreover, it elaborated the brainwriting procedure before showing up the advantages of brainwriting as well as its drawbacks.

## **Chapter Two: Fieldwork**

### **Introduction**

In the preceding chapter, the literature relevant to writing proficiency and the brainwriting strategy was explored. Now, in this second chapter, the focus shifts towards the practical framework that underpins the entire study. This chapter is divided into three sections, each serving a distinct purpose. The first section centers around the methodology employed, primarily delving into the overarching fieldwork design including description of the research design, sample and tools. Building upon this, the second section encompasses the analysis of the collected data. Subsequently, the third section provides a discussion and interpretation of the results derived from the analyzed data. As the chapter draws to a close, the limitations of this research study are pointed out and pedagogical recommendations are put forth for future research endeavors.

### **Section One: Research Methodology**

This section delineates key elements of the research, including the research paradigm, population, methodology, and the overall research design. Within the research design, special focus is given to the rationale behind the selection of instruments for data collection as well as their description. Furthermore, this section encompasses data analysis, explaining in the process, the methods and techniques utilized to examine and interpret the collected data.

#### **2.1.1. Research Assumption**

The research assumption is the foundation upon which any study is built. Thus, it is essential to reiterate in this chapter. Writing has significant value in the process of acquiring a foreign language. That's why SLA researchers are constantly prompted to explore new and effective ways to enhance students' writing proficiency. Brainwriting has

emerged as a possibly valuable strategy that can be implemented in educational institutions. Consequently, the assumption underlying this research is as follows:

- The implementation of brainwriting strategy has the potential to enhance the writing proficiency of Algerian fourth-grade students studying English as a foreign language in middle school.

### **2.1.2. Research Paradigm**

In an attempt to explore the effects of utilizing the brainwriting strategy on Algerian fourth grade EFL middle school students' writing proficiency, the current study employed the experimental design of research. According to Nunan (1992) "Experiments are carried out to explore the strength of relationship between variables. A variable, as a term itself suggests, is anything which does not remain constant" (p. 25). Hence, to meet the purpose of the present study and assessing the validity of the hypothesis, a quasi-empirical model of research was implemented. In the current investigation, two variables were at play; the dependent variable represented by students' writing proficiency, and the independent variable is the brainwriting strategy. Particularly, the study investigated whether the use of the brainwriting strategy bears an effect on Algerian middle school EFL students' level in writing. It is essential to mention that the quasi-experimental design is one type of the experimental approach that is widely used in scientific research because it is an effective design for testing cause and effect relationships (Nunan, 1992, p. 41).

Specifically, in this experimental design, the experimental group received two types of assessments: a diagnostic test or 'pre-test' before the experiment began, and a summative test or 'post-test' after four treatment sessions. These assessments aimed to examine students' improvement in writing using the brainwriting strategy. Additionally, the learners engaged in a five minutes brainstorming prior to receiving the treatment.

Following the treatment, a questionnaire was designed and administered to the students. This questionnaire aimed to inspect students' attitudes and perspectives regarding the implementation of the brainwriting strategy. It included close-ended questions to gather attitudinal information. Hence, the study adopted a mixed-method research approach, combining qualitative and quantitative methods, by incorporating data from the experiment and descriptive data from the questionnaire.

### **2.1.3. Population and Sampling**

This research targeted fourth-year learners at Mohamed Ibn Rochd Middle School in Jijel. The decision to focus on fourth-grade students is justified by multiple factors. Firstly, fourth-year students are expected to have a higher level of knowledge and vocabulary in the English language, as the brainwriting strategy necessitates expressing their own thoughts and ideas in a coherent manner. Secondly, these students are in the process of preparing for their Brevet exam, which provides them with an additional incentive to participate in the experiment. Lastly, fourth-year students are generally more motivated and interested in enhancing their writing proficiency in English, recognizing it as a universal language used for communication across the globe.

Including the entire population in the study would be challenging, so sampling is employed as a widely-used approach to save time and effort while ensuring reliable results. Sampling involves selecting a representative group from the population under study. In this research, the sample consisted of fourth-year students chosen from two out of five classes, using convenience sampling. A total of 28 participants were selected based on their voluntary participation. The experimental group's identity remained anonymous during the data analysis. The table below provides information about the targeted sample.

Table 1

The Total Number of the Experimental Group

N°	Sex	N° in each group	Total
1.	Male	15	28
2.	Female	13	

## 2.1.4. Research Design

### 2.1.4.1. Description of Data Collection Instruments and Tools

To validate the research hypothesis, several instruments were employed, including a series of assessments (diagnostic test, immediate assessment, and summative test) as well as a student's questionnaire.

#### 1. The Tests

The tests used in this study are described as follows:

##### a. Diagnostic test

This test was administered to the learners as a pre-test to assess their writing abilities and identify their strengths and weaknesses before receiving the treatment.

##### b. Immediate assessment

This assessment consisted of four treatment sessions in which the learners were guided by the researcher on the implementation of the brainwriting strategy.

##### c. Summative test

This test was conducted at the end of the experiment as a post-test to evaluate the extent of improvement in writing achieved by the learners after using the brainwriting strategy.



These assessments, along with students' questionnaire, were utilized to gather relevant data for the study.

**i. Administration of the Assessments**

**a. Administering the Pre-test**

The pre-test was scheduled for March 13th at 4 p.m., a day before the treatment phase started. The participants were gathered in a classroom with their teacher, who was also the researcher. Certain measures were taken during the administration of the pre-test, including:

- ✓ The teacher informed the students that the test was part of a research study.
- ✓ The learners were told that the test aimed to evaluate their overall writing skills in English, assessing their strengths and weaknesses.
- ✓ Students were instructed not to interact or discuss the content with their peers, and they were required to work individually.
- ✓ Each student was given a topic related to the official syllabus, which they had previously studied with their teacher. They were asked to write paragraphs on this topic.

**b. Administering the Immediate Test**

The next stage involved the treatment sessions, which began the day after the pre-test. There were four sessions conducted over a period of two weeks: session one on March 14th, session two on March 15th, session three on March 20th, and session four on March 21st. The twenty-eight learners were divided into four groups with five participants each, and two groups with four participants each. In the first treatment session, participants received instructions on the strategy and how to proceed. They were provided with a paper

containing the topic, a table to write their ideas, and a box where they would compose their paragraphs.

Each participant was required to write three ideas related to the topic on the paper. After a few minutes, they passed the paper to the participant on their right, who added three new ideas to the existing ones. This process continued in cycles until each participant received their original paper. Then, participants were instructed to use as many ideas as possible from the table to construct a coherent paragraph. Prior to starting their writing, there was a brainstorming session on the topic, especially to assist slower learners in refreshing and enriching their thoughts. The topics for the four treatment sessions were: social media, sport and hobbies, travel, and Ramadan. Learners had the freedom to choose their preferred topic.

### **c. Administering the Post-test**

The participants took the post-test on March 22nd at 4 p.m., a day after the final treatment session. The post-test was similar to the pre-test. Learners were asked to write a paragraph on a topic related to the official syllabus. The rationale behind maintaining identical pre-test and post-test topics was to facilitate assessing the extent of improvement in the learners' ability to construct and maintain the flow of their ideas using the strategy.

## **ii. Data Collection Procedure**

The data collection process involved two primary stages: the initial stage which focused entirely on the experiment's design and the implementation phase where the researcher put the plan into action to test the research hypothesis.

### **a. Initial Stage**

In the initial stage, the researcher allowed the students to choose the topics that interested them, resulting in compiling four different themes. This approach was

implemented to provide learners with an opportunity to express their opinions and share their ideas on subjects that genuinely intrigued them. By allowing students to select their own topics, they felt more comfortable and motivated to write. It is important to note that these chosen topics were part of the official syllabus for the four middle school years. This approach proved fruitful as the obtained results demonstrated a high level of enthusiasm and eagerness among the participants.

### **b. Implementation Stage**

The implementation stage of this experimental study spanned two weeks, during which the researcher conducted four treatment sessions. Interestingly, a day prior to the treatment, the participants took a pre-test designed to assess their overall writing abilities. This pre-test served as a baseline measurement. Additionally, before commencing each treatment session, participants engaged in a five-minute brainstorming activity related to the topic. The purpose of this exercise was to provide hesitant learners with ideas and to help them overcome any apprehension they may have had about sharing their thoughts. At the conclusion of the treatment sessions, the same test was administered as a post-test to evaluate students' progress.

## **2. Student's Questionnaire**

A questionnaire is a data collection tool consisting of a series of questions or items used to gather information about respondents' attitudes, experiences, or opinions. It can be used to collect both qualitative and quantitative data. According to Cohen, Manion, and Keith (2018), questionnaires are widely used in surveys and provide structured data that is often numerical, making analysis relatively straightforward when administered in the presence of the researcher (p. 471). Nunan (1992) distinguishes between two types of questionnaire items: closed and open-ended. Closed items have a predetermined range of

potential responses set by the researcher, while open-ended items allow subjects to freely express their own thoughts (p. 143).

The student's questionnaire in this study is specifically designed to explore students' attitudes towards the effectiveness of the brainwriting strategy in enhancing the writing proficiency of EFL students. Its purpose is to provide students with an opportunity to **express their attitudes regarding** the potential benefits of the brainwriting strategy on their writing proficiency. The questionnaire aims to assess the extent to which EFL learners are aware of the role of the brainwriting strategy in improving their writing proficiency. To validate the research hypothesis, the analysis of the student's questionnaire will be complemented by the analysis of the tests (pre-test, immediate test, and post-test).

#### **i. Description of the Questionnaire**

The questionnaire used in this study is specifically designed for fourth-grade middle school learners. Its purpose is to gather data on students' attitudes towards writing proficiency and their perceptions of writing when using the brainwriting strategy. The questionnaire consists of 14 graded questions, starting with a question asking students to rank the four English language skills from easiest to most difficult. It then includes general questions about students' attitudes towards writing, with a focus on vocabulary in writing. Finally, the questionnaire includes questions about students' perspectives on the experiment, particularly the brainwriting strategy implemented to improve their writing proficiency.

The questionnaire primarily consists of closed-ended questions, where students are required to choose from options such as "YES," "NO," "SOMETIMES," or "TO SOME EXTENT" to provide their responses. These questions are designed to elicit specific answers and allow for easier analysis of the data.

## **ii. Administration of the Questionnaire**

The questionnaire was administered to the experimental group consisting of 28 students. After completing the experiment, the students were given the questionnaire. The administration and collection of the questionnaire took place on April 24th, ensuring that the responses were obtained in a timely manner.

### **2.1.4.2. Data Analysis Procedures**

The gathered data was analyzed based on the research question, which aimed to determine the extent to which the brainwriting strategy contributes to the improvement of writing proficiency among fourth-grade EFL middle school students. Previous research in Chapter One has highlighted the positive impact of the brainwriting strategy on students' writing skills (Wilson, 2013). By using brainwriting, participants experienced enhanced writing fluency, which resulted in improved writing proficiency and increased confidence as they utilized diverse ideas and thoughts to construct meaningful and coherent written pieces. In light of this, the research question sought to assess students' writing proficiency and examine the role of the brainwriting strategy in enhancing it.

The data collected from the pre-test, immediate assessment, post-test, and the questionnaire was analyzed using quantitative measures. The researcher computed the scores obtained by the students in the pre-test and post-test, allowing for a comparison to evaluate their progress. For the immediate assessment, the researcher analyzed the data based on a writing grid designed specifically for this purpose. The marks obtained in each of the four treatment sessions were counted and compared, enabling the researcher to distinguish the progress made by students in each session. The questionnaire data was also analyzed, taking into account the scores obtained by the students as well as their attitudes

towards writing as a skill and the brainwriting strategy. The questionnaire served as an additional data collection instrument.

## **Section Two: Data Analysis**

This section focuses on the analysis of the experimental research. The questionnaire was designed to assess the students' general attitudes towards writing and their specific attitudes towards the experiment. In addition to the questionnaire, three tests were administered. The diagnostic assessment aimed to evaluate the students' writing level, while the summative assessment aimed to measure the improvement by comparing the pre-test and post-test results. The immediate assessment followed a brainstorming session to engage the students and activate their knowledge. To analyze the results, the researcher employed statistical measures, including calculating the scores obtained by each student in the pre-test, post-test, and the four treatment sessions.

### **2.2.2. Pre-test and Post-test Analysis**

Learners were introduced to identical tests (pre-test and post-test). Therefore, the same procedure was followed to count their scores. The analysis of the pre-test and post-test was based on correcting the participants' writings and counting the final score of each of them. Accordingly, there were five aspects of writing assessment that the researcher emphasized on in the correction of the participants' writings; they are fluency (6 points), content (2 points), mechanics (6 points), syntax (2 points) and vocabulary (4 points). The final score of each participant was out of twenty.

Table 2

Overall Score of the Pre-test and Post-test

Participants	Pre-test		Post-test	
	Overall score	Percentage	Overall score	Percentage
<b>Participant 1</b>	5.5	27.5 %	6.5	32.5 %
<b>Participant 2</b>	14	70 %	18	90 %
<b>Participant 3</b>	7.5	37.5 %	14.5	72.5 %
<b>Participant 4</b>	6	30 %	10.75	53.75 %
<b>Participant 5</b>	9.75	48.75 %	12.75	63.75 %
<b>Participant 6</b>	10.25	51.25 %	13.75	68.75 %
<b>Participant 7</b>	11.25	56.25 %	13.75	68.75 %
<b>Participant 8</b>	5.5	27.5 %	5	25 %
<b>Participant 9</b>	10.75	53.75 %	15.5	77.5 %
<b>Participant 10</b>	2.75	13.75 %	7.25	36.25 %
<b>Participant 11</b>	9.25	46.25 %	16.75	83.75 %
<b>Participant 12</b>	11.25	56.25 %	14.75	73.75 %
<b>Participant 13</b>	9.50	47.5 %	10.25	51.25 %
<b>Participant 14</b>	5	25 %	11.5	57.5 %
<b>Participant 15</b>	8.25	41.25 %	10.25	51.25 %
<b>Participant 16</b>	5.75	28.75 %	8.5	42.5 %
<b>Participant 17</b>	6.75	33.75 %	6.75	33.75 %
<b>Participant 18</b>	11.5	57.5 %	11	55 %
<b>Participant 19</b>	13.5	67.5 %	12.5	62.5 %
<b>Participant 20</b>	5.75	28.75 %	11.25	56.25 %
<b>Participant 21</b>	13	65 %	17.25	86.25 %
<b>Participant 22</b>	8.75	43.75 %	11	55 %
<b>Participant 23</b>	12.5	62.5 %	13.25	66.25 %
<b>Participant 24</b>	3	15 %	7.5	37.5 %
<b>Participant 25</b>	11	55 %	13.5	67.5 %
<b>Participant 26</b>	12.25	61.25 %	13.75	68.75 %
<b>Participant 27</b>	4.5	22.5 %	6.25	31.25 %
<b>Participant 28</b>	3	15 %	3.25	16.25 %
<b>Total</b>	<b>237.75</b>	<b>42.45%</b>	<b>320. 25</b>	<b>57.18%</b>

The results of the pre-test show a score that is below the average representing 42.45 %. It also denotes that the majority of the learners got marks below par. There are 17 students out of 28 who got below the average (below 10). However, only 11 students out of 28 reached the average. The highest score is marked by participant 2 who got 14 out of 20 representing 70 %. In contrast, the lowest score is marked by participant 10 with 2.75 out of 20 representing 13.75 %. This was presumably predictable by the researcher, who is the participants' teacher, and who already has sufficient knowledge about the students' level in writing.

The scores obtained from the post-test indicate a remarkable progress in the participants' writings. Most of them showed an improvement which is relatively different from a student to another. One student performed excellent work and got the highest score 18 (participant 2), and two others did very well with scores of 17.25 and 16.75 (participant 21 and 11). The number of participants who got the average increased to 21 participants. On the other hand, the number of participants below the average decreased to 7 participants. They were under the average because their improvement was slower in addition to their low level in English. Participant 28 got the lowest score which is 3.25. It is worth mentioning that participants' 8, 18 and 19 scores were slightly under the pre-test scores. Generally speaking, the researcher assumed that, to a certain degree, the progress of the students' scores is due to the learners' familiarity of the brainwriting strategy and the students' enthusiasm and challenge all along the experimental study.

#### **2.2.2.1. Fluency Analysis**

The first writing factor that the researcher emphasized on is fluency. This latter refers to the ability to transmit ones' thoughts into written words. Fluency was marked 6 out of 20, as it was one of the focuses of the study to be assessed in the students' writings. The students' fluency was rated in the table below.



Table 3

Students' Scores in Fluency in Pre-test and Post-test

Participants	Pre-test		Post-test	
	Fluency score	Percentage	Fluency score	Percentage
<b>Participant 1</b>	1.25	20.83 %	1.75	29.16 %
<b>Participant 2</b>	4.50	75 %	5.75	95.83 %
<b>Participant 3</b>	2.50	41.66 %	5	83.33 %
<b>Participant 4</b>	2	33.33 %	3.75	62.5 %
<b>Participant 5</b>	3	50 %	4	66.66 %
<b>Participant 6</b>	3.50	58.33 %	4.50	75 %
<b>Participant 7</b>	3.75	62.5 %	4.50	75 %
<b>Participant 8</b>	1.75	29.16 %	1.25	20.83 %
<b>Participant 9</b>	3.50	58.33 %	5	83.33 %
<b>Participant 10</b>	1	16.66 %	1.75	29.16 %
<b>Participant 11</b>	3.25	54.16 %	5	83.33 %
<b>Participant 12</b>	3.50	58.33 %	5	83.33 %
<b>Participant 13</b>	3	50 %	3	50 %
<b>Participant 14</b>	2	33.33 %	4	66.66 %
<b>Participant 15</b>	2.75	45.83 %	3	50 %
<b>Participant 16</b>	2	33.33 %	2.75	45.83 %
<b>Participant 17</b>	2	33.33 %	3	50 %
<b>Participant 18</b>	3.50	58.33 %	3.50	58.33 %
<b>Participant 19</b>	3.75	62.5 %	3.75	62.5 %
<b>Participant 20</b>	2	33.33 %	3.25	54.16 %
<b>Participant 21</b>	4	66.66 %	5.50	91.66 %
<b>Participant 22</b>	3	50 %	3.25	54.16 %
<b>Participant 23</b>	3.25	54.16 %	3.25	54.16 %
<b>Participant 24</b>	0.75	12.5 %	1	16.66 %
<b>Participant 25</b>	3	50 %	3.75	62.5 %
<b>Participant 26</b>	3.50	58.33 %	4.25	70.83 %

<b>Participant 27</b>	1	16.66 %	1.50	25 %
<b>Participant 28</b>	0.75	12.5 %	0.75	12.5 %
<b>Total</b>	<b>74.75</b>	<b>44.49 %</b>	<b>96.75</b>	<b>57.58 %</b>

The table above displays the scores reached, as well as the percentage for each student, in pre-test and post-test. The results of the pre-test show a performance that is below the average representing 44.49 %. Thirteen students got below the average and 15 reached the average. Participant 2 got the best score 4.50 representing 75 %. The lowest percentage attributed to participants 24 and 28 who got 0.75 representing only 12.5 %. It is noteworthy to mention that the low scores that the students obtained were due to the novelty of the strategy used. The results in the post-test show clearly that there is an improvement in the students' writing fluency. This is mainly due to the fact that learners got accustomed to using brainwriting. The results of post-test show an increase that reached 57.58 %. The total number of students who reached the average, as it appears in the table, have progressed; 21 out of 28 participants. Most students showed progress except participant 8 who decreased from 1.75 in the pre-test to 1.25 in post-test, whilst participants 13, 18, 19, 23 and 28 maintained the same score. It is notable that the highest score was reached by the same participant 2 who got 5.75 representing 95.83 %, however, the lowest score 0.75 representing 12.5 % by participant 28.

#### **a. Fluency Measurements**

Fluency is the first measure of writing assessment in this study; as stated in Chapter One, fluency can be measured by counting the total number of sentences in the students' writings, in both pre-test and post-test. . Calculations were carried out by counting the total number of sentences then comparing the results of students in pre-test and post-test. The following table summarizes the students' fluency measures:

Table 4

Students' Writings Fluency Measures

Participants	Number of sentences	
	Pre-test	Post-test
Participant 1	05	07
Participant 2	12	17
Participant 3	06	14
Participant 4	09	14
Participant 5	12	15
Participant 6	17	22
Participant 7	10	17
Participant 8	06	08
Participant 9	20	26
Participant 10	10	14
Participant 11	11	23
Participant 12	19	27
Participant 13	20	27
Participant 14	15	19
Participant 15	15	22
Participant 16	12	20
Participant 17	12	19
Participant 18	10	13
Participant 19	12	19
Participant 20	10	17
Participant 21	23	31
Participant 22	13	20
Participant 23	15	18
Participant 24	07	08
Participant 25	10	15
Participant 26	16	18
Participant 27	07	07
Participant 28	06	06

The table above demonstrates that the total number of written sentences increased when comparing pre-test and post-test with the majority of students. Only two participants displayed similar results in both pre-test and post-test and they did not show any improvement.

### 2.2.2.2. Content Analysis

Content is the second factor to consider in the students' writings. In the assessment of the students' compositions, the researcher focused on assessing composition's organizations and cohesion (students' writings should include topic sentence, supporting sentences and conclusive sentence). Content was devoted 2 points out of 20. The table below summarizes the students' scores in pre-test and post-test.

Table 5

Students' Scores in Content in Pre-test and Post-test

Participants	Pre-test		Post-test	
	Content score	Percentage	Content score	Percentage
<b>Participant 1</b>	0.75	37.5 %	1.75	87.5 %
<b>Participant 2</b>	2	100 %	2	100 %
<b>Participant 3</b>	1.25	62.5 %	2	100 %
<b>Participant 4</b>	1.25	62.5 %	1.75	87.5 %
<b>Participant 5</b>	2	100 %	2	100 %
<b>Participant 6</b>	2	100 %	2	100 %
<b>Participant 7</b>	2	100 %	2	100 %
<b>Participant 8</b>	0.75	37.5 %	1	50 %
<b>Participant 9</b>	2	100 %	2	100 %
<b>Participant 10</b>	0.5	25 %	1.75	87.5 %
<b>Participant 11</b>	1	50 %	2	100 %
<b>Participant 12</b>	2	100 %	2	100 %
<b>Participant 13</b>	1.5	75 %	1.75	87.5 %

<b>Participant 14</b>	0.5	25 %	2	100 %
<b>Participant 15</b>	2	100 %	2	100 %
<b>Participant 16</b>	1.5	75 %	2	100 %
<b>Participant 17</b>	0.75	37.5 %	1	50 %
<b>Participant 18</b>	2	100 %	2	100 %
<b>Participant 19</b>	2	100 %	2	100 %
<b>Participant 20</b>	1	50 %	2	100 %
<b>Participant 21</b>	2	100 %	2	100 %
<b>Participant 22</b>	1	50 %	1.75	87.5 %
<b>Participant 23</b>	2	100 %	2	100 %
<b>Participant 24</b>	0.25	12.5 %	1.5	75 %
<b>Participant 25</b>	2	100 %	2	100 %
<b>Participant 26</b>	2	100 %	2	100 %
<b>Participant 27</b>	1.25	62.5 %	0.75	37.5 %
<b>Participant 28</b>	0.5	25 %	0.5	25 %
<b>Total</b>	<b>39.75</b>	<b>70.98 %</b>	<b>49.25 %</b>	<b>87.94 %</b>

Table 5 shows the overall percentage of content reached in pre-test is 70.98%; 13 students got the full mark which is 2 representing 100 %. This might be due to the students' awareness and familiarity with the topic assigned to them (a topic from the fourth-grade official syllabus). However, 7 participants got below the average; the lowest score, 0.25 representing 12.5 %, was gotten by participant 24. The reason behind those low scores could be the students' inability to retain the knowledge they received before. On the other hand, it is noticed that 18 students reached 100 % in the post-test and only 2 participants who did not reach the average; they are participants 27 and 28 who got 0.75 representing 37.5 % and 0.50 representing 25 % which is the lowest score.

### 2.2.2.3. Mechanics of Writing Analysis

Students are required to follow the basic written English rules such as spelling, punctuation, capitalization grammar and readable handwriting. In the current study, the researcher put an emphasis on three aspects of mechanics which are spelling, punctuation and grammar. Mechanics factor is marked 6 out of 20 (2 points for each one). The table that follows concludes the learners' scores.

Table 6

Students' Scores in Mechanics in Pre-test and Post-test

Participants	Pre-test						Post-test					
	Spelling		Punctuation		Grammar		Spelling		Punctuation		Grammar	
	Score	Percentage	Score	Percentage	Score	Percentage	Score	Percentage	Score	Percentage	Score	Percentage
P1	0.75	37.5%	0.25	12.5%	0.25	12.5%	0.75	37.5%	0.25	12.5%	0.25	12.5%
P2	1	50%	1	50%	1	50%	1.75	87.5%	1.5	75%	1.75	87.5%
P3	1	50%	0.25	12.5%	0.5	25%	1	50%	1.5	75%	1	50%
P4	0.5	25%	0.25	12.5%	0.25	12.5%	1.25	62.5%	0.25	12.5%	0.5	25%
P5	1	50%	0.75	37.5%	0.5	25%	1.5	75%	0.75	37.5%	1	50%
P6	1	50%	0.5	25%	0.5	25%	1	50%	0.75	37.5%	1	50%
P7	1	50%	0.75	37.5%	0.75	37.5%	1.5	75%	0.75	37.5%	0.75	37.5%
P8	0.5	25%	1	50%	0.25	12.5%	0.5	25%	0.25	12.5%	0.25	12.5%
P9	1	50%	0.75	37.5%	0.75	37.5%	1.5	75%	1	50%	1.25	62.5%
P10	0.25	25%	0	0%	0.25	12.5%	1	50%	0	0%	0.5	25%
P11	1	50%	0.5	25%	0.75	37.5%	1.5	75%	1.5	75%	1.5	75%
P12	1.25	62.5%	0.5	25%	1	50%	1.25	62.5%	0.5	25%	1.25	62.5%
P13	0.75	37.5%	1	50%	0.75	37.5%	0.75	37.5%	1	50%	0.25	12.5%
P14	0.5	25%	0.5	25%	0.25	12.5%	0.75	37.5%	0.5	25%	0.5	25%
P15	0.75	37.5%	0.5	25%	0.25	12.5%	0.75	37.5%	0.5	25%	0.5	25%
P16	0.5	25%	0.25	12.5%	0.25	12.5%	1	50%	0.25	12.5%	0.5	25%
P17	1	50%	0.5	25%	0.5	25%	1	50%	1	50%	0.75	37.5%
P18	1	50%	1	50%	1	50%	0.75	37.5%	0.25	12.5%	0.75	37.5%
P19	1.25	62.5%	1	50%	1.25	62.5%	1	50%	0.75	37.5%	1	50%

<b>P20</b>	0.75	37.5%	0.5	25%	0.25	12.5%	1.25	62.5%	0.5	25%	0.75	37.5%
<b>P21</b>	1	50%	1	50%	1	50%	1.5	75%	1.5	75%	1.5	75%
<b>P22</b>	0.75	37.5%	0.25	12.5%	0.75	37.5%	1	50%	0.5	25%	1	50%
<b>P23</b>	1.25	62.5%	1.5	75%	1.25	62.5%	1.25	62.5%	1.5	75%	1.25	62.5%
<b>P24</b>	0.5	25%	0.25	12.5%	0.25	12.5%	1	50%	0.25	12.5%	1	50%
<b>P25</b>	1.25	62.5%	0.75	37.5%	1	50%	1.25	62.5%	0.75	37.5%	1.25	62.5%
<b>P26</b>	1.25	62.5%	1	50%	1	50%	1.25	62.5%	1	50%	1	50%
<b>P27</b>	0.5	25%	0.25	12.5%	0.5	25%	0.75	37.5%	0.5	25%	0.25	12.5%
<b>P28</b>	0.25	12.5%	0.25	12.5%	0.25	12.5%	0.25	12.5%	0.25	12.5%	0.25	12.5%
<b>Total</b>	<b>25.25</b>	<b>45.08 %</b>	<b>16.5</b>	<b>29.46 %</b>	<b>17.25</b>	<b>30.80 %</b>	<b>31</b>	<b>55.35 %</b>	<b>20.25</b>	<b>37.05 %</b>	<b>23.5</b>	<b>41.96 %</b>
<b>Total</b>	<b>59</b>		<b>35.11 %</b>			<b>74.75</b>			<b>44.78 %</b>			

Table 6 shows a distinction of scores in pre-test and post-test in the three aspects of mechanics. First, spelling overall score in pre-test represents 45.08 % and post-test represents 55.35 %. The highest score 1.25 representing 62.5 % was reached by 5 participants (participants 12,19, 23, 25 and 26), while the lowest score 0.25 representing 12.5 % was for participants 10 and 28. On the other hand, the post-test results show a slight increase, especially with participant 2 who got the best score 1.75 representing 87.5 %. Participant 28 maintained the same low score 0.25 representing 12.5 %. 3 participants, to some extent, improved their spelling; however, 12 students maintained their same level. Participant 19 decreased from 1.25 (62.5 %) to 1 (50 %). The low scores obtained might be due to students' way of learning of some words; they could learn a word by listening so they do not know its correct spelling. Second, punctuation overall score in pre-test represents 29.46 % which is below the average. Only 8 participants out of 28 reached the average. The highest score is 1.50 representing 75 % by participant 23, while the lowest score is 0 by participant 10. The reason behind these low results could be the students' sacrificed use of punctuation to put more emphasis on other aspects (fluency). It is notable

that the results in post-test improved to reach 5 students who got the best score 1.50 representing 75 %, and 9 participants reached the average. The lowest score is 0 by participant 10. Third, the results obtained in the table above show that the majority of students performed below par in grammar in pre-test (20 participants). Participants 19 and 23 got the best score 1.25 representing 62.5 %, however, 10 participants got the lowest score 0.25 representing 12.5%. The post-test results, on the other hand, show a slight progress with 14 participants who reached the average. Participant 2 increased and got the highest score 1.75 representing 87.5 %, whilst participants 1, 8, 13, 27 and 28 got the lowest score 0.25 representing 12.5 %. The overall mechanics score show results that are below the average representing 35.11 % in pre-test and 44.78 % in post-test. These results could be explained by the students' focus on writing original ideas neglecting writing mechanics which are an essential part of any written product.

#### 2.2.2.4. Syntax Analysis

Syntax refers to the way the words are arranged in units such as phrases, clauses and sentences. Therefore, it is logical to check syntax as a factor to be assessed. Syntax is marked 2 out of 20. The following table includes the students' scores in syntax.

Table 7

Student's Scores in Syntax in Pre-test and Post-test

Participants	Pre-test		Post-test	
	Syntax score	Percentage	Syntax score	Percentage
<b>Participant 1</b>	0.75	37.5 %	0.75	37.5 %
<b>Participant 2</b>	1.5	75 %	1.75	87.5 %
<b>Participant 3</b>	0.75	37.5 %	1	50 %
<b>Participant 4</b>	0.5	25 %	0.75	37.5 %
<b>Participant 5</b>	0.75	37.5 %	1	50 %



<b>Participant 6</b>	0.75	37.5 %	1	50 %
<b>Participant 7</b>	1	50 %	1.25	62.5 %
<b>Participant 8</b>	0.25	12.5 %	0.5	25 %
<b>Participant 9</b>	0.75	37.5 %	1.25	62.5 %
<b>Participant 10</b>	0.25	12.5 %	0.5	25 %
<b>Participant 11</b>	0.75	37.5 %	1.5	75 %
<b>Participant 12</b>	1	50 %	1.25	62.5 %
<b>Participant 13</b>	0.5	25 %	0.5	25 %
<b>Participant 14</b>	0.25	12.5 %	0.75	37.5 %
<b>Participant 15</b>	0.75	37.5 %	0.75	37.5 %
<b>Participant 16</b>	0.25	12.5 %	0.5	25 %
<b>Participant 17</b>	0.75	37.5 %	0.75	37.5 %
<b>Participant 18</b>	1	50 %	0.75	37.5 %
<b>Participant 19</b>	1.25	62.5 %	1	50 %
<b>Participant 20</b>	0.25	12.5 %	0.75	37.5 %
<b>Participant 21</b>	1.25	62.5 %	1.5	75 %
<b>Participant 22</b>	0.75	37.5 %	0.75	37.5 %
<b>Participant 23</b>	1.25	62.5 %	1.25	62.5 %
<b>Participant 24</b>	0.25	12.5 %	0.75	37.5 %
<b>Participant 25</b>	1	50 %	1.25	62.5 %
<b>Participant 26</b>	1	50 %	1	50 %
<b>Participant 27</b>	0.5	25 %	0.5	25 %
<b>Participant 28</b>	0.25	12.5 %	0.25	12.5 %
<b>Total</b>	<b>20.25</b>	<b>36.16 %</b>	<b>25.5</b>	<b>45.53 %</b>

Table 7 shows a performance that is below the average in pre-test (36.16 %) and post-test (45.53 %). In the pre-test, only 9 participants out of 28 reached the average, marking a highest score of 1.5 representing 75 % reached by participant 2. However, 19 participants got below the average amongst them, there are 7 participants who got the lowest score 0.25 representing 12.5 %. On the other hand, post-test results show a slight progress with 12 students who reached the average and only one student who got the

lowest score 0.25 representing 12.5 %. The highest score was for participant 2 who got 1.75 representing 87.5 %. The researcher assumes that the low scores obtained are due to the difficulties that learners encounter in building sentences that are syntactically correct; clauses must be arranged in an order that makes sense as word order is important in establishing clear meaning and correct syntax.

#### 2.2.2.5. Vocabulary Analysis

Vocabulary in writing refers to the words used by the writer in order to produce a composition. The researcher assessed vocabulary in the student's compositions according to the uniqueness, maturity, richness and variation of words used in their writings. Vocabulary plays a significant role in writing as it allows students to express their ideas effectively. Consequently, it was marked 4 out of 20. The student's scores in vocabulary are summarized in the table below.

Table 8

Students' Scores in Vocabulary in Pre-test and Post-test

Participants	Pre-test		Post-test	
	Vocabulary score	Percentage	Vocabulary score	Percentage
<b>Participant 1</b>	1.50	37.5 %	1.75	43.75 %
<b>Participant 2</b>	3	75 %	3.75	93.75 %
<b>Participant 3</b>	1.25	31.25 %	3	75 %
<b>Participant 4</b>	1.25	31.25 %	2.5	62.5 %
<b>Participant 5</b>	1.75	43.75 %	2.5	62.5 %
<b>Participant 6</b>	2	50 %	3.5	87.5 %
<b>Participant 7</b>	2	50 %	3	75 %
<b>Participant 8</b>	1	25 %	1.25	31.25 %
<b>Participant 9</b>	2	50 %	3.5	87.5 %
<b>Participant 10</b>	0.5	12.5 %	1.75	43.75 %

<b>Participant 11</b>	2	50 %	3.75	93.75 %
<b>Participant 12</b>	2	50 %	3.5	87.5 %
<b>Participant 13</b>	2	50 %	3	75 %
<b>Participant 14</b>	1	25 %	3	75 %
<b>Participant 15</b>	1.25	31.25 %	2.75	68.75 %
<b>Participant 16</b>	1	25 %	1.50	37.5 %
<b>Participant 17</b>	1.25	31.25 %	2.50	62.5 %
<b>Participant 18</b>	2	50 %	2.75	68.75 %
<b>Participant 19</b>	3	75 %	3	75 %
<b>Participant 20</b>	1	25 %	2.75	68.75 %
<b>Participant 21</b>	2.75	68.75 %	3.75	93.75 %
<b>Participant 22</b>	2.25	56.25 %	2.75	68.75 %
<b>Participant 23</b>	2	50 %	2.75	68.75 %
<b>Participant 24</b>	0.75	18.75 %	2	50 %
<b>Participant 25</b>	2	50 %	3.25	81.25 %
<b>Participant 26</b>	2.5	62.5 %	3.25	81.25 %
<b>Participant 27</b>	1	50 %	1.5	37.5 %
<b>Participant 28</b>	0.75	18.75 %	1	25 %
<b>Total</b>	<b>46.75</b>	<b>41.74 %</b>	<b>74.75</b>	<b>66.74 %</b>

The table above show a considerable improvement when comparing pre-test (41.74 %) and post-test (66.74 %). The pre-test results show overall scores of 15 students reached the average with two participants (2 and 19) got the best score 3 representing 75 %. However, the lowest grade was scored by participant 10 who got 0.50 representing 12.5 %. On the other hand, post-test scores show 22 students reached the average. Three participants (2, 11 and 21) got the highest score 3.75 representing 93.75 %, whilst the lowest score was for participant 28 with 1 representing 25 %. The researcher assumes that the reason behind this is the students' acquisition of new vocabulary and their ability to actively use it.

### 2.2.3. Students' Treatment Analysis

The second stage after administering the pre-test was the treatment wherein the researcher implemented the brainwriting strategy. The latter was preceded by brainstorming; the researcher followed the same writing assessment grid that was used in the pre-test. The focus was on five aspects: fluency, content, mechanics (spelling punctuation and grammar), syntax and vocabulary. As stated previously, the researcher decided to give students more freedom in the choice of topics. The students' writings, during the four treatment sessions, were rated in the following table:

Table 9

Students' Writings Total Scores of the Four Treatment Sessions

Participants	Session one		Session two		Session three		Session four	
	Score	Percentage	Score	Percentage	Score	Percentage	Score	Percentage
<b>P 1</b>	6	30 %	8.25	41.25 %	/	/	7.25	36.25 %
<b>P 2</b>	14.5	72.5 %	16	80 %	17	85 %	17.25	86.25 %
<b>P 3</b>	8.5	42.5 %	11.25	56.25 %	13	65 %	13.75	68.75 %
<b>P 4</b>	6.5	32.5 %	7.75	38.75 %	9	45 %	9.25	46.25 %
<b>P 5</b>	10	50 %	10.5	52.5 %	11.75	58,75 %	11.5	57.50 %
<b>P 6</b>	10.75	53.75 %	10.5	52.5 %	12.75	63,75 %	13.25	66.25 %
<b>P 7</b>	11	55 %	11.5	57.5 %	12.75	63,75 %	13	65 %
<b>P 8</b>	3.75	18.75%	7.5	37.5 %	06.75	33.75 %	5.5	27.50 %
<b>P 9</b>	12	60 %	12.25	61.25 %	13	65 %	15.25	76.25 %
<b>P 10</b>	4	20 %	6	30 %	.6	30 %	6	30 %
<b>P 11</b>	11	55 %	11.75	58.75 %	13.75	68.75 %	/	/
<b>P 12</b>	11.75	58.75 %	11.75	58.75 %	13	65 %	14	70 %
<b>P 13</b>	9.5	47.50 %	10.5	52.5 %	10	50 %	10.25	51.25 %
<b>P 14</b>	9.75	48.75 %	10.25	51.25 %	12	60 %	12	60 %
<b>P 15</b>	8	40 %	9.25	46.25 %	10	50 %	10	50 %
<b>P 16</b>	6	30 %	6.5	32.5 %	8.25	41.25 %	8.25	41.25 %
<b>P 17</b>	7.25	36.25 %	9.5	47.50 %	10.25	51.25 %	10	50 %
<b>P 18</b>	8.5	42.50 %	9	45 %	9	30 %	9.75	48.75 %

<b>P 19</b>	14.75	73.75 %	10.25	51.25 %	10	50 %	11.25	56.25 %
<b>P 20</b>	6.75	33.75 %	8	40 %	8	40 %	10.75	53.75 %
<b>P 21</b>	13	65 %	14	70 %	15	75 %	16.75	83.75 %
<b>P 22</b>	8	40 %	8.5	42.50 %	8.25	41.25 %	9	45 %
<b>P 23</b>	11.25	56.25 %	12	60 %	12.5	62.5 %	12.75	63.75 %
<b>P 24</b>	4	20 %	5	25 %	6	30 %	6.75	33.75 %
<b>P 25</b>	10.25	51.25 %	11.5	57.50 %	12	60 %	13.25	66.25 %
<b>P 26</b>	12.25	61.25 %	13	65 %	13	65 %	14.25	71.25 %
<b>P 27</b>	5	25 %	6	30 %	/	/	5.75	28.75 %
<b>P 28</b>	3.75	18.75 %	4.75	23.75 %	3.5	17.5 %	/	/
<b>Total</b>	<b>247.75</b>	<b>44.24%</b>	<b>273</b>	<b>48.75%</b>	<b>276.5</b>	<b>53.17%</b>	<b>286.75</b>	<b>55.14%</b>

The results obtained from the analysis of the learners' writings were based on counting the scores taken in aspects of writing designed by the researcher; they are fluency (6 pts), content (2 pts), mechanics (6 pts), syntax (2 pts) and vocabulary (4 pts), to get a final mark out of 20 which is the total score of all the aspects used in the writing assessment grid. Table 9 indicates the scores reached, as well as the percentage for each student. Notably, there is consistency in the results. The results show that there is a gradual improvement in the students' writings across the four treatment sessions (session one 44.24 %, session two 48.75 %, session three 53.17 % and session four 55.14 %). This could be due to the fact that learners got accustomed to using brainwriting. Furthermore, the researcher assumes that brainstorming set the learners in context and helped them broaden their ideas according to the principles underlying the brainwriting strategy. It is noteworthy that participants 1 and 27 in session three, and participants 11 and 28 in session four did not attend the sessions (they were absent due to health issues). By the end of the treatment, the overall scores reveal a number of 21 participants who improved, amongst them there are 17 participants exceeded the average (above 10), whereas the remaining (7 participants) are still below the average. This improvement could be explained by the

positive effects of brainwriting on students' writings; students were capable to write creative ideas and reinvest them coherently.

#### 2.2.4. Student's Questionnaire Analysis

As stated previously, student's questionnaire was designed to explore students' perspectives towards brainwriting. It contains 13 questions. They are analyzed as follow:

***Q1: Classify the following skills from the easiest to the most difficult.***

Table 10

Students' Classification of the Four English Language Skills

Rank	Listening		Reading		Speaking		Writing	
	Score	Percentage	Score	Percentage	Score	Percentage	Score	Percentage
1	9	32.1 %	12	42.9 %	2	7.1 %	5	17.9 %
2	6	21.4 %	7	25 %	6	21.4 %	9	32.1 %
3	7	25 %	6	21.4 %	10	35.7 %	4	14.3 %
4	6	21.4 %	3	10.7 %	10	35.7 %	10	35.7 %

The question is meant to explore the rank of the four English language skills by learners. Students were asked to rank from 1 (the easiest) to 4 (the most difficult). As the table above displays, 12 participants classified reading to be the easiest representing 42.9%. Listening comes second with 9 students representing 32.1 %. However, speaking and writing were equivalent with 10 students who classified them to be the most difficult, representing 35.7 %. It is worth mentioning that students encounter various difficulties when dealing with productive skills (speaking and writing).

***Q2: Do you enjoy writing?***

Table 11

Students' Attitudes Towards Writing

	Score	Percentage
<b>Yes</b>	7	25 %
<b>No</b>	2	7.1 %
<b>Sometimes</b>	19	67.9 %

Table 11 shows that 19 students (67.9 %) sometimes enjoy writing, in contrast, only 2 students do not enjoy it, and 7 students (25 %) do. The researcher assumes that these results could be due to the specificity of writing as a complex skill.

***Q3: Do you feel confident in your ability to express your ideas in writing?***

Table 12

Students' Perspectives Ability to Express their Ideas in Writing

	Score	Percentage
<b>Yes</b>	20	71.4 %
<b>No</b>	2	7.1 %
<b>Sometimes</b>	6	21.4 %

The results obtained in the table above show that 20 students, representing 71.4 %, feel confident in expressing their ideas in writing. On the other hand, 6 students, representing 21.4 %, answered with SOMETIMES. Only 2 students (7.1 %) answered with NO.

***Q4: Do you use pre-writing techniques?***

Table 13

Students' Responses to the Use of Pre-writing Techniques

	Score	Percentage
<b>Yes</b>	13	46.4 %
<b>No</b>	8	28.6 %
<b>Sometimes</b>	7	25 %

The current question sought to find out the students' ability of using pre-writing techniques. Hence, the results in the table above reveal 13 students (46.4 %) use pre-writing techniques, whilst 8 students (28.6 %) do not use them. The remaining students 7 (25 %) stated that they **SOMETIMES** use them.

***Q5: Do you think your vocabulary has improved?***

Table 14

Students' Opinions about their Vocabulary Improvement

	<b>Score</b>	<b>Percentage</b>
<b>Yes</b>	17	60.7 %
<b>No</b>	1	3.6 %
<b>To some extent</b>	10	35.7 %

Question's 5 major aim is to emphasize an important writing aspect which is vocabulary. The results show that the majority of students (60.7 %) answered by YES, on the other hand, 10 students (35.7 %) think that their vocabulary has improved TO SOME EXTENT. Only 1 student (3.6 %) perceived that he has not improved his vocabulary.

***Q6: Have you learned new vocabulary?***

Table 15

Students' Opinions' on their Vocabulary Progress

	<b>Score</b>	<b>Percentage</b>
<b>Yes</b>	24	85.7 %
<b>No</b>	1	3.6 %
<b>To some extent</b>	3	10.7 %

This question aimed to explore the students' improvement in vocabulary. The statistics above show that 24 students (85.7 %) believed that they learned new vocabulary



and 6 students (21.4%) TO SOME EXTENT, however, only 1 student felt that he did not learn any new vocabulary. The results in this question can be connected to question 5 which show some similarity.

***Q7: Do you know how to use words in context?***

Table 16

Students' Opinions on their Ability to Use Words in Context

	<b>Score</b>	<b>Percentage</b>
<b>Yes</b>	19	67.9 %
<b>No</b>	3	10.7 %
<b>To some extent</b>	6	21.4 %

This question addresses the students' ability to interpret their ideas in a written passage to be fully understood (keep their ideas in context). As the table displays, more than half of students (67.9 %) believed that they know how to use words in context, only 3 students (10.7 %) do not, and 6 students (21.4 %) felt that they can do it TO SOME EXTENT.

***Q8: Do you believe that you learned how to use a variety of words?***

Table 17

Students' Opinions on their Ability to use a Variety of Words

	<b>Score</b>	<b>Percentage</b>
<b>Yes</b>	8	28.6 %
<b>No</b>	4	14.3 %
<b>To some extent</b>	16	57.1 %

This question explores the students' ability to use different words in writing. The table above reports that 16 students (57.1 %) felt that they can do it TO SOME EXTENT, 4 students (14.3 %) are not able while 8 students answered by YES.

***Q9: Have you learned to write more fluent sentences?***

Table 18

Students' Opinions on their Improvement in Writing Fluent Sentences

	Score	Percentage
<b>Yes</b>	11	39.3 %
<b>No</b>	2	7.1 %
<b>To some extent</b>	15	53.6 %

This question finds out the students' opinions on their progress in the way they write words and phrases that flow together coherently. A rate of 39.3 % (11 students) believed that they have learned to write fluent sentences. In contrast, 2 students with a rate of 7.1 % felt that they have not learned to write fluent sentences, and about half of the students (53.6 %) answered with TO SOME EXTENT.

***Q10: Are your ideas clearly written and expressed?***

Table 19

Students' Opinions on their Ability to Express and Write their Ideas Clearly

	Score	Percentage
<b>Yes</b>	15	53.6 %
<b>No</b>	1	3.6 %
<b>To some extent</b>	12	42.9 %

This question investigated the students' opinions on their ability to express and write their ideas clearly. The table above shows that half of the students (53.6 %) felt that

they can write and express their ideas clearly, while 12 students (42.9 %) believed that they are able TO SOME EXTENT to do it. Only 1 student (3.6 %) answered by NO.

***Q11: Do you think that your English writing has improved after the experiment?***

Table 20

Students' Attitudes Towards Writing after the Experiment

	<b>Score</b>	<b>Percentage</b>
<b>Yes</b>	16	57.1 %
<b>No</b>	1	3.6 %
<b>To some extent</b>	11	39.3 %

This question is designed to find out the students' improvement in writing after the experiment. 16 students, representing 57.1 %, answered with YES, 11 students (39.3 %) answered with TO SOME EXTENT, and only 1 student answered with NO. It is noteworthy to mention that the student who felt that he did not improve his vocabulary and did not learn to write fluent sentences, is the same one who believed that he did not improve his writing after the experiment.

***Q12: After the experiment, what aspect of writing you felt significantly improved?***

Table 21

Students' Opinions on Writing Aspects Improved

	<b>Score</b>	<b>Percentage</b>
<b>Fluency</b>	17	60.7%
<b>Vocabulary</b>	11	39.3 %

This question explores the students' opinions on the main important aspects that the experiment focused on, they are fluency and vocabulary. The results obtained show that 17 students (60.7 %) believed that they improved fluency, whilst 11 students (39.3 %) felt that

they improved vocabulary. The data obtained from the experiment can be connected with data in the questionnaire which show that most students believed that they improved fluency and this was reflected on their scores in the experiment.

### **Section Three: Discussion and Interpretation of Data**

When assessing students' writing, teachers often focus their attention primarily on surface features related to mechanical aspects of writing. However, a balanced assessment should look at other aspects of students' writing such as fluency and vocabulary. Therefore, teachers should use techniques that may help learners enhance their writing proficiency in terms of fluency and vocabulary. The findings obtained from this study show that the brainwriting strategy is one way that may positively impact students' writing proficiency in fluency and vocabulary aspects.

The results which were attained revealed that there was, to some extent, an improvement in students' writing proficiency. Nevertheless, the amount of progress was not the same in relation to the five writing aspects assessed which are: fluency, vocabulary and mechanics of writing, across the four treatment sessions. This was mainly due to these reasons:

- The first session was the students' first encounter to the brainwriting strategy which required a little bit of time to acquaint themselves with it and to adapt to the process that this strategy follows. Students needed more time to adapt their production to it. The researcher noticed that there were two students who built their own compositions using their own words and thoughts neglecting those mentioned in the table; in fact, they thought that they would get better results this way.
- Different levels of students have experienced different levels of improvement. As evidenced in the results of the students, we noticed that there were varying levels of

students, which explains in terms of the varying degrees. Although the low level of some students, there was some promising improvement that could, in the long term, have a greater and more effective improvement on the students.

In fact, a significant progress was traced in fluency and vocabulary aspects. We can attribute this improvement to the fact that the treatment the students received possibly contributed effectively, especially in vocabulary and fluency. As stated previously in Chapter One, brainwriting is an idea generating technique, in which learners generate ideas to write clear, proper and creative compositions. A writer's ability to clearly and properly express their thoughts to be comprehensible to a reader is called writing fluency. Therefore, the improvement was more evident in fluency and vocabulary which reached scores of more than half.

On the other hand, it is worth mentioning that improvement of other aspects of writing was not apparent (a slight progress of less than half, 44.78%), such as mechanics of writing (spelling, punctuation and grammar). Due to the nature of the brainwriting strategy, the students' focus was on writing creative ideas and the investment of these ideas in the production of their compositions, neglecting the proper writing conventions as they are an integral part of any piece of writing.

All in all, the results obtained show clearly the amelioration in the participants' writings reaching 57.18 % in the post-test. 25 students improved their writing while only three students remained static by the end of the experiment.

In a nutshell, the findings obtained from the research are congruous with previous studies supporting the brainwriting strategy in improving students' writing proficiency. They support the findings of comparable and recent studies reviewed in the literature that revealed that focused on the same topic. Likewise, the findings of the current investigation

reported that brainwriting and writing are related and that using the strategy bears a positive effect of the writing proficiency of EFL learners especially vocabulary and fluency.

## **Conclusion**

The second chapter was devoted to the practical framework of the overall study. It covered three sections. The first section dealt with methodology and discussed mainly the general fieldwork design. It was then followed by the analysis of the data collected in the second section. Next, the third section shed light on the general discussion and interpretations of the findings of the experimental research. In fact, the results showed that using brainwriting is an effective strategy in improving fourth-grade middle school students' writing proficiency. Furthermore, there is enough evidence, as indicated in the comparison made between the results in the pre and post-tests (42.45 % and 57.18 %), to say that there is correlation between the use of brainwriting and the writing proficiency especially fluency and vocabulary aspects. Although some students outperformed and scored better than others, three of them did not make any notable improvement in their writing. Finally, this chapter closed with the statements of the limitations of the study and some pedagogical recommendations to be followed.

## 1. Limitations of the Study

Undoubtedly any study that involves human participants is complicated and may encounter certain difficulties. Similarly, this study went through some hurdles. This resulted in number of limitations that were worth mentioning here:

- The experiment was conducted in a very limited and short period of time because of some administrative reasons (the researcher received a license to conduct the experiment for a period of ten days) which led to a limited number of treatment sessions, as dealing with the same study in more sessions could have greater influence and the results would be more decisive. The training that the students were exposed to was not sufficient to have an effect on the experiment.
- The experiment took place right after the second term exams which had a negative impact on the students psychologically (they were exhausted from exams and were in a psychologically relaxation period).
- An important limitation of the study, that should not be skipped, is its sample size. It could have been bigger.
- As it was mentioned in Chapter One, one disadvantage of brainwriting is handwriting. As for that, many students faced difficulties in reading other students' handwriting as it was really unreadable. Hence, there was some bickering amongst students, especially the boys.
- Gathering data and providing feedback was challenging due to some reasons such as spelling mistakes which was one significant limitation, as students copy all what was written in the table without paying attention to the different words that are written wrongly.

- By the end of the experiment, some students could not maintain their enthusiasm, they got bored and overwhelmed, so they wanted to quit; they could not be consistent and this commitment was hard for such students at a young age.
- By the end of the experiment, some students showed some laziness and hesitation as they were exhausted of the exams and they were waiting for their vacation. Consequently, it had an impact on their performance.

## **2. Recommendations**

In the light of the findings reviewed throughout this study, the researcher recommends the following:

### **a. Recommendations to Teachers**

- Teachers should provide a motivating atmosphere for their students' language classroom by integrating new teaching writing techniques and strategies.
- Teachers should replace conventional methods such as writing individually by up-to-date ones and bring more variety to their techniques in teaching writing; they should integrate various techniques that fit with different learners' learning styles.
- Teachers should encourage those shy and reluctant students, who cannot share their thought loudly, by devoting more time to them and engaging them in group work to build up their self-confidence and promote their autonomy.
- Traditionally, teachers put a great emphasis on accuracy than fluency in Algeria, thus, they should consider fluency in their students' writings as it is a crucial and credible aspect in the students' production.

### **b. Recommendations to Students**

- Learners should be more confident when learning English as a foreign language, especially in writing.



- Reaching high level of proficiency in writing might increase the students' scores in English courses.
- Students should search for true writing opportunities to develop their writing proficiency and to defeat their fear of writing, as writing is not a simple skill that can be acquired easily; yet, it requires time, efforts, constantly write and perseverance.
- Students should consider their writing proficiency as writing may offer the opportunity to see growth, to share important ideas, and to develop a sense of community.

### **3. Pedagogical Implications for Future Research**

The current study investigates the impact of using brainwriting in improving EFL learners' writing proficiency; hence, the following issues are of eminent and valuable importance to address in the future:

- Brainwriting should be part of the EFL writing classes as it may bring more insights to methods and strategies for teaching a foreign language especially in writing. Brainwriting might offer teachers a better and new teaching experience of writing.
- Brainwriting should be implemented in EFL classrooms as it may result in a significant shift and progress in the students' writing proficiency especially in fluency and vocabulary aspects.
- For future research, the researcher suggests measuring CAF triad aspects of the students' writings in the analysis of data.
- A bigger sample with a random selection instead of voluntarism that may include participants of mixed abilities. Preferably we should have more subjects from different schools with different English proficiency levels.

- Dedicate a number of teachers that could help, for instance, a teacher to conduct the experiment and another one to correct and provide feedback.
- A research that focuses on low level students and see how it would actually affect them.
- The design of the study could be ameliorated.
- Investigating the role of brainwriting in improving writing proficiency for university students.

## **General Conclusion**

Reaching proficient levels of literacy is a universal goal for all children in schools. This objective is especially challenging for English language learners particularly in the aspect of writing. Writing, as a form of communication, is not inherently innate or natural, which poses challenges for learners in mastering it; extensive practice is necessary to achieve proficiency and effectively apply its rules. Writing has been identified as one of the most essential skills because the world has become so text-oriented. Due to this change, teachers are required to either fashion or follow effective techniques to improve their students' writing proficiency. This research aimed to empirically investigate the effectiveness of the brainwriting strategy in enhancing EFL students' writing proficiency. Accordingly, two variables were determined; brainwriting as an independent variable and EFL students' writing proficiency as a dependent variable. Basically, this study employed a quasi-modal for the experimental design. Its primary goal was to test students' improvement in writing after the treatment sessions which were preceded by brainstorming to activate the participants' knowledge, and to enrich and broaden their thoughts. Moreover, a pre-test and a post-test were administered at the beginning and the end of the experiment to determine the degree of progress that the study's sample has achieved.

The study consisted of two main chapters: one devoted to the theoretical part while the second covered the practical framework of the research. In the theoretical part, the study started with a general review of the literature related to the research topic in two sections. The first section presented an overview of writing and the key components that enable the student to master it. It started with a definition of writing and its various types. Then, there was a brief description of the major approaches to teaching writing, which was followed by an elaboration on writing fluency as one of the main aspects of writing

assessment. After that, the researcher tackled the status of writing among other language skills. This section closed with teaching writing strategies.

The second section explored the brainwriting strategy and potential to ameliorate EFL students' writing proficiency. Firstly, it defined what brainwriting is. Then, it listed some types of brainwriting and showed the principle underlying the strategy and highlighted its different advantages and drawbacks.

Correspondingly, the second chapter detailed the practical side of the research. It included three sections. The first section covered the methodological aspect and discussed the nature of the study along with the procedures which were followed in data collection. The second section presented an in-depth analysis of all the data that were gathered. As for the third section, it stated the results which were obtained through discussions. Undoubtedly, any study has its shortcomings, therefore, the chapter closed with limitations of the study, in addition to pedagogical recommendations suggested by the researcher to teachers and students, as well as implication for future research.

The findings reveal that the use of brainwriting strategy is rather efficient in improving writing proficiency as a real correlation is detected between the two variables. The scores obtained from the pre-test and the post-test analyses show clearly the improvement made by the students in their writing. Participants scored a percentage of 42.45 % in the diagnostic assessment and attained 57.18 % in the summative assessment. Additionally, they showed improvement in their treatment when using brainwriting, i.e., the percentages have steadily increased; 44.24 % in the first session, 48.75 % in the second session, 49.37 % in the third session and 51.20 % in the fourth session. From this point, the hypothesis is confirmed.

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## Appendix G

### Assessment Writing Grid

Participant's name: .....

	Fluency	Content	Conventions			Syntax	Vocabulary
			Spelling	Punctuation	Grammar		
Pre-test							
Session 1							
Session 2							
Session 3							
Session 4							
Post-test							

## Appendix H

### Student's Questionnaire

This questionnaire is an attempt to explore the effectiveness of the brainwriting strategy on the EFL middle school students' writing proficiency. I would be grateful if you could carefully read the following short questions and sincerely answer them by ticking the appropriate answer. I will not ask you to provide your name; thus, your data will be analyzed anonymously.

1. Classify the following skills from the easiest to the most difficult.

- Listening
- Reading
- Writing
- Speaking

2. Do you enjoy writing?

- Yes    No    Sometimes

3. Do you feel confident in your ability to express your ideas in writing?

- Yes    No    Sometimes

4. Do you use pre-writing techniques?

- Yes    No    Sometimes

5. Do you think your vocabulary has improved?

- Yes    No    To some extent

6. Have you learned new vocabulary?

- Yes    No    To some extent

7. Do you know how to use words in context?

- Yes    No    To some extent

8. Do you believe that you learned how to use a variety of words?

Yes     No     To some extent

9. Have you learned to write more fluent sentences?

Yes     No     To some extent

10. Are your ideas clearly written and expressed?

Yes     No     To some extent

11. Do you think that your writing English has improved after the experiment?

Yes     No     To some extent

12. After the experiment, what aspect of writing you felt significantly improved?

Vocabulary     Fluency

# Appendix I

Tuesday, March 14th, 2023

## First session of the treatment

Topic: Social Media			
Participants	Idea 1	Idea 2	Idea 3
Participant 1	full of news	has positive effects	has negative effects
Participant 2	play games	famous person	listen music
Participant 3	met new friend	take photos	watch the news
Participant 4	ask some question	see the new world	google ask
Participant 5	watch video	study	play video games

Use as many as possible of the ideas mentioned in the table above and write a paragraph about social media.

Social media is one of the most well known platforms on the planet earth. It's place of news and entertainment such as: playing games, listening to music and watching videos. Additionally, it has many positive effects like asking <sup>some</sup> questions, seeing the world and meeting new friends. On the other hand, it has some negative effects but you should <sup>use it</sup> for studying and taking photos and other positive things as learning new languages, talking to famous people online, at the end, I want to say that social media could be useful or bad for you and you are the one who controls that by the way you are using it.



## Appendix J

Monday, March 20th, 2023

### Third session of the treatment

Topic: Travel			
Participants	Idea 1	Idea 2	Idea 3
Participant 1	new place	many countries	landmarks
Participant 2	new friends	another language	airplane
Participant 3	natural place	another people	
Participant 4	seeing the beauty of what god made	learning the mindset of people from all over the world	using and experiencing different transportist tools
Participant 5	famous food	know the cultural of the country	meet famous person and enjoy with families

Use as many as possible of the ideas mentioned in the table above and write a paragraph about Travel.

We must enjoy in our life and live it like it is the last moment in our life for example we should live with our family do what we like and for me I only enjoy when I travel. the travel is the best think you can do it for remove the negative energy because you do and see many new things, when you visit many countries you can see the difference between the languages, the food and the cultural you can travel for have fun, meet famous person and enjoy with family or friends also to seeing the beauty of what god made or you can travel to study learning the mindset of people from all the world also for working and meet new people for me I love travel, when I using and experiencing different transportist tools like the train, car, bus and other and I love visit new countries you can find in it the natural and calm to relax very well.

## Appendix K

Wednesday, March 15th, 2023

### Second session of the treatment

Topic: Hobbies and sport.			
Participants	Idea 1	Idea 2	Idea 3
Participant 1	What is the sport?	the effect of sport	different hobbies
Participant 2	play with friends and family	No video games	
Participant 3	fast ball	go in Doctor	is phore
Participant 4	shows the effect in the personality of person	the effect in the brain	the negative and positive way
Participant 5	the sport is benefit for me and the in injury	any the hobbies like a settle	the hobbies and sport injury too for me.

Use as many as possible of the ideas mentioned in the table above and write a paragraph about hobbies and sport.

the hobbies and sports is something that we do it in our free time when we are bored to make us happy and also it had a effect in the persone So, we have in this world a lot of hobbies and everyone had a favorite one different to another persone that give him a good energie and enjoyed and have fun like painting and drawing also we have the different sport like football and basketbal that we playet with family and friends and that had a good effect in the self or the body of the persone like get out the negative energie also lose weight and protege our self from different sicknesses and also give a benifit to our body and that help to live a good live with a good energie

In the end I want to say that we must practice and to our hobbies and sports in our free time to his good benifit and effect in our self

## Résumé

Cette étude a examiné l'efficacité de la stratégie d'écriture mentale dans l'amélioration des compétences en écriture chez les apprenants de quatrième année moyenne en Algérie. Plus précisément, l'étude avait deux objectifs principaux : le premier est d'étudier l'effet de l'utilisation de la stratégie de l'écriture mentale sur la compétence en écriture. Le second est de mesurer les points de vue des apprenants sur les difficultés majeures auxquelles ils sont confrontés à l'écrit et leurs opinions sur l'utilité de la stratégie d'écriture mentale. Ainsi, il a été émis l'hypothèse que l'application de la stratégie d'écriture mentale conduirait à une amélioration des compétences en écriture chez les apprenants. Pour atteindre ces objectifs, des données ont été collectées à travers une quasi-expérience menée sur 28 apprenants de quatrième année moyenne au CEM Mohamed Ibn Rochd à Jijel, où la chercheuse a élaboré un questionnaire pour le même groupe qui a subi un pré-test et un post-test pour évaluer respectivement leur compétence initiale en écriture et leur amélioration. Les participants ont été testés pendant quatre séances et une grille d'évaluation établie par la chercheuse a été développée à des fins d'évaluation. L'expérience visait à tester pratiquement l'efficacité potentielle de l'application de la stratégie d'écriture mentale sur la compétence en écriture de l'échantillon commodément sélectionné. De plus, le questionnaire visait à explorer les attitudes des apprenants envers l'écriture mentale et son impact sur leur compétence en écriture et à identifier les difficultés d'écriture qu'ils ont rencontrés. Les résultats collectés qui ont été analysés de manière descriptive et statistique, ont révélé que 25 apprenants (89.28 %) sur 28 apprenants ont montré une amélioration de leurs compétences en écriture, ce qui a reflété positivement sur leurs scores totaux. L'amélioration a été particulièrement notable dans le vocabulaire et l'aisance de l'écriture. Ces résultats ont confirmé l'hypothèse de recherche.

Sur la base de ces résultats positifs, un certain nombre de recommandations ont été suggérées par d'autres recherches futures et des pratiques pédagogiques.

**Mots-clés :** quatrième année, collégiens, stratégie d'écriture mentale, compétence en écriture, quasi-expérience, aisance à l'écriture.

## ملخص

بحثت هذه الدراسة في فعالية استراتيجية الكتابة العقلية في تعزيز إتقان الكتابة بين متعلمي الصف الرابع المتوسط في الجزائر. كان للدراسة هدفان رئيسيان: أولهما، دراسة تأثير استخدام استراتيجية الكتابة العقلية على إتقان الكتابة. وثانيهما، قياس وجهات نظر التلاميذ حول الصعوبات الرئيسية التي يواجهونها أثناء الكتابة وآرائهم حول فائدة استراتيجية الكتابة العقلية. وبالتالي، تم افتراض أن تطبيق استراتيجية الكتابة العقلية من شأنه أن يؤدي إلى تحسين مهارات الكتابة بين التلاميذ. ولتحقيق هذه الأهداف، تم جمع البيانات من خلال شبه تجربة أجريت على 28 تلميذاً من الصف الرابع المتوسط بمتوسطة محمد بن رشد في جيجل. حيث استعانت الباحثة باستبيان على نفس المجموعة التي خضعت لاختبار قبلي وبعدي لتقييم الكفاءة في الكتابة ومدى تحسنها. تم اختبار التلاميذ في خلال أربع جلسات، كما تم الاستعانة بنموذج تقييم قامت الباحثة بتطويره لأغراض التقييم. هدفت التجربة إلى اختبار الفعالية العملية المحتملة لتطبيق استراتيجية الكتابة العقلية على إتقان الكتابة للعينة المختارة. بالإضافة إلى ذلك، يهدف الاستبيان إلى استكشاف ردة فعل التلاميذ تجاه الكتابة العقلية وتأثيرها على إتقانهم للكتابة، وتحديد الصعوبات الكتابية التي واجهوها. كشفت البيانات المجمعة التي تم تحليلها وصفيًا وإحصائيًا، أن 25 تلميذاً (89.28%) من أصل 28 تلميذاً، أظهروا كفاءة محسنة في الكتابة الأمر الذي انعكس إيجاباً على مجموع درجاتهم. حيث ظهر التحسن جلياً في المفردات وطلاقة الكتابة. أكدت هذه النتائج فرضية البحث. وبناءً على هذه النتائج الإيجابية، تم اقتراح عدد من التوصيات لمزيد من البحث والممارسات التربوية.

**الكلمات المفتاحية:** الصف الرابع، تلاميذ المتوسط، استراتيجية الكتابة العقلية، إتقان الكتابة، شبه التجربة، طلاقة الكتابة.