THE EFFETIVENESS OF MIND MAPS IN CONTENT SUMMARIZATION

Mohamed Kheider University of Biskra Faculty of Letters and Languages Department of Foreign Languages

MASTER THESIS

Letters and Foreign Languages English Language Sciences of the language

Submitted and Defended by:

MAIRIF MAROUA

Investigating the Role of Mind Maps Techniques in Summarization From Teachers' And Students' Perspectives: The Case of First-year EFL Students at Biskra University

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

Board of Examiners:

Dr.Moustafa AMRATE	Chairperson	University of Biskra
Dr. Boutheina AMRI	Superviseur	University of Biskra
Pr. Saliha CHELLI	Examiner	University of Biskra

Academic Year: 2024/2025

Declartion

I, Maroua **MAIRIF**, declare that this dissertation entitled **"Investigating the Role of Mind Maps Techniques in Summarization From Teachers' And Students' percpectives"** is my own original work and has been completed in accordance with the academic requirements of Mohammed Khider University of Biskra. All sources and references used have been properly cited, and no part of this work has been submitted elsewhere for any degree or qualification.

Author's name: Maroua **MAIRIF**

Signature:

Date:

Dedication

In the name of Allah, the Most Merciful, the Most Compassionate

All praise is due to Allah, the Sustainer of all the worlds.

I dedicate this work to:

My parents, Aisa and Nora, who have always supported and encouraged me—may Allah protect them.

To my sisters and my brother, who gave me the strength to complete this work—especially Hiba, who, despite everything, stayed close even when she made it hard for me to study.

All my gratitude and appreciation to my grandmother Aisha, for her material and moral support.

To my close friend, who supported me throughout my journey; thank you very much.

And to all those present today; thank you and sincere appreciation for your support to my family, friends, and teachers.

Acknowledgements

All the praise is to Allah who helped me accomplish this work.

A profound debt of gratitude is owed to my supervisor Dr. Boutheina Amri for his constant generous help, precious suggestions as well as for her comprehension and her endless pieces of advice.

I also would like to thank Pr. Saliha Chelli and Dr.Amrate Moustafa for granting their time and effort to read and examine my dissertation.

I am also greatful to all teachers and students whose help and collaboration in answering the questionnaires are invaluable.

Finally, special thanks go to the people who were behind making this work a real one.

Abstract

Many teachers and students work hardly to achieve teaching and learning goal. Teachers they use defferent techniques and methods in the presentation of a lessons to find more efficient and more effective way of teaching foreign language, also the student search for find a good way to summarize lessons without difficulties. The present study explores the effectiveness of mind mapping as a tool for improving summarization skills among first-year university students. Mind mapping, a visual technique for organizing information, is hypothesized to enhance students' ability to summarize academic content by facilitating the identification of key concepts and their relationships. A qualitative method was applied; we used teacher interview and students questionnaire to gather the data. For the interview we select randomly nine (9) teachers of English and for the questionnaire, we select fourty (40) first-year student at Biskra University. The results indicate that when students utilize mind mapping, this demonstrated significant improvements in their ability to identify main ideas, organize information coherently, and retain material, summarize lessons. Furthermore, students reported that the use of mind maps improves their summarisation skills and engages them in their studies. These findings suggest that mind mapping is an effective strategy for enhancing summarization skills, with potential implications for first-year students' academic success. Future research should explore long-term effects and the applicability of mind mapping across different disciplines.

Keywords: Mind mapping, Teaching and learning EFL, Visual technique, Natural Language Processing, Summarization.

List of Abbreviation

MM: Mind maps

NLP: Natural Language Processing

AI: Artificial Intelligence

CM: Concept Map

EFL: English Foreign Language

List of Appendices

List of Tables

List of Figures

Table of Content

Chapter Two: Mind Maps

Chapter Three: Fieldwork and Data Analysis

Introduction

1. Background of the Study

Mind mapping, a visual technique for organizing information, has emerged as a powerful tool for enhancing learning and memory retention. By creating a central concept and branching out to connect related ideas, mind maps provide a clear and engaging way to structure knowledge. The main language of the brain is neither the spoken nor the written words; the brain works by using all the senses and thus creating associations between images, colors, key words and ideas (Buzan, 2011). For first-year students, the task of summarizing complex texts can be daunting. It requires the ability to identify key points, supporting details, and the overall structure of the text.

Mind maps offer a solution by visually representing these relationships, making the information more accessible and easier to comprehend.Furthermore, research has consistently shown that mind mapping can significantly improve various cognitive skills. By using mind maps, students can enhance their reading comprehension, writing abilities, and critical thinking skills. Moreover, the visual nature of mind maps makes learning more enjoyable and interactive, increasing student engagement and motivation.In this study, we will investigate the effectiveness of mind maps in helping first-year students develop strong summarizing skills. We will explore how mind maps can improve students' understanding of complex texts, their ability to identify key information, and their overall ability to produce concise and coherent summaries.

2. Statement of the Problem

Summarizing is a vital skill for first-year English as a Foreign Language (EFL) students, as it helps them process and condense information while enhancing their language proficiency. However, many first-year EFL students struggle with this task, often finding it challenging to extract key ideas, organize their thoughts, and express them concisely in English. Traditional methods of summarization, such as linear note-taking or paraphrasing, may not always be effective for these students, particularly when they lack confidence in their language abilities or face difficulties in understanding complex texts. This difficulty is further compounded by the cognitive load involved in processing and summarizing information in a second language, leading to confusion or incomplete understanding. Without proper summarization skills, students may have trouble retaining important details, synthesizing information, and communicating their understanding in written or spoken form. As a result, they may struggle with academic tasks that require clear and coherent summarization, such as writing reports, essays, or even participating in class discussions.

In addition, the Mind Map technique, which visually organizes information in a non-linear way, has the potential to address these challenges by helping students better structure and understand the relationships between ideas. By mapping out the key points of a text, students can more easily identify the main ideas, supporting details, and their connections. Despite the growing interest in Mind Mapping as a learning tool, there is limited research on its effectiveness in helping first-year EFL students improve their summarization skills. Therefore, it is essential to explore how the Mind Map technique can be integrated into EFL

classrooms and whether it can enhance students' ability to summarize texts more effectively and efficiently.

3. Research Questions

- **RQ1:** How effective is the mind mapping technique in aiding the summarization of academic content from teachers' and learners' perspectives?
- **RQ2:** In what ways do teachers and students believe that mind maps assist in understanding and retaining course material?
- **RQ3:** To what extent do learners and teachers believe that using mind maps could enhance understanding and retention of learning material?

4. Aims of the Study

The aim of this study is to examine the impact of the Mind Map technique on improving the summarization abilities of first-year EFL students. The study focuses on understanding how Mind Maps help students identify key ideas, structure information more effectively, and produce more coherent and concise summaries. Additionally, the research aims to gather insights into the students' views on the usefulness of the Mind Map technique in enhancing their summarization skills and their overall language learning process.

5. Research Methodology

the type of the research methodology that will be used in this study is descriptive.In addition**,** qualitative data collection to assess the role of the Mind Map technique in improving summarization skills among first-year EFL students.

5.1 Population and Sample

Since the aim of this study is to investigate the effectiveness of the Mind Map technique in helping first-year students summarize effectively, the population of the research includes all individuals to whom the results of the study can be generalized. Therefore, the population for this study consists of all first-year LMD students of English at Mohamed Khider University of Biskra and all the teachers. Thus, a sample comprised of 40 students from (827)the total number we chosen it randomly ,also we select 9 teacher from(72) the total number to undertake this study.

5.2 Data Gathering Tools

Semi-structured interview and questionaire were designed and conducted to gather teachers and students' views on using mind maps for summarization.

6. Significance of the Study

This study is significant as it addresses a key challenge faced by first-year EFL students. Summarization is a fundamental academic skill that supports reading comprehension, critical thinking, and overall language development. this study aims to explore an innovative and visually engaging method that could enhance students' ability to identify main ideas, organize information, and express content concisely. The findings may offer valuable insights for EFL educators seeking more effective teaching strategies, particularly in writing and reading comprehension classes.

7. Structure of the Dissertation

The present dissertation consists of three main chapters. The first two chapter constitute the literature survey and the full explanation. Then the chapter one represents a review of summarization; the main focus of this chapter is on its definition,the features,how to summarize, stepes, types, role, main types, skils, the purpos and the summarization in EFL classes.chapter two is devoted to the definition of mind maps, brainstorming, steps, benefit, types, founder, and mind map and concept map in EFL education. The last chapter concerns the analysis of the collected data by means of using interviewand questionnaires that contain their opinions.

Chapter One:

Summarization skill

Introduction

Summarizing is the process of reducing text or long content to a shorter version, focusing on key points, key themes, or general essence, while omitting unnecessary details. This process requires careful reading and understanding of the original content to ensure that the most important elements are preserved and transmitted effectively. The primary goal of the summarization is to provide an accurate, clear and concise overview of the original content, allowing the reader to understand the message or key information without having to read the full text. Therefore, In this chapter, we will introduce the definition of summarizing in general, and how to summarize effectively. Then step by step instruction for summarizing. Hence, we will give a Overcoming Challenges in Summarization and skills go to the advantages and What can be summarized. Also, the features, the role, tools and resources to aid summarization.

1.1 General Definition of Summary

Summarizing is an important skill that helps individuals synthesizes large amounts of information without losing sight of the main points in academic settings. The goal of summarizing is not to replicate the original text, but to provide a succinct, coherent representation of it, making it easier to consume and comprehend. According to Falik and Gagich (2022), a summary is a comprehensive and objective restatement of the main ideas of a text (an article, book, movie, event, etc.). For them, a summary should be brief yet comprehensive enough to give the reader a clear sense of the primary ideas and arguments of the original work.

Buckley (2004), in her popular writing text ‘Fit to Print’, defines summarizing as “reducing text to one-third or one-quarter of its original size, clearly articulating the

author's meaning, and retaining main ideas". In the same line of thought, Hacker (2008) explains "summarizing involves stating a work's thesis and main ideas simply, briefly, and accurately" (p. 62). In essence, summarizing simplifies complex or long texts, presenting them in an easier way to understand, while ensuring that none of the important details or concepts is lost during the process.

When summarizing, the focus is usually on identifying the main ideas or arguments, supporting evidence, and the overall goal or conclusion of the original work. A summary is an overview on the main ideas of the original text. Following Bowker (2007, p.12), summarizing involves selecting out some key features and then using those to create a shortened version of the author's prose.

Summarizing is a powerful technique in which learners present an author's most important information in shortened form. They might condense an entire section of a textbook into an entire story into a single paragraph (Elder, 2008). Summarizing is a valuable tool for anyone who needs to process information quickly or communicate complex ideas to others more clearly and smoothly. Summarizing can also be a preliminary step for deeper analysis, helping the reader grasps key points first before delving into a more detailed exploration of the material.

A summary takes a longer piece of writing and boils it down to just the most important ideas and details. When students summarize, they focus on the key points and leave out anything that is extra or unnecessary. Additionally, McMillan and Schumacher (2014) asserted that "Summarizing allows researchers, students, and professionals to condense lengthy articles or studies into manageable portions, aiding in the review and analysis of information" The purpose is to make the original material quicker and easier to understand, especially for someone who does not have time to go through everything. A

good summary captures the heart of the text without adding personal opinions or changing the meaning, keeping the main message clear and simple.

Summaries are crucial in not only educational settings but also in the workplace, where individuals often need to quickly understand and communicate the essential details of reports, presentations, and proposals (Kern, 2018). A good summarization not only shortens the material, but also keeps ideas logically connected and sequenced. This makes summarizing an essential skill in academic, professional and everyday contexts, enabling individuals to convey large amounts of information in a more accessible and efficient manner.

1.2 The Main Reasons of Writing a Summary

In proficient writing, summarization is crucial for various reasons. According to Harish (2023), it primarily facilitates succinct communication by extracting the essential points of a text, thereby aiding the audience's comprehension without overwhelming them with superfluous details. It also improves clarity and concentration, guaranteeing that intricate information is conveyed in a straightforward and comprehensible way. Ultimately, summarization is an essential competency for writers, enabling them to convey their messages effectively and captivate their audience (Harish, 2023).

Summary activities are assignments given by educators to assist students in honing their summarization abilities. These tasks may be conducted during class or assigned as homework, allowing students to demonstrate their comprehension of texts and rewrite them in their own language (Indeed Edutorial Team, 2025). According to them, there are various reasons for incorporating summary activities into the classroom setting, including:

- **Engaging students:** Summarizing activities provide students an opportunity to read and interpret texts. Reading and sharing texts and summaries allows teachers to listen to students and ask them questions as they participate.
- **Measuring proficiency:** With summary activities, you can evaluate several student skills, including memory, reading comprehension and basic analysis. Assigning these activities throughout the year can help you measure progress and proficiency in these areas.
- **Developing reading and writing skills:** Besides the specific benefits students receive through summarizing, these activities allow them to practice their reading and writing. This can expand their vocabulary and improve spelling and grammar.

Similarly, Gayathri (2023) argued that summarization enables individuals to extract the most significant concepts and information from a text and restate them in their own style. This skill allows them to synthesize the core ideas in a coherent manner, and enhance clarity and comprehension. Students who use summarization can enhance their memory skills and become more proficient in the overall process. According to her summarization:

a) To write a summary, students must read and understand the whole passage carefully. Sometimes it needs to be read multiple times to get to the deeper meaning. This makes them comfortable with reading and comprehension. They can also get knowledge of different aspects and concepts while summarizing. It will help them to understand its concept and determine essential ideas leading them to the essence of the particular topic.
b) Summarizing the whole text or article helps in preparing for later review. Only specifics can be referred to whenever required rather than the whole thing. It can

help students prepare quickly and effectively during their exam time. It not only saves time but also effort in preparing the topic.

c) It helps the students improve their focusing skills so that they can focus on phrases and keywords from the assigned long text. They focus on parts that are worth noting or remembering.

d) Summarizing helps to enhance communication skills for sure. Students read the whole passage many times; they try to understand the topic and concepts. Whenever they see a word they are unfamiliar with, they will try to find its meaning. Hence it expands their vocabulary. This process also leads to fluency in the language, whether verbal or written.

e) Through summarization, a student learns how to convert a large text into a small text. This helps in better understanding of the topic, expressing the right idea in a better way that makes it intelligible to the reader, and of course, exploring one's own thoughts in terms of language.

1.3 Role of Summarizing in Different Contexts

Summarization is an activity that people need in different life domains. People use it to reduce the length of a long oral and/written content to easily understand and convey it.

1.3.1 Academic Settings

In college writing courses or English composition classes, students are often tasked with summarizing texts as part of their assignments. Developing summarization skills is essential for academic success as it demonstrates an understanding of course materials and critical analysis abilities (The Art of Condensing Information, 2024).

1.3.2 Professional Environments

Professionals across various fields rely on summarization techniques to distill reports, research findings, or proposals into brief yet informative documents. Effective summarization ensures that key messages are communicated clearly within organizational contexts (The Art of Condensing Information, 2024).

1.3.3 Everyday Life Applications

Beyond formal settings, summarizing is a valuable skill for everyday life tasks such as condensing meeting notes, outlining project plans, or summarizing news articles for personal consumption. The ability to extract essential information efficiently is beneficial across diverse scenarios (The Art of Condensing Information, 2024).

1.4 The Features of a Good Summary

There are various qualities that characterize a good summary. According to Murray and Rockowitz (n.d.), a good summary should be comprehensive, concise, coherent, and independent. They explain these qualities as follows:

- ***A summary must be comprehensive:*** Learners should isolate all the important points in the original passage and note them down in a list. Review all the ideas on their list, and include in their summary all the ones that are indispensable to the author's development of her/his thesis or main idea.
- ***A summary must be concise:*** Eliminate repetitions in learners' list, even if the author restates the same points. their summary should be considerably shorter than the source. They are hoping to create an overview; therefore, they need not include every repetition of a point or every supporting detail.

- ***A summary must be coherent:*** It should make sense as a piece of writing in its own right; it should not merely be taken directly from learners' list of notes or sound like a disjointed collection of points.
- ***A summary must be independent:*** learners are not being asked to imitate the author of the text they are writing about. On the contrary, they are expected to maintain their own voice throughout the summary. The do not simply quote the author; instead they use their own words to express their understanding of what they have read. After all, their summary is based on their interpretation of the writer's points or ideas. However, they should be careful not to create any misrepresentation or distortion by introducing comments or criticisms of their own.

Furthermore, experts from the University of Manchester (2025) listed the following characteristics of an effective summary:

a) It should offer a balanced coverage of all the main points in the original text
b) It should make the key points of the original clear
c) It should be written in learners' own words as far as possible and not rely on too many phrases lifted from the original. However, they should not choose obscure, uncommon synonyms just to avoid using words or phrases from the original text. They do not need to change technical, specialized, or conventional terminology or phrases, as these can often only be paraphrased by awkward, inaccurate circumlocutions.
d) It should generally avoid using exactly the same sentence structure as the original

e) It should not overemphasize (or even underemphasize) any of the original points
f) It should not include any extra information which is not in the text the are summarizing
g) It should not include details of secondary importance
h) It should not include examples
i) It should be shorter, not longer, than the original text
j) It must contain a citation (reference).

1.5 How to Summarize Effectively

Summarizing is done to support an argument, set the stage for a paper's thesis, compose literature reviews, and annotate a bibliography by succinctly presenting the main ideas of a theory or work. Summarizing has the advantage of providing the "big picture," which enables the readers to put their points into context. Apart from the benefits of summarizing for the reader, it also helps them as a writer understand where they are headed with their work, what needs more explanation and whether they have understood the material there have gathered.

Graff and Birkenstein (2014, p. 31) suggested the following summarizing strategies:

- **Read the original text until they understand it fully:** Before students starts summarizing, make sure that they read the text thoroughly and understand it completely. This means grasping the main idea and purpose of the content.

- **Take notes on the main points in their own words:** After reading, jot down the key points that relate to the topic in their own words. This will help ones focus on the important information and avoid copying directly from the text.

- **Write their summary from your notes without reference to the original text:** Using the notes they have made, write the summary. Try to do this without looking back at the original text to avoid direct copying.

- **Check their version against the original to ensure their have covered the content and meaning**: Once they have written the summary, compare it with the original text to ensure that they have captured all the key points and maintained the correct meaning.

- **If students have included some of the original text in their summary (usually more than three words together), put quotation marks around it:** If they need to use exact words or phrases from the original text, especially when they are important or cannot be rephrased easily, make sure to place them in quotation marks. This prevents plagiarism and indicates that these are exact words from the original.

- **Include the citation:** If students incorporate material from other sources into their summary, whether through paraphrazing or direct quotation, they must cite the source. This gives credit to the original author and adds credibility to their work.

Effective summarizing involves understanding the original text first, then expressing the main points in their own words, verifying that they have captured the content accurately, using quotation marks when necessary, and properly citing the source.

1.6 Step-by-Step Instructions for Summarizing

According to McCombes (2020), summarizing passes through the following steps: Skimming and scanning, annotating the text to mark the key points, making notes and putting things in one's own words, identifying the author and citation details and paraphrazing and condensing the main ideas. She explained them as follows:

First, skimming and scanning the text to get the key ideas start by quickly looking at the main headings, subheadings, images, and graphics. These will give their clues about the overall structure and themes. Then, dive a little deeper: read the abstract, the conclusions, and any findings or outcomes (like research results) to better understand what the text is about (McCombes, 2020).

Second, students should annotate the text to mark the key points as they read, highlight or underline the main arguments, ideas, or claims (McCombes, 2020). These are the things that are central to the text. Then, making notes and begin putting things in own words from their annotated text, start making notes on the main ideas and rephrase them in their own words. This will help students avoid copying the original language directly (McCombes, 2020).

Third, identify the author and citation details, do not forget to note down the author's name, the year of publication, and any page numbers needed for their citation. This is crucial for academic writing and prevents plagiarism (McCombes, 2020).

Finally, paraphrase and condense the main ideas once students have their notes, paraphrase the key ideas in their own words, making sure to reduce the length and keep the most important information (McCombes, 2020).

Additionally, Denton, Bryan, Wexler, Reed & Vaughn, (2007, p.12) proposed the following steps for summarizing a long piece of writing:

Table 1.1

Steps to write a summary (Denton, Bryan, Wexler, Reed & Vaughn, 2007, p.125)

How to Write a Summary? Guided practice **A shortened version of something that includes only the most important details**	
STEP 1	***Listing the main ideas for each paragraph in the text:*** Pass out one copy of the same main idea statements to each group or pair of students.
STEP 2	***Underlining the main idea statements that include the most important ideas from the text:*** the teacher gives students 1–2 minutes to think about and discuss the section as a whole with their partners or small groups. Then s/he calls on individual students to share their thoughts on the big ideas of the section.
STEP 3	***Combining any ideas that could go into one sentence:*** The teacher gives students 2–3 minutes to decide whether any of the statements can be combined into one sentence.
STEP 4	***Numbering the ideas in logical order*****:** The teacher gives students 3–4 minutes to number the statements to put them into a logical order.
STEP 5	***Writing the summary in one paragraph:*** The teacher gives students 5–7 minutes to use the statements to develop a summary of the section of text then asks them to share their summaries. If needed, discuss ways to modify the summaries.
STEP 6	***Editing the summary: the teacher*** gives students 3–4 minutes to edit their summaries, remind them first to check capital letters, then punctuation, then spelling, and, finally, to read their summaries to be sure that they make sense. • The teachers should provide additional guided practice as required.

1.7 Overcoming Challenges in Summarization

There are certain challenges that students face it in summarization. For instance, those are significant obstacles according to (Davidson, 2024). First, effectively summarizing content requires skill, especially when dealing with complex or technical

subject matter. In such situations, it is helpful to break down the content into simpler language and use analogies or relatable examples to clarify difficult concepts, making the summary more accessible to a broader audience (Davidson, 2024). This means that summarizing is not just about shortening text; it involves understanding the main ideas and expressing them clearly. When the original content is full of specialized terms, theories, or technical language (such as in science, law, or technology), it becomes more challenging to summarize because you need to understand it first before you can simplify it (Davidson, 2024).

Second, equally important is maintaining objectivity; summarizers must avoid inserting personal bias or interpretation and instead focus on accurately conveying the original author's intent. This helps preserve the integrity and reliability of the summarized material (Writing Center, University of North Carolina at Chapel Hill, n.d.).

Finally, another common challenge involves finding the right balance between brevity and completeness. For Davidson (2024), "A good summary should remain concise while still covering all critical ideas, similar to telling a well-structured story that includes the key points without unnecessary elaboration". He deals with that an effective summary should be short and to the point but still include all the important information. They should not add too many details, but they also should not leave out any key parts that are necessary for understanding the main message.

1.8 Summarizing Skills

According to the University of Queensland's Editorial Team (2025), summarizing is a skill students use every day, whether they realize it or not. It is all about taking a big

chunk of information and condensing it into a shorter version while still keeping the main ideas intact. If they have watched a two-hour movie and the want to explain the plot to their friends, students do not go into every little detail. Instead, they give them a brief, clear overview in just a few minutes. That is summarizing in action (The University of Queensland's Editorial Team, 2025).

In academic writing, summarizing is just as useful. They can take other people's ideas, condense them, and use them to support their own arguments or discussions. It is a way of shortening complex information and making it easier to digest (The University of Queensland's Editorial Team, 2025).

1.9 What Can be Summarized?

Summarization is a key academic and analytical skill that involves condensing complex information into its essential elements without distorting meaning. Firstly, in academic writing and research, knowing what can be summarized and how to do so effectively is crucial for demonstrating understanding, synthesizing knowledge, and building coherent arguments. Scholars and students alike often summarize various components such as the results of studies, research methodologies, scholarly viewpoints, contextual backgrounds, and even their own arguments.

In addition, peripheral issues and historical developments can be summarized to provide readers with necessary context. Each type of summary serves a distinct purpose, whether it is simplifying complex data, offering background insight, or reinforcing key points. Importantly, while summarizing, appropriate citation must be provided when drawing from external sources to maintain academic integrity and avoid plagiarism. These are the important ones:

- **Results of studies they are reporting on:** It means that when summarizing the results of the studies; focus on presenting the key findings and their implications. For example, instead of saying "the study showed a 25% increase in comprehension scores," It could be said, "the study showed a significant improvement in comprehension scores among participants." The original source of documentation of information should always be indicated. "The study showed a significant improvement in comprehension scores" is preferable to specific percentages. Always cite the original source" (Smith, 2020).
- **Methods or approaches others have taken in an area:** When summarizing methodologies, they provide an overview of the research designs, tools, and procedures used by other scholars in a particular field. This could include qualitative or quantitative approaches, surveys, experiments, or case studies. For example, "Researchers have employed longitudinal studies to examine the long-term effects of summarization on reading comprehension." Ensure that you paraphrase the methods accurately and cite the sources appropriately. "Researchers have employed longitudinal studies to examine the long-term effects of summarization on reading comprehension" (Brown & Lee, 2018). Ensure paraphrazing is accurate and sources are credited.
- **Various researchers'/authors' viewpoints on given issues:** Summarizing viewpoints involves capturing the essence of different scholars' opinions or theories on a specific topic. This requires presenting their arguments or conclusions in their own words, highlighting areas of agreement or disagreement. For instance, For example, "Author A argues that summarization enhances understanding, while Author B contends it may oversimplify complex material" (Jones, 2017; Clark, 2019). Accurate citation is essential.

- **Points students have made in an essay at any juncture or in a conclusion:** Summarizing their own points involves restating the main arguments or conclusions they have presented in their essay. This helps reinforce their thesis and reminds the reader of their key messages. For example, “In conclusion, summarization proves to be an effective strategy for improving comprehension.” Since these are their original ideas, no citation is needed, but clarity and conciseness are important.
- **Contexts of a text they are reviewing:** Providing context means offering background information that helps the reader understand the setting, purpose, and significance of the text. This could include details about the author, the historical period, or the cultural environment in which the text was produced. For example, “The article was published in 1995, during a period of increased interest in cognitive psychology.” This contextualization aids in interpreting the content accurately.
- **Issues peripheral to their paper but necessary for providing context for their writing:** Sometimes, it is necessary to summarize related issues that are not the main focus of student’s paper but provide essential background. These peripheral issues can help situate their research within a broader framework. For instance, “While this paper focuses on summarization techniques, understanding cognitive load theory provides valuable insights into how these techniques affect learning” (Sweller, 1988).Ensure that these summaries are relevant and contribute to the reader's understanding.
- **Historical events leading to the event/issue/philosophy they are discussing:** Summarizing historical events involves outlining key occurrences that have led to the current situation or understanding of a topic. This provides a timeline and

shows the evolution of ideas or events. For example, “The development of summarization techniques can be traced back to early 20th-century cognitive psychology research.” Accurate and concise presentation of these events is crucial for setting the stage for your discussion. “The development of summarization techniques can be traced back to early 20th-century cognitive psychology research” (Neisser, 1967).

1.10 Advantages of Summarizing

Summarizing has significant benefits as noted by Hacker (2008), the aim of summarizing is to concisely present the main points of a theory or work to bolster an argument, provide background for a paper’s thesis, write literature reviews, and annotate a bibliography. The advantage of summarizing lies in illustrating the “big picture”, which helps the reader places their statements in context (Hacker, 2008). Besides the benefits summarizing offers to the reader, as a writer, students also gain a clearer understanding of the direction their writing is taking, identify which sections require further detail, and assess whether you have grasped the information they have gathered (Hacker, 2008).

For its users, summarizing offers a wide range of advantages. Some of the key benefits are: as follows:

- **Improve students Capabilities for Learning:** Summarizing can significantly enhance one’s ability to learn. Before creating a summary, a student must read and comprehend the full passage, which often involves re-reading to fully grasp its meaning. This repetitive engagement promotes stronger reading habits and a deeper understanding of content. Over time, these habits contribute to improved learning capabilities by training the brain to extract key ideas and think critically (Anderson, 2015). Additionally, “the process of summarization exposes learners

to a wide range of topics and ideas, encouraging them to identify core concepts and improve content retention" (Chen & Walker, 2017).

- **Preparing their Study Notes:** Summarizing is a practical strategy for generating effective study notes. By condensing full texts or articles into key points, students can create concise resources for future revision. "This method not only reduces the time needed to revisit materials but also allows learners to internalize information more efficiently" (Martinez, 2018). Well-prepared summaries facilitate quicker reviews and reinforce understanding of essential concepts.
- **Enhancing students English Communication Skills:** Engaging in summarization also improves English language proficiency. As learners read and attempt to condense material, they often encounter new vocabulary and expressions. Seeking out these meanings expands their lexical knowledge, which contributes to better spoken and written communication skills. Over time, "this process supports the development of clarity and fluency in English, both of which are valuable in academic and professional settings" (Kumar, 2016).

1.11 Tools and Resources to Aid Summarization

To effectively summarize study materials, especially using techniques like mind mapping, students can benefit from a variety of tools and resources. These can be categorized into digital tools, visual aids, and supportive resources:

1.11.1 Online Summarizing Tools and Applications

Online summarizing tools and applications are digital solutions that assist users in reducing large volumes of text into concise summaries. These tools typically utilize natural language processing (NLP) and artificial intelligence (AI) to identify and extract key points from a given text, helping users save time and improve comprehension (Jadhav & Pawar, 2020).

First, one of the core features of these tools is automatic text summarization, which allows users to input raw text or upload documents for instant summaries. Many tools offer customizable summary lengths to suit different needs and preferences (Nenkova & McKeown, 2011). Additional features include language support, highlighting of key points, and integration capabilities with platforms such as web browsers or Google Docs, enhancing user convenience and productivity.

Furthermore, several well-known tools have gained popularity due to their effectiveness. Summary, for example, provides a minimalist interface that focuses on shortening content while maintaining clarity. Resoomer is tailored for educational content and argumentative texts, making it a valuable resource for students. “QuillBot Summarizer uses AI to offer two modes of summarization key sentences and paragraph form giving users flexibility in how they view condensed content” (QuillBot, 2023). Also, “TLDR This offers a convenient way to summarize web articles and is accessible as a Chrome extension, enabling users to condense content directly within their browser environment” (TLDR This, 2022). Meanwhile, Scholarcy caters specifically to academic needs by generating concise summaries of research papers and emphasizing their key contributions, making it a valuable tool for students and researchers alike (Scholarcy, 2021).

Overall, these online summarizing tools streamline the process of digesting information, offering practical solutions for learners, professionals, and anyone dealing with large volumes of text.

1.11.2 Note taking Techniques and Frameworks

Experimenting with various note taking techniques and frameworks can significantly enhance one's ability to summarize and comprehend information. Effective note taking not only aids in information retention but also supports the development of clear and concise summaries (Pauk & Owens, 2013).

Therefore, among the most widely used techniques is the Cornell Method, which divides the page into sections for notes, key points, and summaries, promoting active engagement with the material and facilitating later review. Another popular strategy is mind mapping, which uses visual diagrams to connect ideas and concepts, making it easier to see relationships between topics and condense complex information into simpler components (Buzan, 2018). Outlining, a linear and hierarchical approach, helps organize information by main topics and sub points, which is especially useful for summarizing structured content like lectures or textbooks.

Finally, these frameworks provide a systematic approach to note-taking, allowing users to extract and synthesize key points more efficiently. By incorporating such techniques, individuals can strengthen their summarization skills and better manage large volumes of information.

1.11.3 Seeking Guidance from Experts and Mentors

To enhance your summarization skills, seeking guidance from experts or mentors can be a highly effective strategy. First, Experienced individuals can offer practical advice, proven techniques, and constructive feedback based on real-world application, which can significantly accelerate your learning process (Ericsson, Krampe, & Tesch-Römer, 1993).

Second, mentors and professionals who have developed strong summarization, abilities often understand the nuances of condensing information without losing meaning

(Ericsson, Krampe, & Tesch-Römer, 1993). Their mentorship can help you avoid common mistakes such as; including unnecessary details, misrepresenting key points, or oversimplifying complex ideas. Moreover, regular interaction with such individuals can expose you to diverse summarization styles and tools, allowing you to refine your approach and adapt it to various contexts (Ericsson, Krampe, & Tesch-Römer, 1993).

Third, engaging in workshops, feedback sessions, or even informal discussions with experienced writers, educators, or academic peers can provide meaningful guidance and support your growth as an effective summarizer (Ericsson, Krampe, & Tesch-Römer, 1993).

Figure 1.1: ***Automatic Text Summarization Tool, knowledge-by-design (2010, 2016).***

Conclusion

Summarizing is a vital skill that involves condensing lengthy content into a clear, concise version that highlights the essential points and core message. It demands a thorough understanding of the original text to ensure key ideas are accurately captured while excluding unnecessary details. This chapter has outlined the general definition of summarizing, effective techniques for summarization, and provided step-by-step

instructions. Additionally, it addressed common challenges and the purposes of summarizing, as well as the types of content that can be effectively summarized. The following will be devoted to the mind maps.

Chapter Two:

Mind Maps

Introduction

Mind maps are an effective tool that helps students summarize lessons and organize information. They use colors, graphics, and arrows to link concepts and definitions. The goal of mind maps is to enable students to retrieve complex information by transforming it into a visual form. Mind maps are used to focus on summarizing lessons and the main and secondary ideas. Using symbols makes ideas simple and straightforward, which facilitates the process of sequencing ideas and concepts. Abbreviations: Instead of using long sentences, limit their selves to important ideas and key points.

The benefits of mind maps in summarizing lessons include enhancing comprehension; understanding topics faster; stimulating creativity; thinking creatively; improving memory for accurate and correct retrieval of ideas and concepts; and increasing productivity; facilitating and organizing ideas in a logical and quick manner. Therefore, in this chapter, we will discuss to what is brainstorming and the definition and the origins of mind maps then, the Founder of it to explain How to create mind maps, the Benefits of mind maps and, mind maps &concept mapping.

2.1 Brainstorming

Brainstorming is a creative process that is used to generate ideas and thought, which can help student when selecting a topic, exploring writing approaches, or deepening understanding of a subject. Harmer (2001) “emphasizes that teachers should encourage active learning by understanding how students absorb, interpret, and integrate ideas”. He also added that “Brainstorming activities can assist students, particularly in ESL settings, by providing a nonthreatening environment that motivates students who may otherwise be reluctant to write”.

The concept of brainstorming was popularized by Osborn (1953) “who argued that it enhances creative output by encouraging learners to break from conventional thinking”. MacDowell (1999) defined brainstorming as “a process of defining a problem or topic and generating any related ideas, no matter how distant”. These ideas are only evaluated once the brainstorming session ends.

For many writers, selecting a topic or argument for a paper can be difficult, but brainstorming provides a way to think through potential topics before beginning the writing process. Rao (2007) suggests that “brainstorming helps activate students' prior knowledge and skills, guiding them to identify what they already know and what additional information is needed”. Furthermore, Harmer (2001) “emphasizes the importance of teaching various brainstorming techniques to foster idea generation, which is vital for second language acquisition”. Buzan (1993) highlights that “one of the key benefits of brainstorming is its simplicity and its suitability for any class, regardless of level or context”.

Tomlinson (1998) notes that “brainstorming is a prewriting activity in which the writer freely notes everything related to a topic, later reviewing the ideas for patterns or insights”. This method encourages a pressure-free environment that supports motivation. Research by Rao (2007) “and other studies has confirmed that brainstorming strategies positively impact writing performance and learners' attitudes toward writing». Brainstorming continues to be a popular prewriting technique in English language teaching.

2.2 The Origins of Mind Mapping

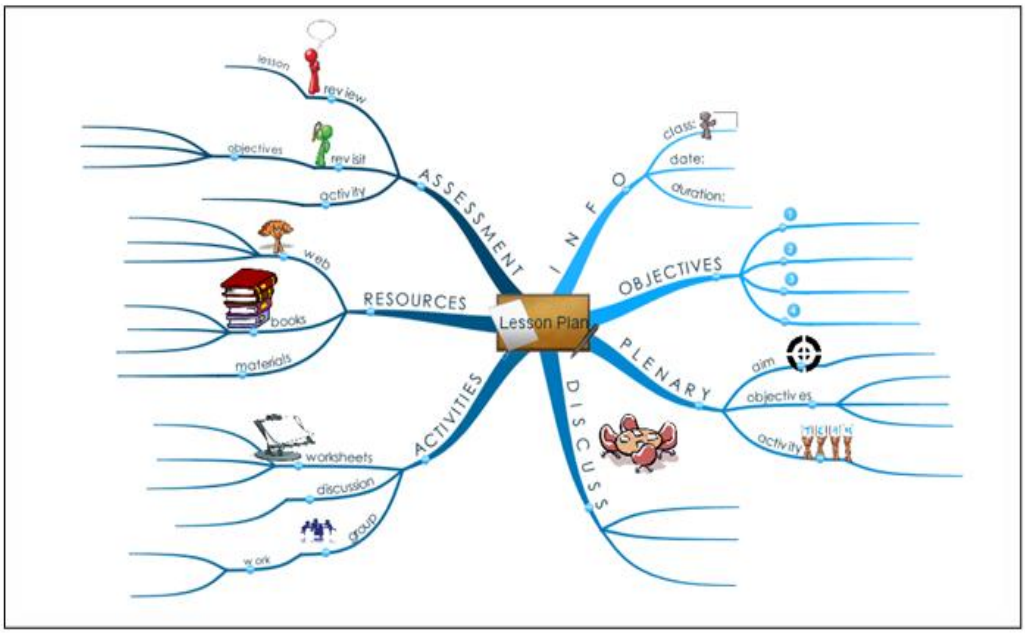
British psychologist Tony Buzan popularized the concept of mind mapping in the 1970s. According to him, mind maps help people better organize their thoughts, improve

memory, and enhance creativity. Originally done on paper with colored pens, mind mapping has evolved as technology has advanced.

Today, digital tools like Xmind and Xmind AI make mind mapping more accessible, efficient, and dynamic. Xmind's features, including its intuitive design and AI-driven functionalities, have made mind mapping popular across various industries. By incorporating AI, modern mind-mapping tools provide instant structure and organization, further enhancing productivity and ease of use.

Figure 2.1:

Example of Lesson Plan with a Mind Map (Buzau, 1994, p. 223)



2.3 Definition

Mind mapping is a method for arranging information in a structured way, making it easier to see how different parts of a bigger idea are connected; mind maps are a visual mental tool reflecting the natural organization of the brain. They allow one to think

laterally (bi-dimensional thinking) instead of thinking linearly (one-dimensional thinking) (Buzau 1976, 1993).

First, this method typically centers in a main idea, which is positioned in the middle of a blank page. From this central concept, related ideas represented by images, words, and fragments of words branch outward. Major concepts are directly connected to the central idea, with other related ideas spreading from these primary concepts. This approach reflects the brain's natural, non-linear way of processing information, making it a powerful tool for enhancing comprehension and creativity. The most important reason for the increased use of mind maps is that they enhance people's learning (Novak, Gowin 1984; Heinze-Fry, Novak 1990; Brinkman 2003).

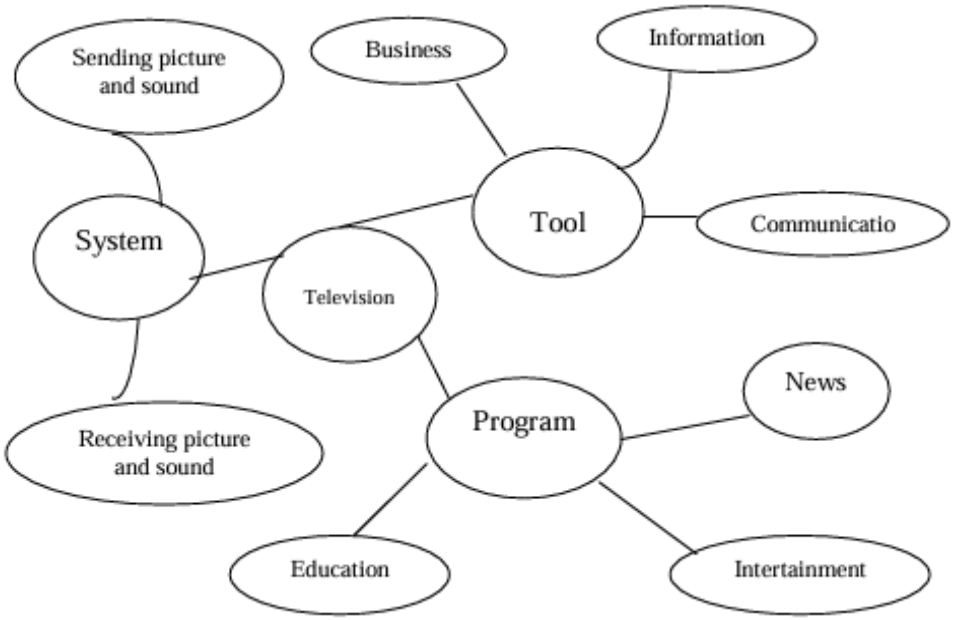
Second, Mind mapping has become a go-to method for anyone looking to take clearer notes or come up with creative solutions. It helps break down information in a way that is easy to follow, making it more understandable and less overwhelming. The visual layout does not just make things look organized it actually helps your brain hold onto both the big ideas and the smaller details. Since it combines pictures, words, and structure, it gets both sides of the brain working together, which boosts focus, memory, and creativity. In addition, mind mapping is a powerful accelerated learning technique that is available to both teachers and students (Mapp, 2002).

Although the mind-mapping concept has existed for many years, it gained widespread recognition in the 1960s through Tony Buzan, who aimed to help individuals organize and retrieve information more effectively. He also argued that the open and flexible structure of mind maps mirrors the brain's natural, non-linear thought processes, providing a superior alternative to traditional note-taking methods. He emphasized that mind maps are "innovative, effective, and literate techniques that effectively 'map'

cognitive processes". Alongside other methods like clustering and looping, it briefly fell out of favor; it has since regained importance as a method (Ramage, 2000).

Figure 2.2:

Example of Generated Ideas through Mind Mapping (Zaini, 2025)



2.4 Founder

Tony Buzan was a renowned educator, teacher, and author, best known for his influential books *Use Both Sides of Your Brain*, *Use Your Head*, and *The Mind Map Book*, which have sold millions of copies globally (Buzan, 1983; Buzan, 1991; Buzan & Buzan, 1993). He traveled the world giving lectures and workshops on topics such as brain function, memory, intelligence, speed-reading, and innovative methods of learning and teaching. His work has been shared in over 100 countries and translated into more than 30 languages. In addition, Buzan has advised major corporations, governments, and Olympic athletes on performance and learning strategies (Buzan & Buzan, 1993).

2.5. How to Create a Mind Map?

Creating a mind map is a simple and effective way to organize and visualize your thoughts. By following these steps, you can easily create a mind map that captures the main ideas and their relationships. First, more clearly in a classroom setting, Vacca & Vacca (1999) describe how Mind Mapping is applied. First, the teacher or the students decide on a key concept word to be explored and write it on the board. Second, the students, depending on what they have been studying and on their prior knowledge, offer words related to the key concept word.

In the writing process, prewriting stage encourages the generation of ideas (Brown, 2001.p. 348) and it is a way of organizing students' thoughts and beginning to put the information they have (English Works Online, 2002).in the other hand, as indicated by Graves in Widiati & Widayati (1997), student writers can produce creative and interesting texts when teachers allow their students' time and opportunity. Among other things, it is for generating or discovering ideas. To do so, students should be taught techniques (ways) for generating ideas (Widiati, 2003).

First, students should start with a central idea finding the main concept or subject is the first stage in making a mind map; this should be a succinct and straightforward sentence or term that encapsulates their mind map's primary idea. Put it in the middle of their digital canvas or page (Widiati, 2003). Then, they shouldbranch out with major ideas or themes after they have determined what the main idea is, start branching it out. Expand on the main theme and give each branch a pertinent subtopic or category. Their mind map's primary categories should be these key concepts or themes, which should be connected to the core idea. To make each branch easier to understand at a glance, use keywords or brief phrases to summarize it (Widiati, 2003).

Second, they should create sub-branches for detailed information make sub-branches for every main concept or theme in their mind map to advance it; more particular information and details pertaining to the appropriate major notion should be included in these sub-branches. Students should consider them subcategories or subdivisions of the primary categories. To distinguish between various information levels and add visual appeal to their mind map, use icons, colors, or pictures (Widiati, 2003).

Third, connecting related ideas, mind maps capacity to graphically depict the links and interactions between many concepts is one of its primary features. Connect relevant branches and show how they are related to each other using lines, arrows, or shapes. Draw attention to any parallels, inconsistencies, cause-and-effect links, or other linkages between various concepts. This will assist them in recognizing significant connections within their mind map and in seeing the wider picture (Widiati, 2003).

Finally, these guidelines will help them produce a neat, eye-catching mind map that successfully illustrates their concepts and how they relate to one another. They may visualise the relationships between various concepts and deconstruct complicated knowledge into digestible pieces by using mind mapping (Widiati, 2003). It is an effective tool for organizing and generating ideas. Keep in mind that there are no hard and fast guidelines when it comes to mind mapping.

To make their mind map distinctive and representative of learners' own thinking, they should feel free to try with various layouts, colors, and styles (Widiati, 2003). The objective is to produce an understandable and navigable visual representation of your thoughts. Remember to periodically go over and edit your mental map as new concepts come to mind or your comprehension expands. Because

they are dynamic, mind maps can be updated and improved upon over time (Widiati, 2003).

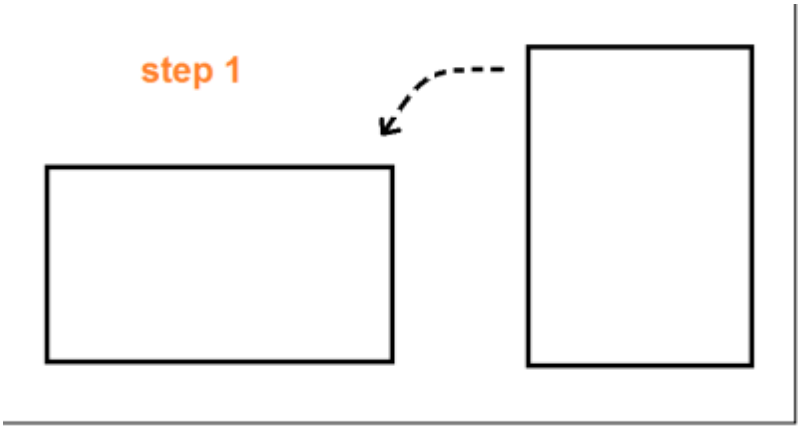
Since it facilitates cooperation, feedback, and the exchange of fresh viewpoints, sharing your mind map with others can also be advantageous. Mind mapping is an effective method for organizing thoughts, boosting creativity, and brainstorming. It facilitates the brainstorming process, enables you to visually depict your ideas, and investigates links between various concepts (Widiati, 2003).

2.6. The Tree of (Buzan, 2003)

One of the key metaphors Tony Buzan uses to explain the structure of human thought is "The Tree of Thought." This concept illustrates how ideas grow and branch out from a central core, much like a tree, representing the natural way the brain organizes and connects information (Buzan, 2003). It serves as a foundational idea behind mind mapping, encouraging learners to visualize their thinking in a more dynamic and interconnected manner.

Figure 2.3:

The First Step

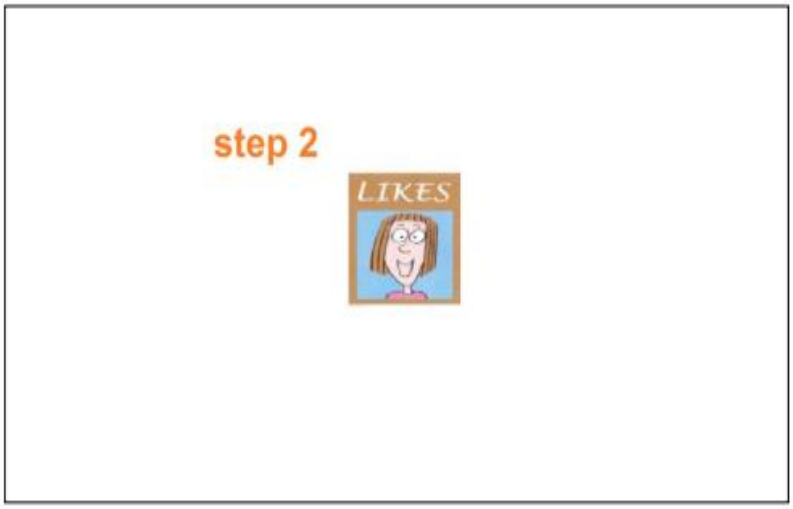


This first step emphasizes the importance of preparing the mind for learning, akin to planting a seed in fertile soil. Just as roots anchor and nourish a tree, preparation sets a

strong foundation for mental growth. This stage involves creating the right mindset, environment, and motivation for learning. It includes being curious, setting clear goals, and eliminating distractions. Buzan stresses that a well-prepared learner is more receptive and capable of absorbing new information effectively.

Figure 2.4:

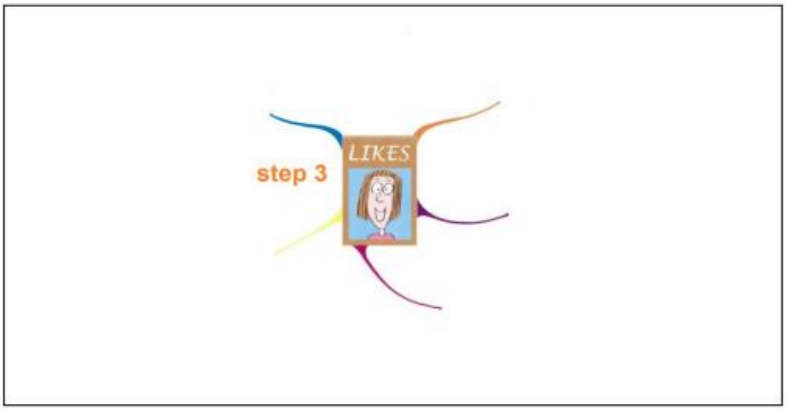
The Second Step



Once the roots are in place, the trunk symbolizes the intake of information—reading, listening, observing, or experiencing. The trunk is the central channel through which knowledge flows into the learner. In this phase, it is vital to use active learning strategies, such as note taking or summarizing, to help process information as it is received. According to Buzan, quality input leads to better understanding and retention, much like a healthy trunk ensures the stability and strength of a tree.

Figure 2.5:

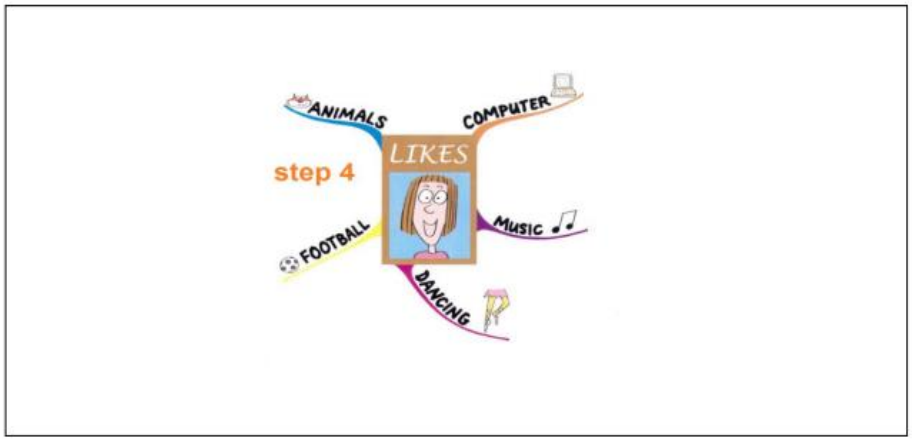
The Third Step (Making a central image with at least three colors)



In the third step, learning begins to branch out as understanding forms. This stage is about making connections between new and existing knowledge, organizing thoughts, and seeing the bigger picture. The learner starts to structure information logically, recognize patterns, and generate insights. These branches represent the different directions understanding can grow, allowing the learner to expand their knowledge framework and deepen comprehension.

Figure 2.6:

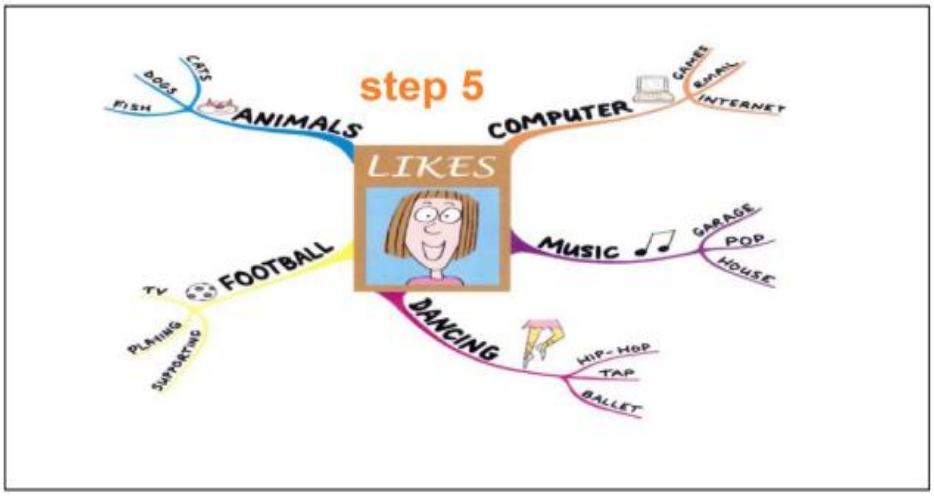
The Fourth Step (Adding the main branches)



Here, the knowledge is applied—just as trees use their leaves to photosynthesize and grow fruit; learners begin to actively use what they have learned. This can take the form of discussing ideas, teaching others, solving problems, or completing tasks that require the application of acquired skills. This practical engagement reinforces learning, builds confidence, and leads to greater retention. The "fruit" represents the productive outcomes and benefits of learning, such as personal growth, innovation, or success.

Figure 2.7:

The Fifth Step (Naming the Main Branches, and Adding Pictures Where Possible)



The final step is review, which Buzan likens to the cyclical nature of growth and regrowth in trees. Just as trees shed leaves and prepare for new seasons, learners must revisit and reinforce what they have learned to solidify knowledge. Regular review helps identify gaps, strengthen memory, and integrate learning into long-term understanding. This step ensures the sustainability of learning, making it more enduring and meaningful over time.

2.7 Benefits of Mind Mapping

Mind mapping is an innovative approach used to structure thoughts, promote creativity, and improve both the writing and learning processes (Mind Genius, 2023).By visually arranging information around a central concept, it enables individuals to grasp complex topics more effectively and recognize the interconnections between various ideas. This technique facilitates idea generation, strengthens memory retention, and supports organized thought processes. Mind mapping encourages a flexible, non-linear style of thinking, allowing individuals to explore and expand on ideas freely. Whether applied to academic writing, project management, or problem solving, mind mapping proves to be an essential tool for enhancing clarity, focus, and creative thinking (Lucid spark, 2023)

First, Mind mapping offers numerous benefits for writing, particularly in terms of organization and idea generation. Zaid (1995,p.234) “suggested that mind maps can serve as outlines for writing short essays or specific paragraphs, helping writers structure their thoughts”. According to Jones et al, (2012, p.45) “Mind maps help students learn information by forcing them to organize it and add images and color to it”. They further explained that:

> The technique is effective at various stages of writing—prewriting, drafting, editing, and revising. Mind mapping can also help writers stay on topic by providing a visual representation of their ideas, keeping them focused, and ensuring that their writing follows a logical sequence.

Mind mapping offers several benefits, particularly in organizing thoughts and enhancing creativity.

2.7.1 Collaboration and Communication

Mind mapping serves as an effective tool to enhance collaboration and communication within teams by offering a clear visual representation of ideas and information; this method facilitates the sharing and discussion of concepts, allowing team members to collectively contribute, recognize relationships, and explore different viewpoints in an interactive environment (Lucid spark, Atlassian, 2023) . The structured layout of a mind map simplifies complex ideas, ensuring that all participants have a unified understanding. As a result, this approach encourages greater engagement, promotes active participation, and ensures that key messages are conveyed clearly, leading to more productive discussions and improved teamwork (Lucid spark, Atlassian, 2023).

2.7.2 Effective Planning and Structuring

Mind mapping significantly supports planning and structuring efforts by providing an organized visual framework of tasks, goals, and priorities. It assists individuals in breaking down large projects into smaller, more manageable components, thus improving time management and resource allocation (Mind Genius, Chief Learning Officer, 2023). By visually mapping the connections between different elements, it becomes easier to identify essential components and understand how they interrelate. This organized approach fosters clearer tracking of progress and maintains focus on primary objectives, ultimately leading to more effective and efficient project management (Mind Genius, Chief Learning Officer, 2023).

2.7.3 Supports Different Learning Styles

Mind mapping is a flexible technique that fits different ways of learning. People who learn best through images enjoy the colorful and organized structure of a mind map.

Those who prefer learning by listening can talk about the connections and explain ideas aloud. People who learn by doing can draw the map themselves and interact with it physically. Because mind mapping combines these different styles, it helps everyone find the best way to understand and remember information (Lucid spark, Mind Genius, 2023).

2.7.4 Efficient Problem Solving

Using mind maps can make solving problems easier. When facing a complex issue, a mind map helps break it down into smaller, simpler parts. It also helps spot important points, explore different solutions, and see how ideas are connected. By laying, everything out visually, people can better understand the situation and come up with creative answers. It also makes it easier to notice patterns that might otherwise be missed, leading to smarter decision-making (Atlassian, Chief Learning Officer, 2023).

2.7.5 Clearer Focus with Mind Mapping

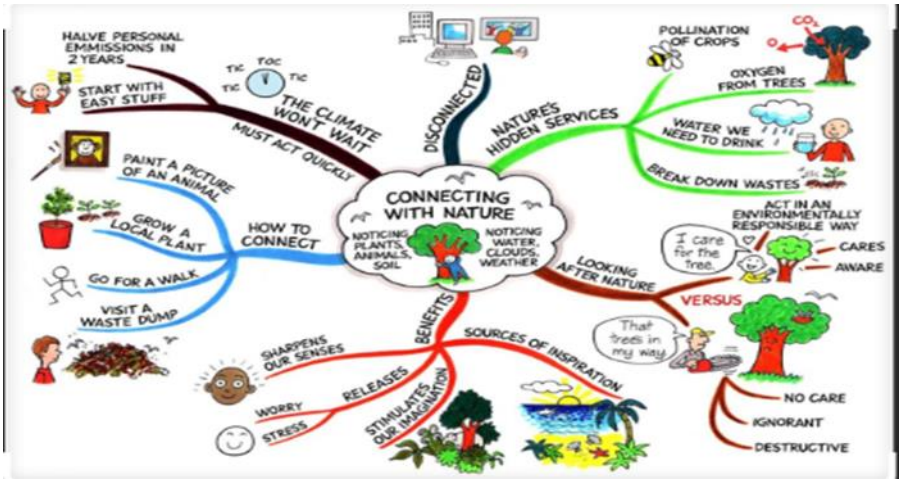
Mind mapping significantly enhances focus by organizing information in a structured and visual way. By arranging ideas into branches and sub-branches, individuals can clearly see the relationships between different concepts, which help prevent confusion and distraction (Buzan, 2018). The visual nature of mind maps allows users to break down complex topics into manageable parts, promoting a deeper understanding and stronger concentration (Lucid spark, 2023). Additionally, the flexibility of mind mapping helps learners and professionals prioritize tasks and ideas, ensuring that key points remain at the center of their attention (Mind Genius, 2023). This method not only improves information retention but also fosters a more disciplined and organized thought process, leading to more efficient study and work habits.

2.8 Mind Maps & Concept Mapping

Mind maps and concept maps are both popular visual tools used for organizing information, but they differ significantly in their structure and purpose. A Mind Map usually begins with a single central idea, from which related ideas branch out in a radial form, encouraging creative thinking and flexible idea generation (Buzan, 1993). In contrast, a concept map is designed to show the relationships between multiple concepts, often using connecting phrases to explain how ideas are linked in a hierarchical or network format (Novak & Gowin, 1984).

Figure 2.8:

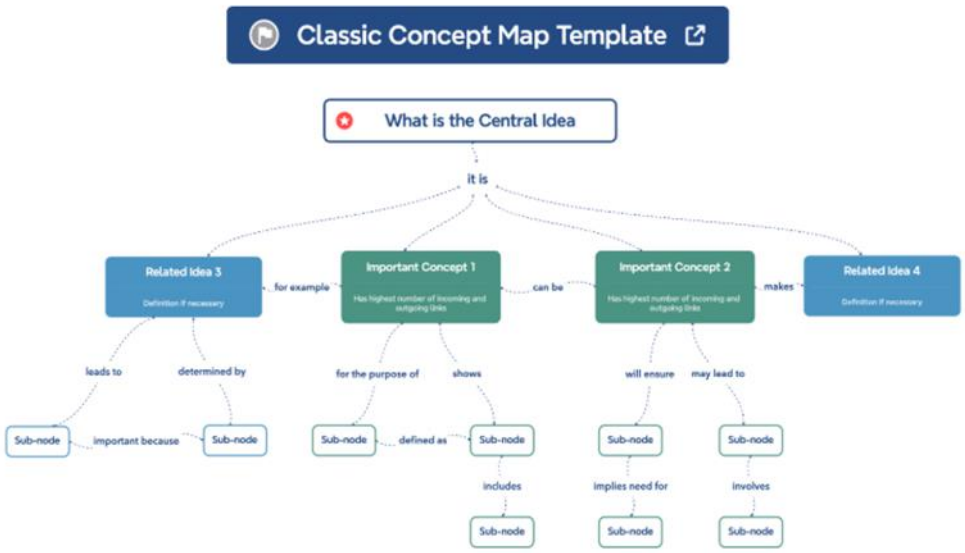
Example of mind map (Buzan, 1994, p. 223)



While mind maps promote lateral thinking and quick visualization of ideas, concept maps support deeper, more structured understanding of complex topics (Wheeldon & Faubert, 2009). Depending on the goals whether brainstorming or analyzing learners can choose the tool that best suits their needs.

Figure 2.9:

Concept map (xmind.app, 2025)



- Concept maps are a graphical tool for organizing and representing knowledge (Novak, Gowin 1984, Wheedling, Åhlberg 2012). They include unique concepts, usually enclosed in circles or boxes. Lines and linking words between concepts suggest hierarchical relationships.
- Concept Mapping is a central idea or concept that radiates outward in related ideas. Concept maps are also called mental maps, mind maps, clusters, mapping, word webbing, think-links or idea branches (Lim, Cheng, Lam, & Ngan 2003, p. 55; Peterson & Snyder 1998, p. 6).
- Concept mapping is described as a process that promotes active learning because learners are engaged in active search of knowledge rather than the passive reception thereof (Edelson in De Simone et al. 2001, p. 264).

- Behrman (2003), who refers his version of this technique as CM, asserts that it is an effective way to get ready to write a paragraph, an essay, or a story. It helps students generate and organize the ideas about the topic they are going to write.

Conclusion

Mind mapping is an effective technique for summarising and recalling information, through symbols, colors, graphics to create and link concepts and definitions. This technique is beneficial for the students; it helps them to get success in their studies. Furthermore, mind mapping is a tool that facilitates the learning and teaching strategies. This chapter addresses the mind mapping and its origin, the definitions, how to create it and the relationships between mind mapping and concept mapping.

Chapter Three:

Fieldwork and Data Analysis

Introduction

This chapter deals with the fieldwork of this research and the methods used to conduct this study. Furthermore, it aims to discuss and evaluate the results accumulated from the questionnaires that is designed to Investigating the role of mind map technique to help first-year students summarize effectively in Mohamed kheider university of Biskra. . More importantly and precisely, those that were distributed for both first-year students in Mohamed Kheider University in Biskra and their English teachers. Therefore, from those detailed analysis of the gathered information we will be able to examine the research question on the role of the mind maps.

3. Methodology of the study

3.1 Research approach and design

This study aims at to Investigating the role of mind map technique to help first-year students summarize effectively in Mohamed kheider university of Biskra.It also seeks to examine the impact of the Mind Map technique on improving the summarization abilities of first-year EFL students. Hence, the present study was conducted through a qualitative descriptive method because we believe it is the most appropriate for such issues. In order to answer our hypothesis we used questionnaire and interview as a data collection tool.

3.2 Population and the sample of the study

3.2.1 Students

This research deals with first- year EFL students at Mohamed Kheider University of Biskra as our target sample. The whole population consists of (827)

students from different eleven (15) groups. However, due to time constraints we have chosen only a sample of 40 students, who were selected randomly to answer our questionnaire. Since we believe they all have been exposed to the mind maps techniques and we believe are representative of the whole population.

3.2.2 Teachers

The interview has been administered to Ten (9) teachers of the English language from (72) teacher a total number of English language department at Biskra University. The main reason of targeting this population is due to the fact that they are well knowledgeable and more experienced about their learners' abilities.

3.3 Data collection methods

Following the nature of the study, research aims, questions, and due to time limitations we believe that the most suitable data gathering tool is the questionnaire and the interview.the two were administered,the questionnaire for first- year EFL students and the interview for teachers'of english in order to collect information about their perceptions to wards the implementation of summarization skill to develop learners'. Our aim is to be able to validate our hypothesis.

3.4 Students'Questionnaire

3.4.1 Description and aim of students'questionnaire

This questionnaire was designed for first-year EFl students at Mohamed Kheider University. It was posted face to face to facilitate the process of distribution and collection of responses. Its main aim was to investigate “The role of the mind map technique to help first-year students summarize effectively in

Mohamed kheider university of Biskra".Besides, the present questionnaire consists of five sections in order to obtain valid and reliable results ; those sections are a mixture of multiple questions in which respondents are required to answer either in yes/no questions or open ended question , in picking up the most appropriate answer from a series of options with providing their opinions. This questionnaire is composed of five sections, which fit the variables of our study as follows:

Section one : General Information

Section two : Experience with Mind Maps

Section three: Academic Performance and Motivation

Section four: Challenges and Suggestions

Section five: General Feedback

3.4.2 Administration of students' questionnaire

After desigining the final draft of this questionnaire, the present questionnaire was printed and then distributed hand to hand to (40) EFL students of first-year at Biskra University. It is worthy to mention that these students were selected randomly and they did not face any difficulties in understanding and answering the questionnaire.

3.4.3 The Analysis of the questionnaire

Section One: General Information

Q1. Are you familiar to know the mind map?

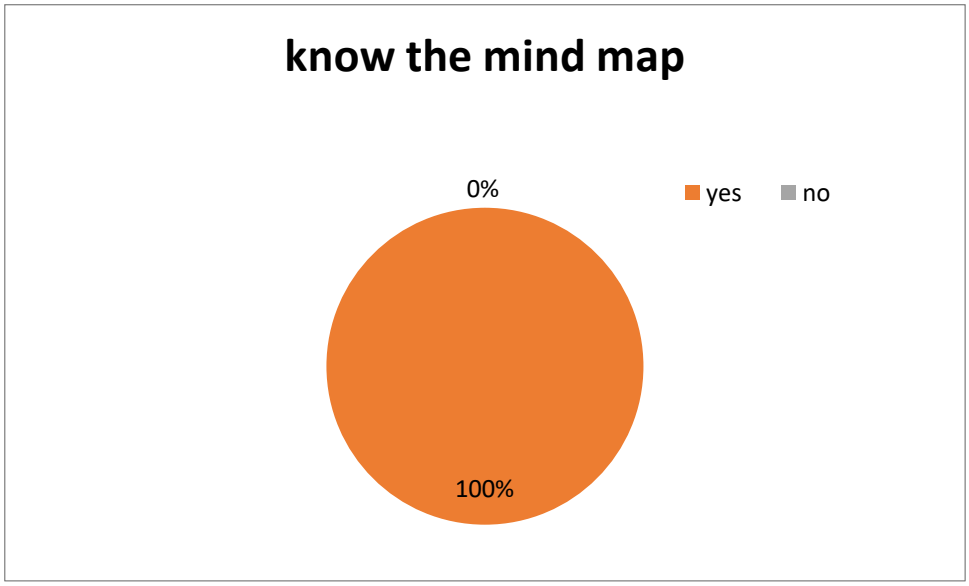
Table 3.1:

Familiarity of students with Mind Maps

Option	Participants	Percentage
Yes	40	100%
No	0	0%
Total	40	100%

Figure 3.1:

Familiarity of students with Mind Maps



100% the participant of the first year student of Mohammed kheider Biskra, they say yes, it means that they are familiar to know the mind map technique.

Q2. How often do you use mind maps in your studies?

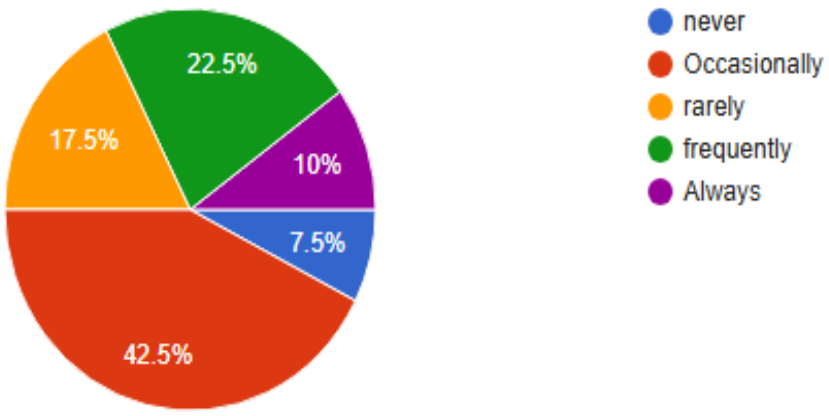
Table 3.2:

Frequency of Mind Map Use in students Studies

Option	Numbers	Percentage
A. Never	4	7,5%
B. rarely	7	17,5%
C. Occasionally	17	42,5%
D. Frequently	9	22,5%
E. Always	4	10%
total	40	100%

Figure 3.2:

Frequency of Mind Map Use in students Studies



The results reveal that the majority of first-year students at Mohamed Kheider University selected the "sometimes" option (42.5%), indicating that they are somewhat familiar with or have used mind mapping to aid summarization, but that their use is not yet regular. The second-highest percentage, "often" (22.5%), shows that a smaller but significant portion of students regularly incorporate mind mapping into their study practices. In contrast, 17.5% of students reported rarely using this technique, while only 10% reported always using it. A small number, 7.5%, indicated that they never used it, indicating that there are students who are still unaware of this method or unconvinced of its effectiveness.

Section 2: Experience with Mind Maps

Q3. Before being introduced to mind maps in your course, were you aware of this technique for summarizing?

Table 3.3:

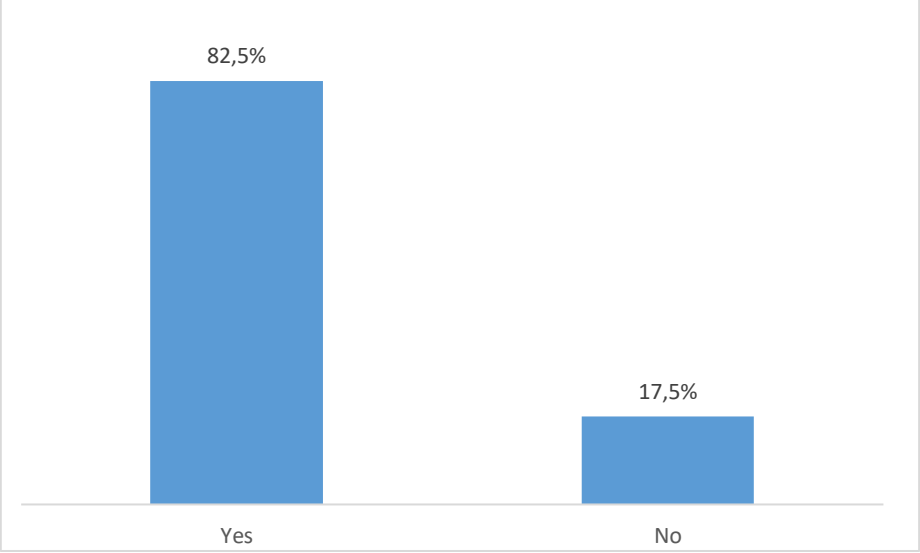
The awareness of Mind Mapping Before the Course

Options	number	Persontage
Yes	33	82,5%
No	7	17,5%
Total	40	100%

The tabale showed that the majority of the student say yes so they aware to this method.

Figure 3.3:

The awareness of Mind Mapping Before the Course



The results show that the majority of first-year students (82.5%) were already familiar with the mind mapping technique for summarization before it was formally introduced in the course. In contrast, only 17.5% indicated that they

had no prior knowledge of this method. These results indicate that mind mapping is relatively well known among students at Mohamed Kheider University even before its formal introduction, and this prior knowledge may positively influence their ability to adopt the method and apply it effectively throughout the course.

Q4. How easy was it to learn how to create a mind map?

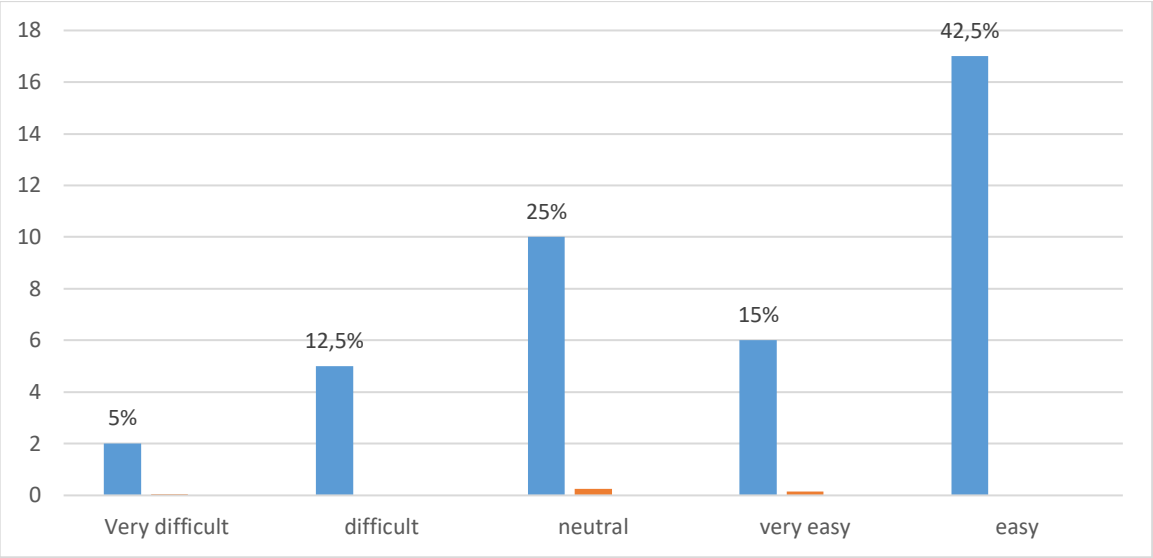
Table 3.4:

Students ease of Learning to Create Mind Maps

Options	Number	Percentage
Very difficult	2	5%
Difficult	5	12,5%
Neutral	10	25%
Easy	17	42,5%
Very easy	6	15%
Total	40	100%

Figure 3.4:

The easy to create a mind map for the students



The study on the effectiveness and accessibility of mind mapping for summarization among first-year students at Mohamed Kheider University reveals several important trends:

First, when students were asked how often they used mind mapping for summarization, the majority (42.5%) responded "sometimes," indicating a moderate level of use. This was followed by "often" (22.5%) and "rarely" (17.5%), indicating a variability in adoption rates. Only a small number reported using the technique all the time (10%) or never (7.5%). This distribution suggests that the method is well known but not used regularly or widely.

Second, prior familiarity with mind mapping was significantly high; the majority of students (82.5%) reported prior familiarity with the technique before its introduction in the course, indicating that mind mapping is not a completely new concept for most students. This prior familiarity may have a positive impact on the speed and ease with which the method is integrated into their study habits.

Finally, regarding the ease of learning to create a mind map, more than half of the students (57.5%) described the experience as "easy" or "very easy."

Only a small percentage encountered difficulties, with 12.5% reporting it as "difficult" and 5% as "very difficult." These results indicate that the technique is generally easy to learn and a practical tool for academic use.

Overall, the results indicate that mind mapping has strong potential as an effective summarization strategy for first-year students. It is relatively well-known, easy to learn, and used moderately. With more guidance and structured practice, its use could become more regular and effective among students.

Q5. How helpful do you find the mind map technique for summarizing course material? Explain

Table 3.5:

The usefulness of Mind Maps for Summarizing

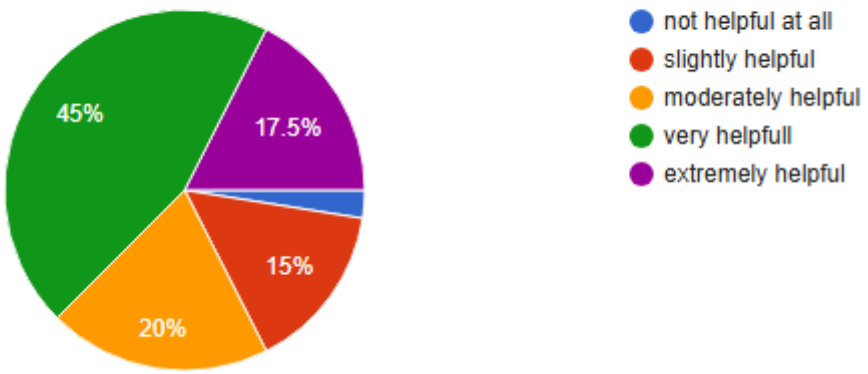
option	number	Percentage
Not helpful at all	1	2,5%
Slightly helpful	6	15%
Moderately helpful	8	20%
Very helpful	18	45%
Extremely helpful	7	17,5%
Total	40	100%

Data indicates that mind mapping is generally considered an effective tool for summarizing course content among first-year students at Mohamed Khider

University. The high percentage of positive responses highlights the great potential of this technique to enhance learning and understanding when integrated into academic practice.

Figure 3.5:

The usefulness of Mind Maps for Summarizing



1. **Clarity and Organization of Information**

Many responses highlighted how mind maps help structure ideas in a clear and organized way.

- **Supporting quotes:**
    - "It's very helpful because it organizes ideas clearly."
    - "It is helpful to organize the ideas and to express it more easily."
    - "It visually organizes information, making it easier to understand and remember."

Students appreciate mind maps as a way to make sense of dense material by breaking it into manageable parts.

2. **Improved Memory and Recall**

Several comments refer to the mind map's role in helping students remember key points more easily.

- **Supporting quotes:**
    - "It facilitates memorising things easily."
    - "Help memory and catch information in a rapid way."
    - "Makes it easier to review and remember key concepts quickly."

Visual and spatial layouts of mind maps support cognitive processes involved in memory.

3. **Efficiency and Time Management**

Respondents expressed that mind maps help reduce study time and increase focus.

- **Supporting quotes:**
    - "It saves me time and helps me focus on what's important."
    - "Makes studying faster."
    - "Instead of reading a lot of text, I can just look at the map."

Mind maps allow students to get a quick overview of key concepts, improving efficiency during revision.

4. **Understanding Relationships Between Concepts**

Mind maps help in linking ideas, showing how concepts are interconnected.

- **Supporting quotes:**
    - "It helps in organizing my ideas and make relation to each idea."
    - "Shows relationships between ideas."
    - "Highlight key concepts and their relationships."

This theme reflects the usefulness of mind maps in promoting **deep learning**, not just surface memorization.

5. Active and Personalized Learning

Some responses point out how mind maps allow learners to summarize material in their own words.

- **Supporting quotes:**
    - "Helps to summarize the courses in your own words."
    - "Instead of reading a lot of text, I can just look at the map and quickly understand the main ideas."

Mind maps encourage students to engage more actively with the content, creating personalized representations of knowledge.

The responses cluster around five major themes: clarity, memory, efficiency, relationships, and active learning. These findings show that students view mind mapping as a versatile and powerful technique that not only supports learning but enhances understanding and recall in a meaningful way.

Q6. In your opinion, how does using mind maps compare to other methods of summarization (e.g., taking notes, outlining)?

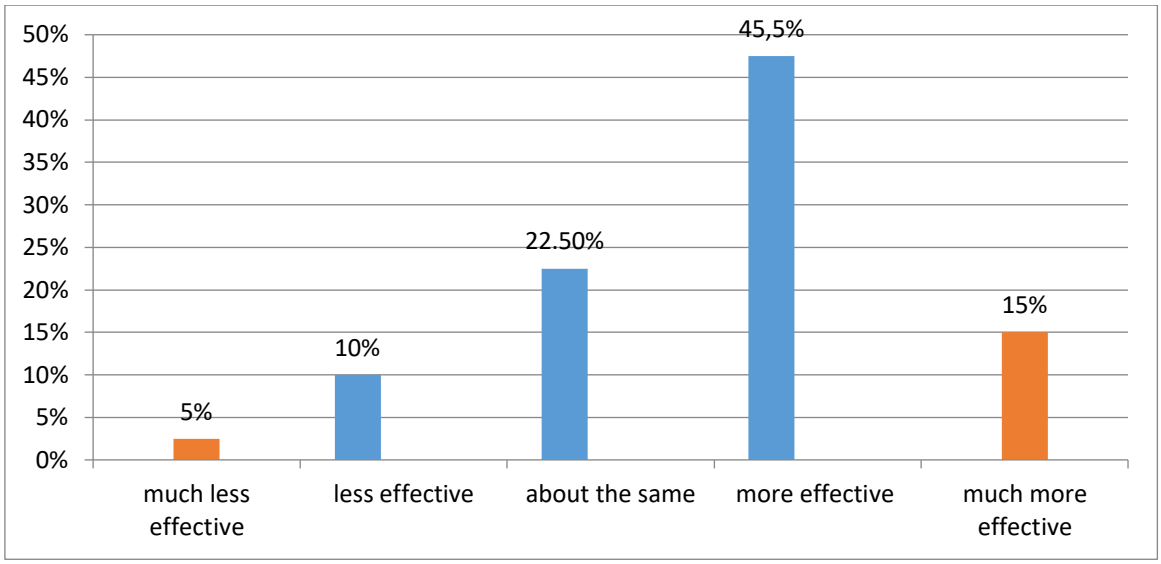
Table 3.6:

Comparison of mind maps with Other Summarization Methods

Option	number	Percentage
Much less effective	2	5%
Less effective	4	10%
About the same	9	22,5%
More effective	19	45,5%
Much more effective	6	15%
Total	40	100%

Figure 3.6:

Comparison of mind maps with Other Summarization Methods



The data reveals a clear preference among students for using mind maps as a summarization tool compared to traditional methods such as note taking or diagramming. 60.5% of students rated mind maps as "more effective" (45.5%) or "much more effective" (15%), highlighting the appeal of the visual, creative, and associative structure of this technique.

First, this strong preference suggests that many students find real value in mind maps' ability to organize information in a way that mimics how the brain processes and stores knowledge—through connections, patterns, and visual effects. Unlike linear summarization, which often relies on listing points in sequential order, mind maps enable students to see the "big picture" and understand the relationships between concepts, which can improve comprehension and retention. The branching format of mind maps also encourages active engagement with content by reframing, categorizing, and prioritizing it, rather than passively copying it.

However, 22.5% of students considered mind maps to be "about the same" as other summarization strategies. This group likely indicates that they recognize

the benefits of mind maps, but do not see them as clearly superior to their usual methods. These students may be more comfortable with linear methods, or they may not have had enough opportunity to experience mind maps to reflect their true advantages. Some topics particularly those requiring sequential steps or detailed lists may make traditional methods seem more practical and effective to them.

Furthermore, a smaller percentage of students 15% rated mind maps as less or much less effective than other methods. Although this is a minority, it provides important insight into the diversity of learning preferences. Some students may struggle with the non-linear, open-ended nature of mind maps, particularly those who prefer structured textual methods that follow a clear sequence or precise narrative. Others may also find it difficult to master this technique, especially if they have not received sufficient guidance or have no prior experience with visual tools.

In addition, these students may find the process of creating a mind map time-consuming or complex, especially if they are accustomed to writing down or summarizing quickly in a linear manner. This highlights the need to provide clear explanations, practical examples, and appropriate practice opportunities when introducing mind mapping to ensure all students feel confident using it.

Q7. Do you feel that mind maps help you better understand and remember the material? Justify

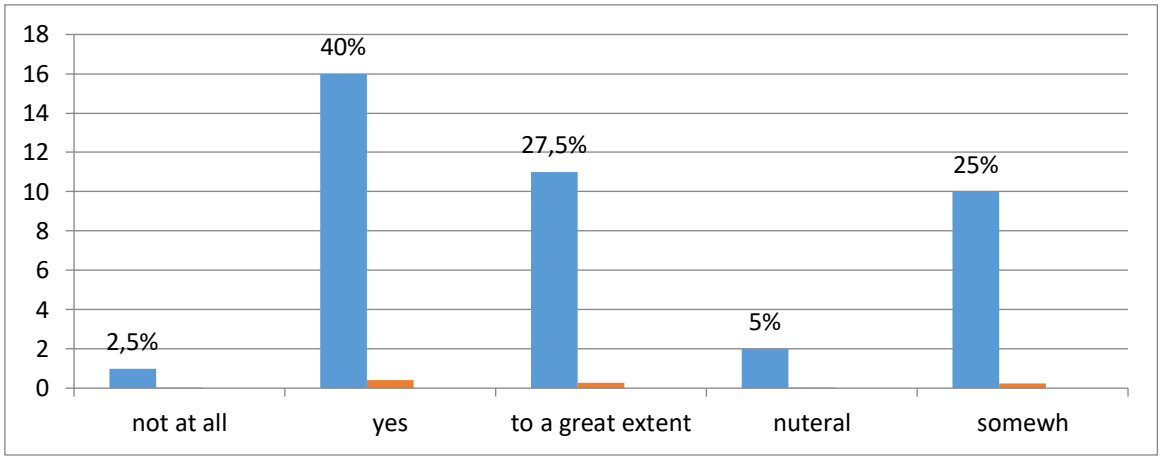
Table 3.7:

Impact of mind maps on Understanding and Memory

Option	number	Percentage
Not at all	1	2,5%
Somewh	10	25%
Neutral	2	5%
Yes	16	40%
To a great extent	11	27,5%
Total	40	100%

Figure 3.7:

Impact of mind maps on Understanding and Memory



1. Enhanced Understanding

Many respondents noted that mind maps help them understand lessons more deeply by organizing information and showing the relationships between ideas.

- "Yes, when I make a mind map, I feel like I understand the lesson more deeply."
- "They show main ideas clearly and connect them."
- "It is useful for students to grasp the target subject."

2. Improved Memory and Recall

A majority mentioned that mind maps **support better memory retention**, especially when preparing for exams.

- "Yes, I feel that mind maps help me in remembering all my lessons and recall it easy."
- "It becomes easier for me to remember the material later, especially before exams."

3. Visual and Creative Tools Aid Learning

Several students highlighted the importance of **colors, shapes, and keywords** in their mind maps, which made the learning experience more effective and enjoyable.

- "If I use colors and different shapes in summarizing, it makes me remember the content easier."
- "Because I use colors and keywords, it becomes easier for me to remember."

4. General Agreement with Varying Degrees of Enthusiasm

While all responses were positive, some were **strongly affirmative**, while others were more neutral or tentative.

- Strong: “Yes, of course, improves in your understanding.”
- Neutral: “Yes somehow it does.” / “Sometimes it makes it easier for me to understand the material.”

Most students agree that mind maps are an effective learning tool. They help improve understanding by organizing ideas visually and showing the relationships between concepts. Many students also find that using colors, shapes, and keywords makes it easier to remember information, especially during exam preparation. While a few responses were more neutral, the overall feedback is highly positive, showing that mind maps support both comprehension and memory.

Section 3: Academic Performance and Motivation

Q8. Have you noticed any improvement in your academic performance (grades) after using mind maps for summarizing?

Table 3.8:

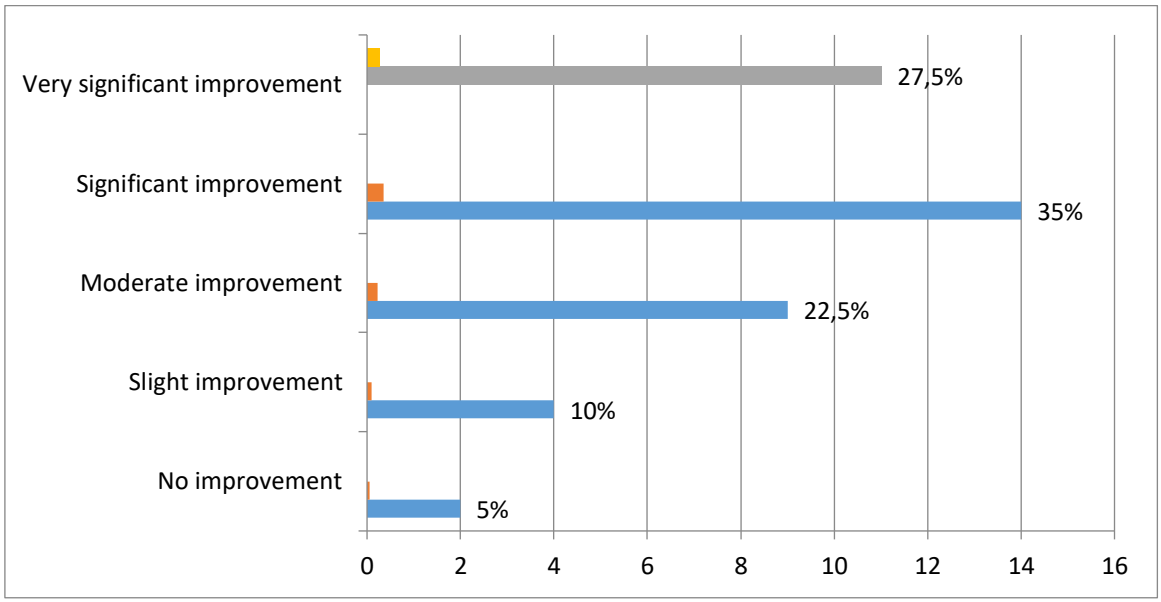
Students improvement in Academic Performance

Option	number	Percentage
No Improvement	2	5%
Slight improvement	4	10%
Moderate improvement	9	22,5%
Significant improvement	14	35%
Very significant	11	27,5%

improvement		
Total	40	100%

Figure 3.8:

Improvement in the student academic performance after using mind maps



The data indicate that the majority of students (62.5%) reported a significant (35%) or very significant (27.5%) improvement in their academic performance after using mind maps. Additionally, 22.5% experienced moderate improvement, and 10% noted a slight improvement. Only 5% of students reported no improvement at all.

These results indicate that mind maps have a positive impact on the academic performance of most students, likely by helping them organize, understand, and retain information more effectively. The high rate of significant improvement reinforces the value of incorporating this technique into study routines and classroom practices.

Q9. Do you feel more confident in your exams or assignments after using mind maps? Explain

Table 3.9:

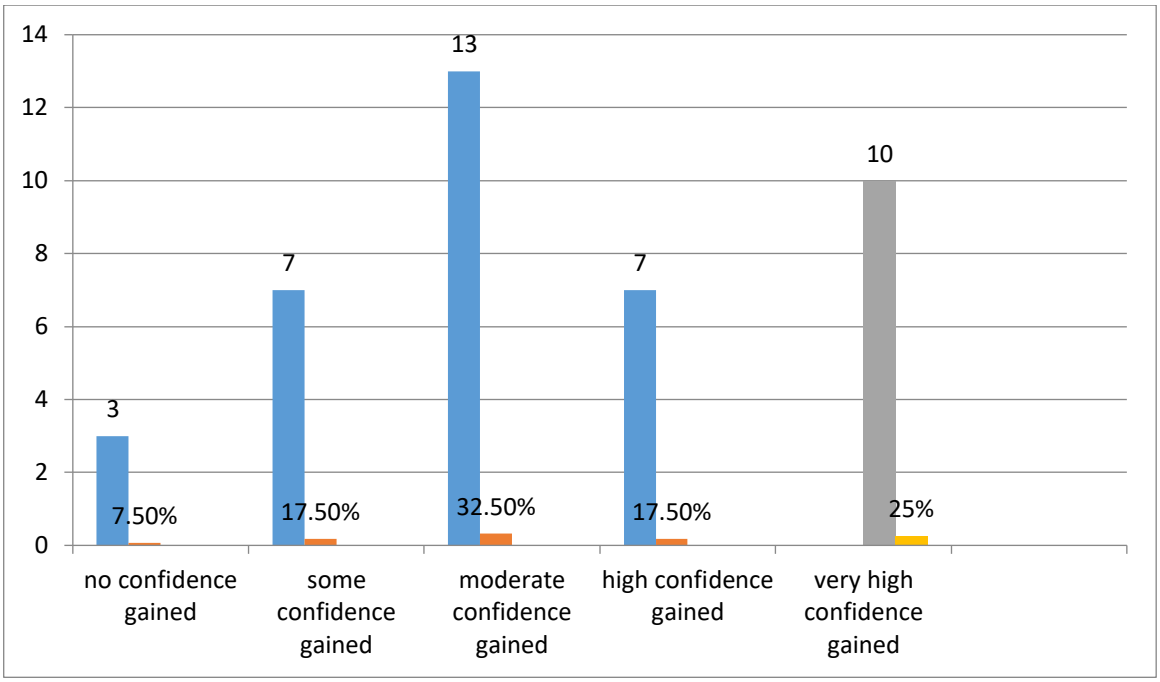
Increased Confidence after using mind maps in Exams and Assignments

Option	number	Percentage
No confidence gained	3	7,5%
Some confidence gained	7	17,5%
Moderate confidence gained	13	32,5%
High confidence gained	7	17,5%
Very high confidence gained	10	25%
Total	40	100%

The results show that most students (75%) felt more confident in exams and assignments after using mind maps, with many reporting moderate to very high confidence. This highlights the positive impact of mind maps on both learning and self-confidence.

Figure 3.9:

Increased Confidence after using mind maps in Exams and Assignments



1. Increased Confidence During Exams and Assignments

Most responses clearly indicate that using mind maps boosts students' confidence, especially during exams and assignments.

- "Yes, I feel more confident because I can easily remember the important points during exams."
- "Yes, I feel more confident after using mind maps. When I revise with a mind map, I can quickly review all the important points."
- "Yes i will be more confident about my answers."

2.Improved Memory and Recall

Many students mentioned that mind maps help them **recall key points more easily**, which directly contributes to their exam performance.

- "In exams I imagine what I wrote in the mind map and remember easily."

- “It helps remember the essential titles or essential things that need to be remembered.”

3. Better Organization of Thoughts

Mind maps were frequently credited with helping to structure and organize information**,** reducing confusion and increasing clarity.

- “Everything looks more organized in my head. I don't feel lost like before.”
- “They help me organize my thoughts, review key concepts quickly, and make connections between ideas.”

4.Simplification of Complex Topics

Students pointed out that mind maps make difficult subjects easier to understand and review, making preparation more effective.

- “Mind maps simplify complex topics.”
- “It facilitates thought organization and leads to better engagement.”

The majority of students report feeling more confident in their exams and assignments after using mind maps. They attribute this confidence to the visual and organized format that mind maps provide, which helps simplify complex material, improve memory recall, and make revision more efficient. By enabling students to structure their thoughts and focus on key points, mind maps reduce anxiety and make exam preparation feel more manageable and effective.

Q10. How motivated are you to use mind maps for summarizing in the future?

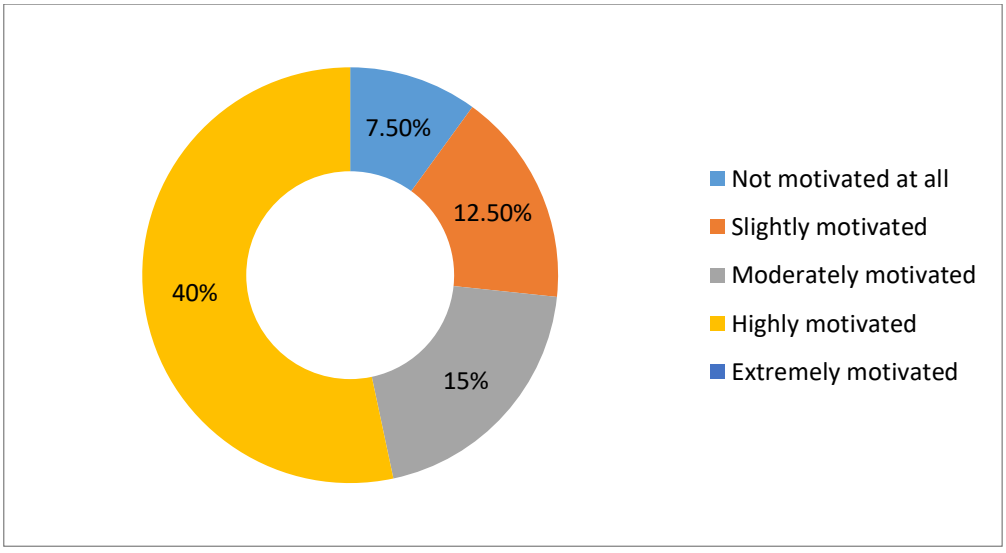
Table 3.10:

Students motivation to Use Mind Maps in the Future

option	Number	Percentage
Not motivated at all	3	7,5%
Slightly motivated	5	12,5%
Moderately motivated	6	15%
Highly motivated	16	40%
Extremely motivated	10	25%
Total	40	100%

Figure 3.10:

Students motivation to Use Mind Maps in the Future



The data reveals that significant portions of students (65%) are strongly or highly motivated to continue using mind maps for summarization in the future. Specifically, 40% are highly motivated, and 25% are highly motivated. This indicates that the vast majority of students found the technique interesting and effective and are likely to incorporate it into their future study routine.

A smaller group of students, 15%, reported being moderately motivated, indicating that they see value in mind maps but may not be fully convinced or motivated to use them regularly. Meanwhile, 20% of students felt slightly or unmotivated to continue using mind maps in the future, suggesting that some students may prefer other summarization techniques or may not have fully experienced the benefits of mind maps. Finally, the results highlight that mind maps left a positive impression on most students, and many are motivated to continue using them as a valuable study tool in the future.

Section 3: Challenges and Suggestions

Q11. What challenges, if any, did you face while using mind maps for summarizing?

Table 3.11:

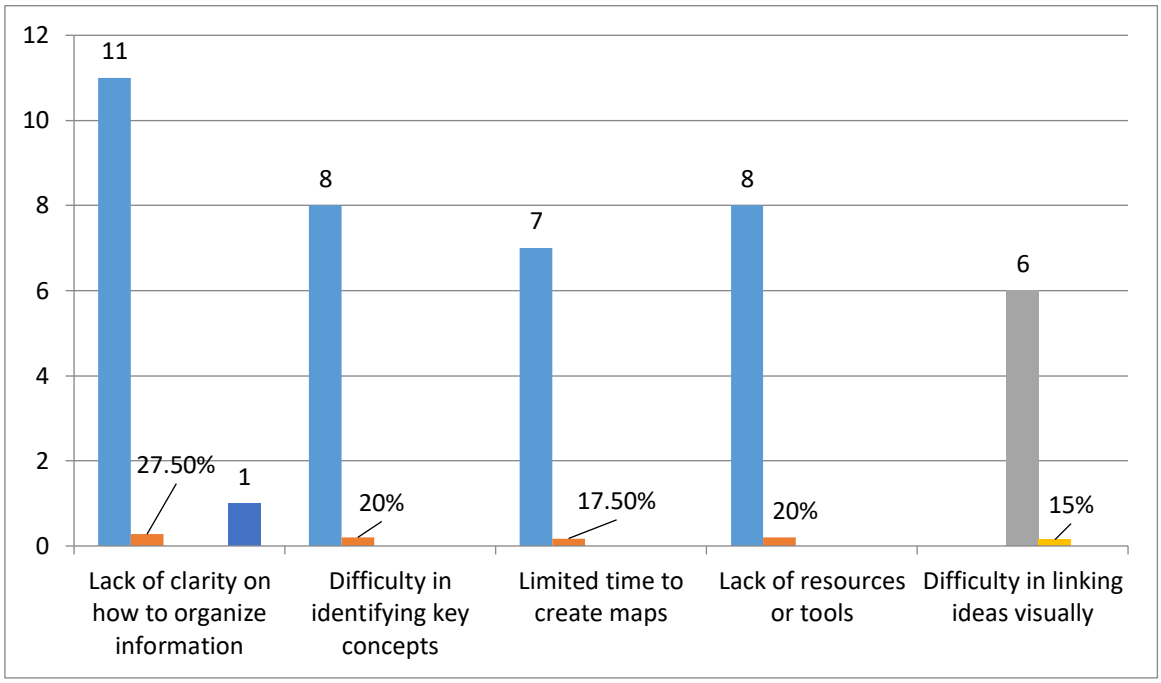
Challenges Faced students When Using Mind Maps

option	Number	Percentage
Lack of clarity on how to organize information	11	27,5%
Difficulty in identifying key concepts	8	20%
Limited time to create maps	7	17,5%

Lack of resources or tools	8	20%
Difficulty in linking ideas visually	6	15%
Total	40	100%

Figure 3.11:

Challenges Faced students When Using Mind Maps



The data reveals that students faced various challenges when using mind maps. The most common problem, reported by 27.5% of students, was a lack of clarity about how to organize information, indicating a need for better guidance or training on how to structure mind maps effectively. Additionally, 20% of students experienced difficulty identifying key concepts, and the same percentage (20%) cited a lack of resources or tools, such as appropriate templates or software.

In addition, 17.5% of students reported difficulty creating mind maps due to time constraints, indicating that the process can be time-consuming despite its usefulness. Finally, 15% of students experienced difficulty connecting ideas visually, which may reflect challenges related to the non-linear structure of mind maps.

While mind maps are useful, these challenges highlight the importance of support, training, and available tools to help students use this technique more effectively.

Q12. Would you like to receive more training or resources to improve your mind mapping skills?

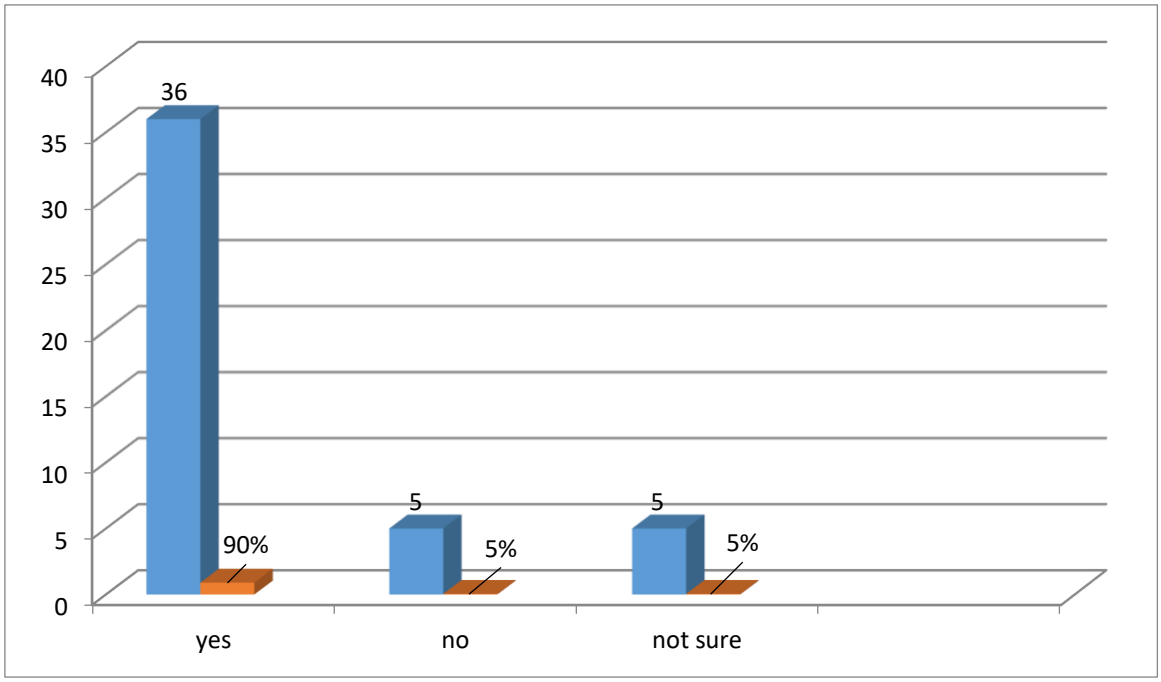
Table 3.12:

Students interest in Further Training or Resources

option	number	Percentage
Yes	36	90%
No	2	5%
Not sure	2	5%
total	40	100%

Figure3.12:

Students interest in Further Training or Resources



The data indicates that the vast majority of students (90%) are interested in receiving further training or resources to improve their mind mapping skills. This reflects a strong desire to enhance their use of this technique. Only 5% said "no," and another 5% were unsure, indicating that most students see value in developing their mind mapping skills. This highlights a clear opportunity for teachers to provide additional support or workshops on how to use mind maps effectively.

Q13. What improvements or additional resources would make mind maps more effective for summarization in your studies?

Table 3.13:

Students suggestions for Improving Mind Map Effectiveness

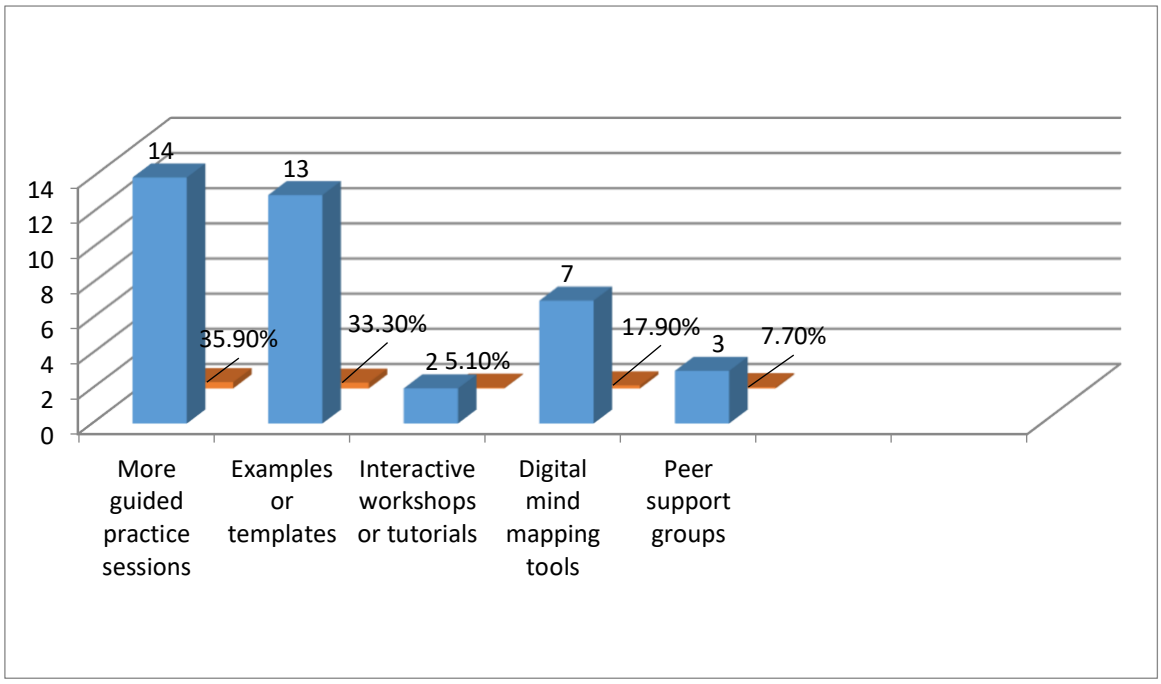
option	number	Percentage
More guided practice	14	35,9%

sessions		
Exemples or templates	13	33,3%
Interactive workshops or tutorials	2	5,1%
Digital mind mapping Tools	7	17,9%
Peer support groups	3	7,7%
Total	40	100%

Students mainly suggested guided practice (35.9%) and examples or templates (33.3%) to improve mind map use. Others preferred digital tools (17.9%), with fewer choosing peer support and workshops. This highlights the need for more structured and practical support.

Figure3.13:

Students suggestions for Improving Mind Map Effectiveness



The results indicate that students would benefit most from guided practice sessions (35.9%) and examples or templates (33.3%), suggesting that clear instruction and structured support are key to making mind maps more effective. Additionally, 17.9% of students preferred using digital mind mapping tools, highlighting the importance of technology in enhancing the experience. Fewer students chose peer support groups (7.7%) and interactive workshops (5.1%), but these choices also reflect a desire for collaborative and applied learning. In short, the results underscore the need for practical, accessible, and structured resources to help students use mind maps more effectively in their studies.

Section 5: General Feedback

Q14. Do you recommend using mind maps to other students for summarizing material?

Table 3.14:

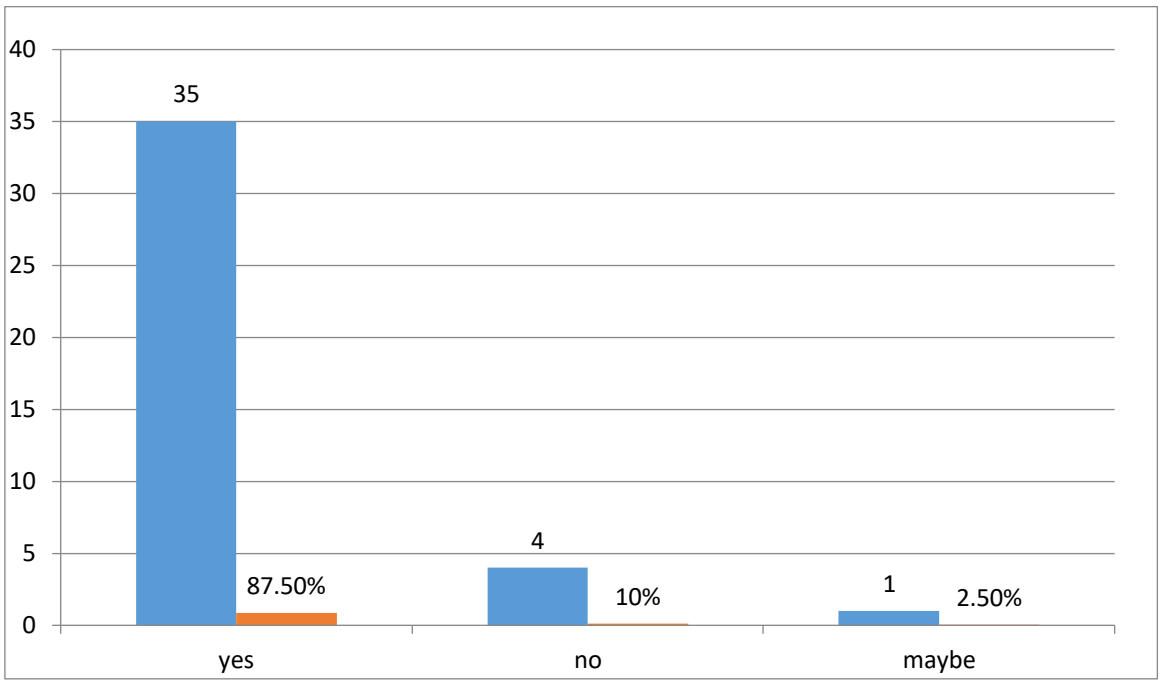
Recommendation of using mid maps to Other Students

Option	number	percentage
Yes	35	87,5%
No	4	10%
Maybe	1	2,5%
Total	40	100%

The majority of students (87.5%) would recommend mind maps to others, showing strong approval of their effectiveness for summarizing material.

Figure 3.14:

Recommendation of using mid maps to Other Students



The data indicates that the vast majority of students (87.5%) would recommend using mind maps to others to summarize material, reflecting strong satisfaction with this technique. Only 10% said "no," and 2.5% were unsure, indicating that most students found mind maps useful and worth sharing with their peers.

Q15. How can the implementation of mind maps be improved at the university for first-year students?

Student responses demonstrate strong support for using mind maps as an effective tool for summarizing, organizing, and improving academic performance. Many students described mind maps as an "effective skill," "useful," "a great idea," and a way to make lessons easier to understand and remember. A common theme among students was the use of colors, symbols, and diagrams to enhance visualization and memory.

Students also suggested several improvements:

1. Training and guidance: Many emphasized the need for training workshops, practice sessions, and detailed examples to help them use mind maps more effectively.

2. Integration into the curriculum: A significant number of students suggested that mind maps be integrated into all units or lessons of the curriculum, especially for first-year students.

3. Use of digital tools: Many students recommended using digital mind mapping platforms such as MindMeister or XMind, which promote collaboration and visual learning.

4. Group activities: Students were encouraged to engage in interactive and collaborative learning, encouraging them to share ideas and build a clearer understanding together.

5. Lesson Summarization: Some students suggested setting aside time at the end of each lecture to create mind maps containing key words and concepts, which enhances understanding and retention.

Some students expressed uncertainty ("no idea," "don't know"), which may indicate a need for more awareness or practical experience with this technique.

The result reflect that students see real value in mind maps but also express a need for structured support, digital tools, and curriculum integration.

These insights can help instructors enhance the effectiveness of mind maps in university learning environments.

Q16. Do your teachers use any kind of diagrams during the session to summarize ideas? Explain

1. Effectiveness of Diagrams in Learning

Many students agree that diagrams like mind maps, charts, and flowcharts make concepts clearer and easier to understand.

Examples from responses:

- *"Yes, some teachers do use diagrams like mind maps or charts, especially when the topic is complicated."*

When topics are more complex, diagrams can simplify the relationships between concepts and help students make connections more easily.

- *"Mind maps are very helpful because they show ideas clearly. They make it easier to remember, understand better, and review faster."*

This response highlights the specific advantages of mind maps—they help with both understanding and memory retention. The visual format helps the brain categorize and connect ideas in a non-linear way, making it easier to review later.

2. Dependence on Teacher's Style and Subject Matter

Some students find that their teachers use diagrams in certain subjects but not all, indicating that the teaching style or the complexity of the subject may dictate the use of visual aids.

Examples from responses:

- *"Yes, some teachers use diagrams like flowcharts, Venn diagrams, and mind maps to summarize ideas. These visuals help break down complex information."*

This response suggests that the teacher's approach to complex subjects might include diagrams, making them more effective in subjects that require understanding connections or distinctions between concepts (e.g., comparing different theories or processes).

- *"No, they don't use anything but traditional ways of teaching."*

The response indicates a more traditional teaching method. This could be because either the subject doesn't require visual aids (e.g., language learning) or the teacher prefers lecture-based methods. In such cases, students might miss out on the clarity that diagrams can offer.

- *"No, they still use the traditional method in language learning."*

This highlights that in some subjects (like language learning), teachers may still rely on traditional methods (like grammar drills or vocabulary lists), which might not benefit as much from mind maps or diagrams. This could be due

to the fact that language learning often relies more on rote memorization and practice rather than conceptual understanding of complex topics.

3. Student Preferences and Learning Styles

Diagrams are generally appreciated by students for the clarity they bring, but the effectiveness varies depending on how they are presented.

Examples from responses:

- *"It helps students to have a clear overview about the subject and plan previous perspectives about the topic."*

This statement shows that mind maps are particularly useful for planning and organizing thoughts before diving deeper into a topic. This can be beneficial for both reviewing the material and preparing for assignments or exams.

- *"It very helpful because it organizes ideas clearly and makes studying faster."*

This reflects a common sentiment: mind maps help to break down the material and create a more organized, streamlined approach to studying. Students can identify key ideas and focus on understanding them more efficiently.

- *"Yes, teachers use diagrams to make ideas clear and easy to remember."*

This reinforces the idea that students appreciate the simplicity that diagrams bring to their learning process. It shows that the visual representation of ideas can enhance memory retention, a key component of learning.

4. Teacher Utilization of Diagrams

While some teachers use diagrams to enhance clarity, others don't, which can lead to mixed student experiences with these methods.

Examples from responses:

- *"Yes, teachers often use diagrams like mind maps during the session. These visuals simplify complex topics and make it easier to understand and remember the material."*

Teachers who actively use diagrams are helping students visualize relationships and simplify otherwise dense or abstract topics. This not only aids understanding but also makes it easier for students to recall information.

- *"No, they do not use any visual aids."*

This response suggests a reliance on traditional teaching methods, which might be less effective for certain types of learners who benefit more from visual aids. In such cases, students may struggle to make connections between concepts without visual support.

- Diagrams and mind maps are generally praised for making complex concepts clearer and easier to remember.
- The subject matter plays a role in whether diagrams are useful. For example, language learning may not benefit as much from visual aids, while subjects that involve complex relationships (e.g., science or history) can benefit greatly from charts, Venn diagrams, and mind maps.

- Teacher preferences also vary. Some teachers actively use visual aids, while others stick to traditional methods, which can influence the overall learning experience.
- Overall, student preferences lean towards diagrams for better organization and faster studying, but their effectiveness depends on how well they are integrated into the teaching style and whether the subject is suited to visual representation.

3.5 Teachers' interview

3.5.1 Description and aim of teachers' interview

The present interview is designed for English teachers at the University of Mohamed Kheider, Biskra. It was distributed hand to hand to our teachers inorder to make sure that the answeres are fully knowledgeable. Hence, we received a siutable number of answers. The foremost aim of this interview was to investigate the role of mind map tehniques to help first year students summarize effectively .This interview is descriptive in nature it include semi structured interview.

3.5.2 Administration of the teachers' interview

The current interview has been handed to eight teachers of english teachers at Mohamed Kheider University of Biskra. All teachers demonstrated their collaboration by providing us with valuable responses. The latter serve our study in that they capture the teachers' perceptions, views, and attitudes towards the implimentation of mind map to help EFL students summarise effectively.

3.5.3 The Analysis of teachchers' interview

Q1: How can the mind map technique help students improve their summarization skills? Explain.

1. Clarity and Organization of Ideas

Mind mapping helps students clearly structure their thoughts, which supports effective summarization.

- **Example Responses:**
    - *"It can help them outline their ideas in a clear and concise manner. Then they transform this information into written texts."*
    - *"Mind mapping forces learners to...organise those ideas in [a] logical hierarchal way."*
    - *"It helps them to better organize and summarize information..."*

These responses show that teachers believe mind maps guide students in breaking down and organizing complex content, a foundational step in summarization.

2. Distinguishing Key from Non-Essential Information

Teachers noted that mind maps help students filter information, focusing on the core ideas.

- **Example Responses:**
    - *"Mind mapping forces learners to identify the major ideas and eliminate the unnecessary details."*

- *"It helps students to distinguish between essential and non-essential information, which is the core [of] summarization."*
- *"Focusing ideas into main ideas and identifying key concepts helps in filtering unnecessary ideas."*
- *"It is effective because it keeps track of essential information and saves time and efforts."*

These responses illustrate how mind maps help students practice one of the most important summarization skills: deciding what to include and what to omit.

3. Memory and Recall

Mind maps contribute to better memory and easier recall, which supports long-term learning and effective summarization.

- **Example Responses:**
  - *"It helps them to better organize and summarize information which enable them [to] memorize and recall it when they need it."*
  - *"Mind maps help students to grasp the main ideas of the texts and to recall them easily."*
  - *"When they use it in their studies and [are] able to recall information."*

These quotes highlight that summarization is not just about reducing content—it's also about making that content easier to remember.

4. Visual Learning and Conceptual Understanding

Teachers emphasized that mind maps use **visual structure** to help students understand and retain complex relationships between ideas.

- **Example Responses:**
    - *"By visually organizing content into branches and sub-branches, students naturally summarize material."*
    - *"This visual hierarchy aids in understanding relationships and patterns within the content."*
    - *"Mind maps encourage students to identify and focus on key ideas, making it easier to distill large amounts of information into core concepts."*

These responses show that mind maps enhance students' ability to visually connect ideas, deepening comprehension and improving their ability to create summaries.

Based on teacher input, the mind map technique improves summarization by helping students:

- Organize ideas clearly
- Filter and focus on key information
- Enhance memory and recall
- Visually structure and understand complex content

Q2: Do you believe that using mind maps can enhance students' understanding of the subject matter? How?

1. Understanding Connections and Structure

Mind maps help students see how ideas connect, enabling them to grasp the overall structure of a subject.

- **Example Responses:**

- *"Yes, the students become able to outline their ideas and organize them to understand connections."*
- *"Mind maps encourage students to comprehend the overall structure of a topic, the connection between the main concepts..."*
- *"Yes, mind maps enhance understanding by helping students break down complex topics into manageable, interconnected chunks."*
- *"Students see how ideas relate to each other, which strengthens comprehension."*

These responses show that teachers believe mind maps are powerful tools for visualizing relationships between ideas, which improves conceptual understanding.

2. Breaking Down Complex Information

Teachers noted that mind maps help students simplify complex topics by dividing them into understandable parts.

- **Example Responses:**
  - *"How to break down the complex concepts into clear and comprehensible parts."*
  - *"Break down complex topics into manageable, interconnected chunks."*
  - *"Helps identify the different points discussed by the writers."*

This theme highlights how mind maps assist students in managing cognitive load by tackling difficult material piece by piece.

3. Reinforcement and Deeper Understanding

Mind maps support **active learning**, helping students go beyond surface-level knowledge and **deepen their comprehension**.

- **Example Responses:**
  - *"It helps them reinforce knowledge, make connections between different areas and [go] deeper into the subject matter."*
  - *"Active and structured learning helps students understand the larger picture and remember material more successfully."*
  - *"It focuses their attitudes to the main ideas."*

These statements reflect how mind mapping fosters long-term retention and a more meaningful engagement with content.

4. Visualization Aids Understanding and Memory

The visual nature of mind maps makes it easier for students to grasp and recall ideas.

- **Example Responses:**
  - *"A mind map is a visualization of ideas; this provides an excellent way to memorize and grasp ideas."*
  - *"It is effective."*
  - *"For instance, a mind map of the process of ESP course design shows processes like needs analysis and syllabus creation..."*

Teachers emphasized that visual representation supports not only understanding but also memory and application of knowledge in real-world contexts.

Teachers agree that mind maps enhance understanding by:

- Revealing the connections and structure within topics,
- Breaking down complex material into simple, manageable parts,
- Reinforcing learning through active engagement,
- Using visual tools to improve memory and comprehension.

Q3: How do you assess the ability of mind maps to help students organize their thoughts and notes during their studies? Explain more with examples.

1. Stimulating Thinking and Structuring Ideas

Mind maps are seen as tools that stimulate thinking, help students generate and structure ideas, especially in writing tasks.

- **Example Responses:**
    - *"It is an excellent way that stimulates students' thinking, outlining and organization of ideas. For example, in written expression course, the students use the mind map to generate ideas about a cause and effect topic."*
    - *"Mind maps are excellent tools for organizing thoughts... For example, when preparing for an essay, a student can use a mind map to plan the thesis in the center, with branches for key arguments, evidence, and counterarguments."*

Teachers emphasize that mind maps help students visualize their thinking and create coherent, well-structured content, particularly in academic writing.

4.Enhancing Note-Taking and Study Skills

Mind maps help students transform notes into **organized, sequential formats** for better comprehension and retention.

- **Example Responses:**
  - *"Ask learners to first write a summary of a particular lesson... then to organise those notes in more sequen[tial] and logical [order]."*
  - *"Mind maps help students organize their ideas by organizing information around a main idea... For instance, a student learning history can make a mind map with 'World War II' in the middle and branches for causes, key events, and outcomes."*
  - *"I assess the effectiveness of mind maps by their ability to cover all of the main concepts. For example, when explaining Bloom's taxonomy, all learning levels should appear on the charts."*

These responses show that teachers use mind maps to **assess students' comprehension** and **note organization**, especially for summarizing lessons and visualizing complex topics.

5. Supporting Memory and Recall

Mind maps aid in **retaining and recalling information**, particularly when brainstorming or revising.

- **Example Responses:**

- *"Mind maps are very helpful in memorizing [and] recalling information. E.g., when brainstorming a theme problematic, we start with control topic, surrounded by bubbles..."*
- *"With adequate training, a simple mind map can organize a very large number of information."*

The visual format of mind maps is said to reinforce memory, helping students during review sessions or while studying for exams.

6. Promoting Metacognitive Awareness

Mind maps help students become aware of how ideas are organized, improving their learning and thinking strategies.

- **Example Responses:**
  - *"One of the important roles of teachers is to teach their students how to learn. Mind map is one of the techniques that improve students' learning process."*
  - *"Being aware of writers' way of organizing their ideas will help students to do the same."*

Teachers view mind mapping as a metacognitive tool it helps students **reflect on and improve** their own learning and thought organization.

7. Evaluation of Mind Maps as a Teaching Tool

Teachers evaluate mind maps based on their coverage of key concepts and their ability to summarize content efficiently**.**

- **Example Responses:**
    - *"I assess the effectiveness of mind maps by their ability to cover all of the main concept[s]."*
    - *"As a teacher, I can effectively sum up a whole lecture in one mind map."*
    - *"They are highly recommended because of [their] efficiency."*

Teachers assess mind maps not only as student tools but also as instructional resources to summarize and convey large volumes of information efficiently**.**

From the teachers' responses, mind maps are assessed as effective for:

- Stimulating and structuring student thinking
- Improving note-taking and content organization
- Enhancing memory and recall
- Building awareness of how ideas are connected
- Serving as practical tools for both teaching and assessment

Q4 : What benefits do you see in using a visual tool like mind maps compared to other summarization methods such as note-taking? Provide details.

1. Engagement and Motivation

Mind maps are described as more engaging, enjoyable, and visually appealing than traditional linear note-taking.

- **Example Responses:**

- *"This tool can be more engaging than taking notes in a written way."*
- *"Mind maps are official because they are interesting, attractive, [and] make them more enjoyable than note-taking."*
- *"We have noticed that the mechanism of the students prefer visual tools."*

These responses reflect how the visual and interactive format of mind maps increases student motivation and makes learning more enjoyable.

2. Visual Organization and Holistic View

Teachers emphasized how mind maps give a comprehensive, at-a-glance view of a topic, unlike linear notes.

- **Example Responses:**
  - *"It helps to see the topic in [a] more comprehensive way, identifying the connection between concepts."*
  - *"Mind maps have a visual framework that makes it easier to see how ideas are related. This is different from taking notes in a straight line..."*
  - *"Unlike linear note-taking, mind maps provide a holistic view of a topic at a glance."*

These comments show that mind maps help learners see the big picture and understand how concepts interrelate, rather than processing them in isolation.

3. Cognitive Benefits – Memory, Creativity, and Brain Activation

Mind maps support memory retention and comprehension by engaging both sides of the brain through visuals and associations.

- **Example Responses:**
  - *"Activates both logical [and] creative sides of the brain by using colors and images."*
  - *"Visual elements like colors, symbols, and spatial layout engage both the creative and analytical sides of the brain..."*
  - *"Shapes and colours [are] very helpful to explain association."*

Teachers believe that by involving visual and spatial thinking**,** mind maps enhance creativity, comprehension, and retention, unlike text-heavy notes.

4. Simplifying Complex Concepts

Mind maps are especially useful for breaking down difficult topics, making them easier to understand and recall.

- **Example Responses:**
  - *"Mind maps also make difficult topics easier to understand, which helps you review faster and better."*
  - *"They facilitate the understanding of complex concepts. They make it easy for students to retain a lot of information."*

These insights highlight that visual tools are valuable for simplifying and internalizing complex or abstract ideas**.**

5. Efficiency and Flexibility

Mind maps save time and are easily editable, giving students a flexible tool for organizing and revisiting information.

- **Example Responses:**
  - *"They make learners gain time and effort."*
  - *"The flexibility of a mind map allows for quick additions or rearrangements, which isn't as easy with traditional notes."*
  - *"After this process, students need to summarize their notes by making a mind map, which will make memorization easier."*

Teachers consider mind maps more adaptable and time-efficient than conventional notes, especially for review or revisions.

Compared to traditional note-taking, teachers find that mind maps:

- Increase student engagement and enjoyment
- Provide a clear visual overview of topics
- Enhance memory and creativity
- Make complex concepts easier to understand
- Offer flexibility and time-saving advantages

Q5: Do you think mind maps can improve students' critical thinking skills? If so, in what ways?

1. Encouraging Analysis and Evaluation

Mind maps require students to analyze, categorize, and assess information, which directly supports the development of critical thinking.

- **Example Responses:**
    - *"Yes, mind maps can improve critical thinking by encouraging students to analyze, categorize, and link ideas logically."*
    - *"Yes, mind maps make it [easier] for students to analyze and evaluate the relationship between different concepts."*
    - *"Absolutely. Creating a mind map requires students to evaluate which information is important, how it connects, and where it fits in the overall structure."*

These responses show that mind maps help students go beyond memorization, prompting them to evaluate ideas and make informed decisions—essential components of critical thinking.

2. Promoting Logical and Structured Thinking

Mind maps encourage students to build ideas from general to specific**,** promoting a clear and logical thought process.

- **Example Responses:**
    - *"It helps them generate ideas in a logical way, starting from the main thought to secondary thoughts and ideas."*
    - *"Yes, this is because they urge students to think critically to establish connections between concepts and organize them..."*

Teachers recognize that organizing content visually from a central idea outward helps students think more coherently and reason through content logically.

3. Supporting Higher-Order Thinking Skills

Mind mapping involves synthesis, connection-making, and reasoning, which align closely with Bloom's taxonomy of higher-order thinking.

- **Example Responses:**
  - *"Yes, mind map stimulates critical thinking by encouraging students to connect, question, analyze, synthesize, and structure knowledge."*
  - *"Creating a mind map... promotes analysis, synthesis, and evaluation—key aspects of critical thinking."*

These responses emphasize that mind mapping facilitates deep thinking, helping students combine and reinterpret information in thoughtful ways.

4. Application to Broader Learning Tasks

Mind maps are transferable tools that support critical thinking across subjects and tasks.

- **Example Responses:**
  - *"Yes, students will apply this to other tasks and activities."*
  - *"Yes, a critical thinker can find relations and associations between ideas."*

Teachers suggest that once developed, these skills can be applied in various contexts**,** such as problem-solving, essay writing, or evaluating arguments.

5. Transforming Information into Visual Logic

Mind mapping involves turning abstract or raw information into structured visual logic, encouraging reflection and deeper understanding**.**

- **Example Responses:**
    - *"Yes, they enable them to analyze data and transform it into visuals."*

This process of transforming content into a visual structure requires students to reflect on meaning, purpose, and relationships—hallmarks of critical thought.

According to teachers, mind maps promote critical thinking by:

- Supporting analysis, evaluation, and synthesis
- Encouraging logical, structured thought
- Developing higher-order cognitive skills
- Applying thinking across varied tasks and subjects
- Transforming abstract data into clear visual logic

Q6: How do you think the use of mind maps affects students' retention of information over time? Provide an explanation.

1. Visual Learning and Memory Retention

Teachers widely agree that visual elements in mind maps enhance memory by making information more engaging and easier to recall**.**

- **Example Responses:**
    - *"Studies have shown that the retention of info will be easier if info is presented in the form of a picture (something visual), like the mind map."*
    - *"They provide a visual stimulus that can help to improve understanding and retention of information."*
    - *"Mind maps make it easy to remember concepts because they visualize them."*
    - *"A mind map is a visual representation of abstractions. Retention is enhanced by visual aids; this has been proven by researchers."*

These comments reflect the power of visualization mind maps help transform abstract or textual information into memorable visual forms, boosting long-term recall.

2. Multi-Sensory and Cognitive Engagement

Mind maps engage multiple memory systems—particularly the logical and visual resulting in deeper learning and improved retention.

- **Example Responses:**

- *"Mind map aids students' retention by engaging multiple memory systems (logical and visual). It turns abstract information into memorable ones."*
- *"Mind maps improve long-term retention because they engage multiple cognitive processes. The act of creating a map helps encode information deeply..."*

These responses suggest that the combination of organizing, summarizing, and visualizing information allows for stronger encoding in memory.

3. Active Learning Enhances Recall

Mind maps promote active engagement**,** which contributes to stronger memory traces and long-term retention.

- **Example Responses:**
  - *"Over time, this active learning approach enables students to more efficiently remember and recall knowledge."*
  - *"When students summarize the course in their own words...and organize it in the form of a mind map, they will remember some of the info."*

Active involvement in creating mind maps fosters deep processing**,** a key factor in effective retention according to cognitive learning theories.

4. Personalized and Learner-Specific Benefits

Mind maps can be particularly beneficial for visual learners, offering a method tailored to their cognitive preferences.

- **Example Responses:**
  - *"It is about learning strategies. Some students are visual learners, so mind maps are their best way to learn."*
  - *"It helps them to memorize, recall."*

Teachers recognize that learning style alignment (e.g., visual learners using visual tools) increases the effectiveness of memory retention.

5. Memorable Design and Emotional Connection

Creatively designed mind maps using color and structure help information stand out and stick in long-term memory.

- **Example Responses:**
  - *"For instance, a colorful, creatively designed mind map about World War II is more likely to be remembered than several pages of dense notes."*
  - *"It's easy to remember Bloom's taxonomy given the same graphs as mentioned earlier."*

Adding personalized and aesthetic elements not only enhances engagement but also forms emotional or sensory associations, aiding recall.

Teachers believe mind maps significantly improve retention over time by:

- Leveraging visual memory and cognitive associations
- Engaging multiple memory systems (visual, logical, linguistic)
- Promoting active, student-centered learning
- Supporting individual learning preferences
- Using colorful and creative design to make information more memorable

Q7: What role do you see technology playing in enhancing the use of mind maps in the learning process?

1. Increased Accessibility and Ease of Use

Teachers noted that technology simplifies the creation and editing of mind maps, making the process more efficient and user-friendly.

- **Example Responses:**
  - *"There are so many softwares and apps that facilitate the creation of mind maps."*
  - *"Technology enhances mind maps by making it easier to create and edit (like XMind software)."*
  - *"Computer programs like Google Keep, LibreDraw, and Canva make it easy for students to create mind maps."*

These responses highlight that digital tools reduce technical barriers**,** encouraging more frequent and confident use of mind mapping in learning.

2. Engagement, Creativity, and Enjoyment

Digital mind mapping is seen as more engaging and fun, motivating students through creative features.

- **Example Responses:**
  - *"They make the process even more enjoyable, interesting, creative, and engaging."*
  - *"There are many apps and programs which make mind mapping easy, fun, and creative."*

Teachers recognize that the interactive and visually rich environment of tech-based mind maps helps maintain student interest and motivation**.**

3. Collaboration and Real-Time Interaction

Technology makes mind mapping collaborative**,** allowing students to work together remotely or in real-time.

- **Example Responses:**
  - *"Technology... makes it collaborative (multiple people can edit the same mind map)."*
  - *"It's easy to work together on maps and make changes to them in real time with apps like MindMeister and XMind."*

Teachers emphasized that digital platforms foster cooperative learning, especially in group work or project-based activities.

4. Multimedia Integration for Deeper Understanding

Digital tools allow the incorporation of videos, images, links**,** and other resources that enrich the learning experience.

- **Example Responses:**
  - *"Digital tools allow for multimedia integration like videos, images, and links which can deepen understanding."*
  - *"Information that is organized visually facilitates the grasping, understanding of complex concepts, and memorization of knowledge."*

These features support **multi-modal learning**, enabling students to approach topics from different sensory and cognitive angles.

5. Versatility Across Subjects and Modules

Technology-supported mind mapping is seen as beneficial across multiple modules or disciplines**.**

- **Example Response:**
  - *"This is noticed especially in multi-module."*

Teachers observe that digital mind maps are flexible tools, adaptable to different subjects, topics, and instructional goals.

According to teachers, technology enhances the use of mind maps in learning by:

- Making them easier and faster to create and edit

- Increasing student engagement and creativity
- Enabling real-time collaboration
- Supporting deeper understanding through multimedia
- Offering versatility across different learning contexts

Q8: How can instructors support students in utilizing mind maps in their academic studies, both in and outside of class?

1. Teaching and Modeling Mind Mapping

Teachers emphasize the need to explicitly teach what mind maps are and how to use them effectively.

- **Example Responses:**
  - *"Students should be taught the best ways and tips that can support them to create useful mind maps."*
  - *"First, teaching them what a mind map is, how it works, and how it helps you."*
  - *"Instructors can support students by demonstrating how to create effective mind maps during lessons..."*

Teachers agree that students need structured guidance and modeling to understand how to use mind maps as learning tools.

2. Integrating Mind Maps into Classroom Activities

Teachers can support learning by embedding mind maps into lectures and coursework, making them part of regular academic practice.

- **Example Responses:**
    - *"By using mind maps in lectures."*
    - *"Integrating it into the lesson and providing feedback."*
    - *"Mind maps can be a great way to introduce new concepts or revise and summarize previous lessons."*

Integrating mind mapping into daily classroom instruction helps normalize the technique and shows its practical academic value**.**

3. Encouraging Independent Use Outside the Classroom

Instructors can promote the use of mind maps for homework, studying, and writing beyond the classroom.

- **Example Responses:**
    - *"Teachers can assign mind mapping tasks as part of homework or revision activities."*
    - *"Encourage students to use mind maps for brainstorming, note-taking, and exam preparation..."*

This theme reflects the importance of encouraging self-directed learning by making mind mapping a routine part of independent study.

4. Providing Resources and Tools

Teachers can help by offering templates, digital tools, and resources to make mind mapping easier and more accessible.

- **Example Responses:**
    - *"Providing tools or templates for practice outside of class."*
    - *"Recommending digital tools students can use independently."*

Offering support materials ensures students have the means and confidence to use mind maps effectively on their own.

Teachers should give constructive feedback on students' mind maps to reinforce effective techniques and address errors.

- **Example Response:**
    - *"Providing feedback on students' maps can also reinforce good habits and correct misconceptions."*

Feedback helps students refine their skills and deepen their understanding of how to organize and connect ideas.

6. Promoting Awareness of Learning Strategies

Instructors play a key role in raising awareness of mind mapping as a strategic learning tool**.**

- **Example Responses:**
    - *"By informing them about this kind of learning strategy."*
    - *"Show them the importance of mind maps as effective means for making connections between facts, ideas, or concepts."*

Promoting mind mapping as a metacognitive strategy can help students become more intentional in how they approach learning.

Teachers can support students in using mind maps by:

- Teaching and modeling how to create them
- Integrating them into class activities and lectures
- Encouraging their use outside the classroom for assignments and revision
- Providing tools, templates, and digital resources
- Offering feedback to develop students' skills
- Raising awareness of mind mapping as a strategic learning method

3.6 The Discussion of the Main Results

This part holds the summary and the discussion of the findings that are resulted from the analysis of the two data collection tools. However, we have analyzed both the students' questionnaire, and the teachers' interview results that served to investigate the aims of the present research study.

First, the questionnaire was submitted to third year EFL students at the University of Mohamed Kheider Biskra under the title "Investigating the Role of Mind Maps Techniques in Summarization: From Teachers' and Students' Perspectives". Based on the results obtained from this questionnaire we conclude the following: According to the first section, the gathered data indicated that that all the first-year students of English language familiar to know the mind map technique. In addition, they indicating that there are students who are still unaware of this method or unconvinced of its effectiveness.

The second section was about mind mapping is relatively well known among students at Mohamed Kheider University, even before its formal introduction. This prior knowledge may have a positive influence on their ability to adopt the method effectively throughout their academic courses. Data from first-year students indicates that mind

mapping is widely considered an effective tool for summarizing course content, with a high percentage of positive responses. This demonstrates the great potential of the technique to enhance learning and understanding when integrated into academic practice. However, while the benefits are recognized, some students may find the process of creating a mind map time-consuming or complex, particularly if they are more accustomed to quickly summarizing information in a linear manner.

The third section The results indicate that mind maps have a positive impact on the academic performance of most students, likely by helping them organize, understand, and retain information more effectively. The high rate of significant improvement in students' academic outcomes reinforces the value of incorporating this technique into study routines and classroom practices. The majority of students report feeling more confident in their exams and assignments after using mind maps, attributing this newfound confidence to the visual and organized format that mind maps provide. This format helps simplify complex material, improve memory recall, and make revision more efficient. By enabling students to structure their thoughts and focus on key points, mind maps not only enhance understanding but also reduce anxiety, making exam preparation feel more manageable and effective.

Along with, while mind maps are undoubtedly useful, the challenges students face in utilizing this technique highlight the importance of providing adequate support, training, and accessible tools to ensure they can apply it effectively. These challenges underscore a clear opportunity for teachers to offer additional support, such as workshops or guided sessions, to help students better understand how to use mind maps to their advantage. By providing practical examples and systematic instructions, educators can help students overcome the initial hurdles of adopting this technique.

In the final section of our students' questionnaire, the results highlight that while students see significant value in mind maps, they also express a need for structured support, digital tools, and better integration into the curriculum to enhance their effectiveness. Diagrams like mind maps are praised for simplifying complex concepts and improving memory retention, especially in subjects with intricate relationships, such as science or history. However, the effectiveness of visual aids can vary depending on the subject matter, as language learning may not benefit as much from such tools. Additionally, teaching styles play a key role—some instructors use visual aids effectively, while others rely on traditional methods, which can impact the learning experience. To conclude, this questionnaire was a useful tool of collecting data from students. The results obtained were helpful in responding important research questions. Moreover, this questionnaire gave us an opportunity to affirm the role of mind maps. Additionally, through the analysis of students' answers it can be deduced that implementing of mind map techniques to help first year students summarize.

Concerning the interview it was designed and delivered to EFL teachers of English departments at the University of Mohamed Kheider, Biskra. It was dedicated to collect data concerning teachers' perceptions about mind maps to enhance EFl learners summarizing skill. The findings from the teacher interviews provide that mind maps reveal connections within topics, making abstract or complex material easier to grasp. By breaking down content into manageable parts, mind maps serve as an effective tool for active engagement, reinforcing learning, and boosting memory. The visual nature of mind maps further supports comprehension by helping students visualize relationships and structures within the subject matter. These observations suggest that mind maps are not only effective for organizing information but also for enhancing cognitive processes like analysis and synthesis.

Furthermore, in comparison to traditional note taking, teachers find that mind maps increase student engagement and enjoyment. The clear visual overview provided by mind maps enhances memory retention and creativity, while also making complex concepts more accessible. Additionally, mind maps offer flexibility and timesaving advantages, as they allow students to organize and revisit material in a more efficient way than linear note-taking methods. This flexibility is especially valuable in subjects where conceptual connections are key to understanding, such as in science or history.

Finally, to maximize the benefits of mind maps, teachers believe they can play a critical role in supporting students' use of this technique. By teaching students how to create effective mind maps, modeling their use in class, and integrating them into lectures and activities, teachers can make the technique more accessible and practical. Encouraging students to use mind maps outside of the classroom for revision and assignments can further solidify the habit. Providing tools, templates, and digital resources can also help students who may be new to mind mapping or uncertain about how to approach it. Teachers are also encouraged to offer feedback on students' mind maps, helping them refine their skills and improve their approach. Finally, raising awareness of mind mapping as a strategic learning method ensures that students understand its value and feel motivated to incorporate it into their study routines.

- **RQ1:** How do teachers and students perceive the usefulness of mind mapping techniques in summarization course material?

Both teachers and students generally perceive mind mapping as a useful techniques for summarizing course material. Students often find mind maps helpful in organizing complex information visually ,which enhences understanding and memory retention .the creative process involved in building a mind map also encouragement with the material .Teachers appreciate mind maps for their ability to promote critical thinking and help

students make connections between key concepts. However, some students may initially struggle with the format or prefer more traditional linear note taking methods. Overall, mind mapping is viewed as n effective tool for learning, espesially when students are trained in how to use it properly .

- **RQ2:** In what ways do teachers and students believe that mind maps assist in understanding and retaining course material?

Teachers and students believe that mind maps assist in understanding and retaining course content by visually organizing information in a way that highlights relationships between ky concepts. Students often find that break down complex topics into simpler, more manageable parts, making it easier to comprehend the overall structure of subject. This visual and interactive method encourages deeper cognitive processing , which enhences memory retention . Teachers also observe that mind mapping support active learning and critical thinking ,as students must analyse, categorize , and synthesize information to build their maps. As a result, both goups consider mind maps a valuable tool for effective learning and review.

- **RQ3:** To what extent do teachers and students recommend the use of mind mapping techniques to peer for summarizing acadimic material?

Teachers and students generally recommend the use of mind mapping techniques to their peers as an effective strategy for summarizing acadimic material. Many students appreciate the methods ability to simplify and organize information visually, which makes it easier to study and recall during exams. As a result, they often share this techniques with classmates, especially when preparing for group projects or revision sessions. Similarly, teachers endorse mind mapping as a useful tool to inhence students engagement and compreension,particularly in subject that involve complex relationships or large volumes of content. However,

the level of recommendation may vary depending on individual learning preferences; while many find it highly beneficial, others may prefer more linear methods. Overall, mind mapping is widely seen as a practical and recommendale may vary depending on individual learning preferences; while many find it highly beneficial, others many prefer more linear methods. Overall, mind mapping is widely seen as a pratical and recommendable learning aid.

To sum up, through the analysis of both students' questionnaire and teachers' interview responses, and discussing their findings that are answered the three research questions. It can be deduced that mind map an effective tool for summarizing material.

Conclusion

Through this chapter, the information gathered were analyzed and disscussed. Basically, we have used two data gathering tools; namely, teachers interview and students'questionnaire which attempts to to clarify the role of mind map to help students summarize. The results obtained from the utilized research instruments enabled us to indicate that both teachers and students assented to the proposed effectiveness of mind map. Hence, the intended objectives of this research were achieved.

General Conclusion

In the realm of foreign language teaching and learning, one of the primary challenges is increasing student engagement to ensure effective outcomes. Finding the most effective teaching methods to achieve this goal is of paramount importance. This study aims to explore both teachers' and students' perspectives on using the mind maps to improve the summarizing skills in EFL classes. In addition, through the study we aimed to answer the research questions stated earlier and to check the validity of our stated hypothesis, which postulates that if, we implement the mind map in EFL classes.

The present research is a total of three chapters. The first two chapters are related to the theoretical part, in which we provide a description of the most basic concepts and elements related to the field of summarization and the mind map techniques. While the third chapter is concerned with the practical part of this investigation, where the descriptive method was used in order to investigate the role of mind map to help students summaries effectively.

This research makes use of two data collection tools. A semi-structured interview and questionnaire were administered to both fourty (40) first year EFL students and eight (08) EFL teachers who teach or have experienced in it.

Accordingly, the finding from both questionnaire and the interview proved that mind maps an effective tool to help learners to summarize. Besides, the obtained results revealed that both teachers and students are aware of the effectiveness of mind maps techniques to help EFL students to summarize lessons.

Limitations of the Study

It is common that when conducting any research, researches might face some or many obstacles. In our research we faced some difficulties such as:

1 . The lack of Summarization books, we could not find sufficient information online.

2. Helplessly, having no access to the paid content.

3. The difficulty in retrieving all the dissertation because, once I finished them, they were completely lost from the computer. There was not much time left to recover them. However, I was able to complete them with God's support This is the big limitation that I faced in the last month before the viva.

Recommendations

In the light of the obtained results, we would like to suggest the following recommendations that teachers and learners need to have particular pedagogical qualities inside the EFL classroom.

Recommendations for teachers

- **Encourage Active Learning**: Teachers should actively engage students in the learning process by incorporating various strategies like mind maps to promote comprehension and retention of material.
- **Use Visual Aids**: Visual tools like mind maps can help simplify complex topics, making them easier for students to understand and memorize.
- **Foster Critical Thinking**: Encourage students to think critically and connect ideas by using mind maps to organize and reflect on key concepts and themes.
- **Provide Guidance on Mind Mapping**: Teachers should explicitly teach students how to use mind maps effectively for summarizing content and organizing thoughts.
- **Offer Regular Feedback**: Providing students with feedback on their mind maps will help them refine their ideas and improve their summarization skills.

Recommendations for learners

- **Embrace Mind Mapping as a Learning Tool**: Learners should use mind maps as an effective method for summarizing lessons, helping them break down information into digestible parts and visualize relationships between ideas.
- **Practice Consistency**: Regularly practice creating mind maps for different topics to enhance comprehension and retain information for longer periods.

- **Be Creative and Flexible**: Encourage creativity when constructing mind maps. Use colors, symbols, and keywords to make the process engaging and personal.
- **Review and Revise**: After creating a mind map, students should review and revise it periodically, reinforcing their understanding and ensuring they have not missed any key points.
- **Collaborate with Peers**: Collaborating with peers to compare and discuss mind maps can lead to deeper insights and better summarization of the material.

References

References

Anderson, L. (2015). *Learning strategies for academic success*. Educational Insights Press.

Atlassian. (2023). *Mind mapping for project management*. Retrieved from https://www.atlassian.com/work-management/project-management/mind-mapping

Atlassian. (2023). *Mind mapping for project management*. Retrieved from https://www.atlassian.com/work-management/project-management/mind-mapping

BBC. (2024). *Tony Buzan: The man who invented the mind map* [Film]. British Broadcasting Corporation.

Behrman, C. H. (2003). *Ready-to-use writing proficiency lessons & activities: 8th grade level*. Jossey-Bass.

Bhasmbe, M. I. (2012). Effectiveness of mind mapping in education psychology. *Journal of Biological Chemistry*, 2, 10–18.

Bowker, N. (2007). *Academic writing: A guide to tertiary level writing*. Massey University, Student Learning Development Services.

Brown, A., & Lee, M. (2018). *Educational methodologies and cognitive outcomes*. Academic Press.

Brown, H. D. (2001). *Teaching by principles: An approach to interactive language pedagogy* (2nd ed.). Addison Wesley Longman.

Buckley, J. (2004). *Fit to print: The Canadian student's guide to essay writing* (6th ed.). Nelson Education Limited.

Buckley, J. (2004). *Fit to print: The Canadian student's guide to essay writing* (6th ed.). Nelson.

Buzan, T. (1983). *Use both sides of your brain*. Dutton.

Buzan, T. (1991). *Use your head*. BBC Active.

Buzan, T. (1993). *The mind map book: How to use radiant thinking to maximize your brain's untapped potential*. BBC Books.

Buzan, T. (2003). *The speed reading book*. BBC Worldwide Limited

Buzan, T. (2018). *The Mind Map Book: Unlock your creativity, boost your memory, change your life*. BBC Active.

Buzan, T. (2018). *The ultimate book of mind maps: Unlock your creativity, boost your memory, change your life*. Harper Thorsons.

Buzan, T., & Buzan, B. (1993). *The mind map book*. BBC Books.

Buzan, T., & Buzan, B. (1993). *The mind map book: How to use radiant thinking to maximize your brain's untapped potential*. Dutton.

Buzan, T., & Buzan, B. (1994). *The mind map book: How to use radiant thinking to maximize your brain's untapped potential*. Dutton.

Chen, M., & Walker, T. (2017). *Cognitive benefits of summarization in learning*. *Journal of Educational Psychology*, 45(3), 233–248.

Chief Learning Officer. (2023). *Unlocking creativity: The power of mind mapping for continuous employee learning*. Retrieved from https://www.chieflearningofficer.com/2023/12/11/unlocking-creativity-the-power-of-mind-mapping-for-continuous-employee-learning/

Chief Learning Officer. (2023). *Unlocking creativity: The power of mind mapping for continuous employee learning*. Retrieved from https://www.chieflearningofficer.com/2023/12/11/unlocking-creativity-the-power-of-mind-mapping-for-continuous-employee-learning/

Clark, R. (2019). *Complexity in learning: Risks of oversimplification*. Journal of Educational Psychology, 52(3), 215–230.

Concept Map: Definition, Step-by-Step Guide and Examples - Xmind Blog

Davidson, E. (2024, September 27). *Unleash the power of summarization: 10 little-known tips for mastering the art of effective summarizing*. 10 Essential Tips for Effective Summarization Techniques. https://www.example.com/10-summarization-tips

De Simone, C., Schmid, R.F. & McEwen, L.A. 2001. Supporting the Learning Process with Collaborative Concept Mapping Using Computer-Based Communication Tools and Processes. Educational Research and Evaluation (7):263-283.

Definition, Purpose, Rules and Techniques in Summarizing Academic Texts | PPT

Denton, C. A., Bryan, D., Wexler, J., Reed, D. K., & Vaughn, S. (2007). *Effective instruction for middle school students with reading difficulties: The*

reading teacher's sourcebook. University of Texas System/Texas Education Agency.

Elder, J. (2008). MODULE 3: SUMMARIZING [PDF]. The McGraw-Hill Companies. https://docenti.unimc.it/antonella.pascali/teaching/2022/26488/files/summarising

English works online: Pre-writing strategies. (2002).

Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). *The role of deliberate practice in the acquisition of expert performance*. Psychological Review, 100(3), 363–406.

Falik, A., & Gagich, M. (2022, August 14). writing summaries – Rhetoric matters: A guide to success in the first year writing class. LOUIS Pressbooks – Open Educational Resources from the Louisiana Library Network. https://louis.pressbooks.pub/englishcomp2/chapter/4-1-writingsummaries/

Gayathri, V. S. (2023, March 7). What are the benefits of summarization? LinkedIn. https://www.linkedin.com/pulse/what-benefitssummarization-dr-v-s-gayathri/

Graff, G., & Birkenstein, C. (2014). *They say / I say: The moves that matter in academic writing* (3rd ed.). W. W. Norton & Company.

Hacker, D. (2008). *A Canadian writer's reference* (4th ed.). Bedford/St. Martin's.

Hacker, D. (2008). *A Canadian writer's reference* (4th ed.). Bedford/St. Martin's.

Harish, M. (2024, March 26). Understanding the importance of summarizing: Key benefits. The TLDRThis Blog. https://blog.tldrthis.com/importance-ofsummarizing/

Harmer, J. (2001). *The practice of English language teaching* (3rd ed.). Longman.

Heinze-Fry, J. A., & Novak, J. D. (1990). Concept mapping brings long-term movement toward meaningful learning. *Science Education*, *74*(4), 461–472.

Indeed Edutorial Team. (2025). Summary activity: Definition, benefits, examples and how to teach. Indeed.com. https://www.indeed.com/career-advice/careerdevelopment/summary-activit

Jadhav, S. D., & Pawar, S. D. (2020). *A Survey on Automatic Text Summarization Techniques*. International Journal of Computer Applications.

Jones, B. D., Ruff, C., Snyder, J. D., Petrich, B., & Koonce, C. (2012). The effects of mind mapping activities on students' motivation. *International Journal for the Scholarship of Teaching and Learning*, 6(1), Article 5.

Jones, S. (2017). *Summarization and cognitive understanding*. Oxford University Press.

Kahle, T. (2018). *Writing professional summaries*. University of Charleston, Center for Career Development. https://www.ucwv.edu/wp-content/uploads/2020/07/Writing-Professional-Summaries.pdf

Keles, O. (2012). Elementary teachers' views on mind mapping. *International Journal of Education, 4*(1), 93–100 http://dx.doi.org/10.5296/ije.v4i1.1327

Kumar, S. (2016). *Building vocabulary through reading and summarizing*. *International Journal of Language Studies*, 12(1), 89–104.

Lim, S.E., Cheng, P.W.C., Lam, M.S. & Ngan, S.F. 2003. Developing Reflective and Thinking Skills by Means of Semantic Mapping strategies in Kindergarten Teacher Education. Early Child Development and Care. 172(1):55-72.

Lucidspark. (2023). *Benefits of mind mapping*. Retrieved from https://lucidspark.com/blog/benefits-mind-mapping

Lucidspark. (2023). *Benefits of mind mapping*. Retrieved from https://lucidspark.com/blog/benefits-mind-mapping

Lucidspark. (2023). *Benefits of mind mapping*. Retrieved from https://lucidspark.com/blog/benefits-mind-mapping

Lucidspark. (2023). *How mind mapping improves creativity and organization*. Retrieved from https://lucidspark.com/blog/benefits-mind-mapping

Macdowell, D. (1999). *Brainstorming: A Tool for Writers*,writing and teaching press.

Manchester University. (2025). Unit 8: Summarising, Paraphrasing and Referencing. http://www.campus.manchester.ac.uk/staffnet/policies/plagiarismguidancetostudents

Mapp, B. 2002. *What is Mind Mapping?* (Online). URL: http://www.teachingexpertise.co m/articles. (Accessed 2008, April 04th).

Martinez, J. (2018). *Study techniques that work: Summarization and retention*. Academic Tools Monthly, 29(4), 58–67.

McMillan, J. H., & Schumacher, S. (2014). *Research in education: Evidence-based inquiry* (7th ed.). Pearson.

Miller, D. (1995). *Cognitive psychology: A historical overview*. Psychology Today, 29(4), 45–53.

MindGenius. (2023). *6 benefits and uses for mind mapping within project management*. Retrieved from https://www.mindgenius.com/6-benefits-uses-for-mind-mapping-within-project-management/

MindGenius. (2023). *6 benefits and uses for mind mapping within project management*. Retrieved from https://www.mindgenius.com/6-benefits-uses-for-mind-mapping-within-project-management/

MindGenius. (2023). *6 benefits and uses for mind mapping within project management*. Retrieved from https://www.mindgenius.com/6-benefits-uses-for-mind-mapping-within-project-management/

MindGenius. (2023). *The benefits of mind mapping for learning and productivity*. Retrieved from https://www.mindgenius.com/mind-mapping-learning/

Murray, & Rockowitz, A. C. (n.d.). Guidelines for writing a summary. https://www.hunter.cuny.edu/pending-migration/rwc/the-writingprocess/invention/guidelines-for-writing-a-summa

Neisser, U. (1967). *Cognitive Psychology*. Appleton-Century-Crofts.

Nenkova, A., & McKeown, K. (2011). *Automatic Summarization*. Foundations and Trends® in Information Retrieval.

Novak, J. D., & Gowin, D. B. (1984). *Learning how to learn*. Cambridge University Press.

Open Textbooks @ UQ. (n.d.). *Academic writing skills: Summarising skills*. University of Queensland.

Osborn, A. F. (1953). *Applied imagination: Principles and procedures of creative problem solving*. Charles Scribner's Sons.

Pauk, W., & Owens, R. J. Q. (2013). *How to Study in College* (11th ed.). Cengage Learning.

QuillBot. (2023). *QuillBot Summarizer*. Retrieved from https://quillbot.com

Rao, P.S. (2007). *The effects of brainstorming strategy instruction on learners' writing performance and perception*,1(1),56_68.

Scholarcy. (2021). *Smart Summarizer for Research Papers*. Retrieved from https://www.scholarcy.com

Smith, J. (2020). *Improving reading comprehension through summarization*. Journal of Literacy Studies, 44(2), 120–138.

Summarising Skills – Academic Writing Skills

Sweller, J. (1988). *Cognitive load during problem solving: Effects on learning*. Cognitive Science, 12(2), 257–285.

Ter Hoeve, M., Kiseleva, J., & de Rijke, M. (2020). What makes a good summary? Reconsidering the focus of automatic summarization. *arXiv preprint arXiv:2012.07619*. https://arxiv.org/abs/2012.07619

The Art of Condensing Information. (2024). Retrieved May 5, 2025, from https://quickcreator.io/quthor_blog/the-art-of-condensing-information

TLDR This. (2022). *Summarize Articles Instantly*. Retrieved from https://tldrthis.com

Tomlinson ,B.(1998). *Materials development in language teaching*. Cambridge University Press.

umanitoba.ca/student/academiclearning

University of Leeds. (n.d.). *Academic skills: Summarising*. Skills@Library. Retrieved from https://library.leeds.ac.uk/info/1401/academic-skills/106/summarising

Vacca, R. T., & Vacca, J. A. L. (1999). *Content area reading: Literacy and learning across the curriculum* (6th ed.). Boston: Addison-Wesley Educational Publishers Inc.

Wheeldon, J., & Åhlberg, M. K. (2011). *Visualizing social science research: Maps, methods, & meaning*. SAGE Publications.

Wheeldon, J., & Faubert, J. (2009). Framing experience: Concept maps, mind maps, and data collection in qualitative research. *International Journal of Qualitative Methods*, *8*(3), 68–83.

Widiati, U. (2003). *Training EFL writing students in Indonesia in the use of strategies for peer response* (Unpublished master's thesis). Monash University.

Widiati, U., & Widayati, S. (1997). Out of a writing conference: Speaking-writing connection. *TEFLIN Journal*, 8(1), 68–78.

Writing Center, University of North Carolina at Chapel Hill. (n.d.). *Summarizing*. https://writingcenter.unc.edu/tips-and-tools/summarizing/

Wycoff, J. (2003). *Menjadi super kreatif melalui metode pemetaan pikiran* (R. S. Marzuki, Trans.). Kaifa. (Original work published 1991).

Appendices

THE EFFETIVENESS OF MIND MAPS IN CONTENT SUMMARIZATION

Appendix 1: Students' Questionnaire

Questionnaire: Evaluating the Effectiveness of the Mind Map Technique for Summarization

This questionnaire aims to gather your feedback on using the mind map technique to help summarize course materials. Your responses will assist in improving the way we use this technique for first-year students at Mohamed Kheider University of Biskra.

Section1 : General Information :

1. Are you familiar to know the mind map?

- ☐ Yes
- ☐ No

2. How often do you use mind maps in your studies?

- ☐ Never
- ☐ Rarely
- ☐ Occasionally
- ☐ Frequently
- ☐ Always

Section2: Experience with Mind Maps

3. Before being introduced to mind maps in your course, were you aware of this technique for summarizing?

- ☐ Yes
- ☐ No

4. How easy was it to learn how to create a mind map?

- ☐ Very difficult
- ☐ Difficult
- ☐ Neutral
- ☐ Easy
- ☐ Very easy

5. How helpful do you find the mind map technique for summarizing course material? Explain

- ☐ Not helpful at all
- ☐ Slightly helpful
- ☐ Moderately helpful
- ☐ Very helpful
- ☐ Extremely helpful

Explain……

6. In your opinion how does using mind maps compare to other methods of summarization (e.g., taking notes, outlining)?

- ☐ Much less effective
- ☐ Less effective
- ☐ About the same
- ☐ More effective
- ☐ Much more effective

7. Do you feel that mind maps help you better understand and remember the material? Explain

- Not at all
- Somewhat
- Neutral
- Yes
- To a great extent

Justify……

Section3: Academic Performance and Motivation

8. Have you noticed any improvement in your academic performance (grades) after using mind maps for summarizing?

- No Improvement
- Slight improvement
- Moderate improvement
- Significant improvement
- Very significant improvement

9. Do you feel more confident in your exams or assignments after using mind maps? Explain

- No confidence gained
- Some confidence gained
- Moderate confidence gained
- High confidence gained
- Very high confidence gained

THE EFFETIVENESS OF MIND MAPS IN CONTENT SUMMARIZATION

Explanation……

10. How motivated are you to use mind maps for summarizing in the future?

- Not motivated at all
- Slightly motivated
- Moderately motivated
- Highly motivated
- Extremely motivated

Section 4: Challenges and Suggestions

11. What challenges, if any, did you face while using mind maps for summarizing?

(Check all that apply)

- Lack of clarity on how to organize information
- Difficulty in identifying key concepts
- Limited time to create maps
- Lack of resources or tools
- Difficulty in linking ideas visually

12. Would you like to receive more training or resources to improve your mind mapping skills?

- Yes
- No
- Not sure

13. What improvements or additional resources would make mind maps more effective for summarization in your studies?

(Check all that apply)

- ☐ More guided practice sessions
- ☐ Examples or templates
- ☐ Interactive workshops or tutorials
- ☐ Digital mind mapping tools
- ☐ Peer support groups

Section 5: General Feedback

14. Do you recommend using mind maps to other students for summarizing material?

- ☐ Yes
- ☐ No
- ☐ Not sure

15. How can the implementation of mind maps be improved at the university for first-year students?

Explain……

16. Do your teachers use any kind of mind map during the session to summarize course material? Justify

……

Thank you for your time.

THE EFFETIVENESS OF MIND MAPS IN CONTENT SUMMARIZATION

Appendix 2: Teachers' Interview

Interview on the investigation the role of the Mind Map Technique for Summarizing Information

University: Mohamed Kheider University of Biskra

Department: letters and foreign language

Date: 2025

Dear Professor

We are conducting an interview to explore the introduction of the mind map technique as a tool to help first-year students summarize information effectively. The goal is to gather insights from faculty members about the benefits and effectiveness of using mind maps as an academic strategy.

We would appreciate it if you could answer the following questions:

1. **How can the mind map technique help students improve their summarization skills? Explain.**

2. **Do you believe that using mind maps can enhance students' understanding of the subject matter? How?**

3. **How do you assess the ability of mind maps to help students organize their thoughts and notes during their studies? Explain more with examples.**

THE EFFETIVENESS OF MIND MAPS IN CONTENT SUMMARIZATION

4. **What benefits do you see in using a visual tool like mind maps compared to other summarization methods such as note-taking? Provide details.**

5. **Do you think mind maps can improve students' critical thinking skills? If so, in what ways?**

6. **How do you think the use of mind maps affects students' retention of information over time? Provide an explanation.**

7. **What role do you see technology playing in enhancing the use of mind maps in the learning process?**

8. **How can instructors support students in utilizing mind maps in their academic studies, both in and outside of class?**

We appreciate your time and insights on this matter. Your feedback will be invaluable in helping us understand how best to implement the mind map technique as a tool for enhancing student learning and summarization skills.

Thank you for your cooperation.

Sincerely,

Mairif Maroua

Master 2 Sciences of the language

Mohamed Kheider University of Biskra

THE EFFETIVENESS OF MIND MAPS IN CONTENT SUMMARIZATION

الملخص

يبذل العديد من المعلمين والطلاب جهودًا مضنية لتحقيق أهداف التعليم والتعلم، ويستخدمون أساليب وتقنيات مختلفة في عرض الدروس لإيجاد طرق أكثر فعالية وكفاءة لتدريس اللغة الأجنبية، كما يسعى الطلاب لإيجاد طريقة جيدة لتلخيص الدروس دون صعوبات. بمعنى آخر، يبحثون عن طريقة فعالة لتسهيل التعلم. تستكشف هذه الدراسة فعالية الخرائط الذهنية كأداة لتحسين مهارات التلخيص لدى طلاب السنة الأولى بالجامعة. تُفترض الخرائط الذهنية، وهي تقنية بصرية لتنظيم المعلومات، أنها تعزز قدرة الطلاب على تلخيص المحتوى الأكاديمي من خلال تسهيل تحديد المفاهيم الرئيسية وعلاقاتها. وقد طُبقت منهجية نوعية، حيث استخدمنا مقابلات المعلمين واستبيانات الطلاب. وللمقابلات، اخترنا عشوائيًا تسعة (9) معلمين للغة الإنجليزية، وأربعين (40) طالبًا من السنة الأولى بجامعة بسكرة. وتُعدّ هاتان الأداتان، الاستبيان والمقابلة، من الأدوات التي نستخدمها في هذا النهج، ونقوم بتحليلها لدعم فرضيتنا. تشير النتائج إلى أن استخدام الطلاب للخرائط الذهنية يُظهر تحسنًا ملحوظًا في قدرتهم على تحديد الأفكار الرئيسية، وتنظيم المعلومات بشكل مترابط، وحفظ المادة، وتلخيص الدروس. علاوة على ذلك، أفاد الطلاب أن استخدامهم للخرائط الذهنية لتلخيص الدروس يُحسّن من تفاعلهم ودراستهم. تُشير هذه النتائج إلى أن الخرائط الذهنية استراتيجية فعّالة لتعزيز مهارات التلخيص، مع تأثيرات محتملة على النجاح الأكاديمي لطلاب السنة الأولى. ينبغي أن تستكشف الأبحاث المستقبلية الآثار طويلة المدى وإمكانية تطبيق الخرائط الذهنية في مختلف التخصصات.