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Submitted and Defended by:
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Investigating The Role of Note-taking in Enhancing Memory Recall A Case of Master's One Students of English at Mohamed Kheider University of Biskra

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Dissertation Submitted to the Department of English and Literature as Partial Fulfillment ofthe Requirements for the Degree of Master in Sciences of Language

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Declaration

I**,** Soundous Filali , hereby declare that this dissertation presented for the purpose of obtaining

A Master degree is the product of my own efforts, and therefore all the content of this dissertation

Is original except where reference is made. I additionally certify that this work has notbeen

Submitted in any university or institution in order to obtain a degree or qualification.

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Dedication

I would like to dedicate this work to my dearest mother and my dear father.

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First of all, I would like to thank Allah the Almighty, the Most Gracious, and the Most Merciful for having supplied me with patience and strength throughout my studies and theprocess of accomplishing this dissertation.

My sincere gratitude goes to the one of a kind supervisor **Pr. Saliha CHELLI for** her constant replies to my calls, e-mails, precious guidance and patience. I would like toexpress my thanks to the Board of Examiners; namely,**Mrs. Samira Messaibi Mr.Khaled Amroui** for their valuable advice and insights.

Special thank and gratitude for the participants, the first master students who worked with me.

Abstract

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This study explores the challenges faced by English as a Foreign Language (EFL) master's students regarding note-taking and its role on memory recall. While acknowledging the established importance of effective note-taking for learning, the research delves into the specific difficulties encountered by EFL learners at this advanced level. To gain insights into their note-taking practices and perceived benefits, a mixed- methods approach was employed. A survey was administered to 40 master's students, gathering their perspectives on note-taking strategies and memory recall. Additionally, a focus group discussion was conducted with 6 students, allowing for in-depth exploration of their experiences and challenges. Time constraints, concerns over handwriting legibility, and distractions emerged as significant challenges hindering students' ability to capture information effectively. Additionally, the preference for specific note-taking methods, such as the sentence method, might influence how students organize and retain key concepts. The findings highlight the complex nature of note-taking for EFL master's students and underscore the need for targeted strategies to address these challenges. By identifying areas for improvement, such as time management and focus techniques, this research paves the way for developing effective note-taking practices that can enhance memory recall and promote academic success among EFL learners

Keywords :EFL, master's students, note-taking, memory recall, learning strategies

List of Abbreviation and Acronyms

EFL: English as a Foreign

STM: Short-Term Memory

LTM: Long-Term Memory

EFL: English as a Foreign Language

WM: Working Memory

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Introduction

Effective learning hinges on the ability to retain information. This is particularly true for English as a Foreign Language (EFL) students, where long-term memorystorage is crucial for academic success. However, many EFL master's students struggle with efficient note-taking strategies, hindering their ability to remember key conceptsand achieve their learning goals.

This problem transcends student backgrounds. It stems from a lack of practice with retrieval techniques, inadequate learning tactics, and sometimes, a disinterest in the subject matter. The consequence of poor information recall is multifaceted. It can lead to gaps in knowledge, hinder exam performance, and weaken critical thinking and problem-solving skills.

Even advanced learners are not immune to these challenges. While difficulties with information recall are not exclusive to master's students, even those at this levelcan struggle to efficiently retrieve information. This might be due to a lack of well-honed retention strategies that enable them to store information for later use. One such strategy is handwritten note-taking. The act of physically writing down information by hand is a valuable skill that promotes comprehension, facilitates recall, and strengthens memory pathways.

This research delves into the perceptions of EFL master's students at Biskra University regarding note-taking strategies and their impact on memory retention. By exploring their experiences and challenges, this study aims to shed light on effective practices that can empower EFL learners to excel in their academic endeavors.

1. Statement of the Problem

Recalling information is essential to effective learning, especially for EFL students. This is the results of long-term memory storage due to the use of efficient retention strategies. However, EFL students have trouble recalling information; this affects their learning objectives and performance in the classroom. This problem affects students of different backgrounds caused by a lack of practice with retrieval procedures, poor learning tactics, and a lack of interest in the subject matter. Inadequate recollection of material can cause gaps in knowledge, impair exam performance, and weaken the ability to think critically and solve problems.

Beginner learners are not the only ones who face difficulties with information recall; even advanced EFL students may find it challenging to efficiently retrieve information. This may be caused by lack of retention strategies enabling them to store information in the long-term

memory and then being able to retrieve them when needed. One of them is handwritten notes, or writing down information by hand on paper, which is one of the skills that promotes comprehension, facilitates recall and strengthens memory pathways. This research seeks to explore EFL master's students perceptions at Biskra University on note- taking strategy and memory retention**.**

2.Research Questions

1. Are master's one year students aware about the importance of note-taking strategies?
2. What are the potential benefits of note taking practices in enhancing memory recall?
3. What are the reasons of note taking difficulties?

3. Aims of The Study

The general aim of this study is to investigate the role of handwritten note taking on memory recall of master one students at Biskra University, and to investigate the different types of strategies that master one English language students use to take their notes. Specifically, this study Investigates note-taking strategies on improving EFL learners' memory recall.

More precisely, this work also aims to:

1. To understand the perceived benefits and limitations of note-taking.
2. Provide insights that can inform educational practices and support Student's success.
3. To identify potential strategies for optimizing note-taking practices to enhance learning.

The existing research on note-taking and memory provides compelling evidence for its effectiveness in enhancing recall. However, several limitations and gaps in knowledge warrant further investigation. First, many studies focus on immediate recall, leaving the long-term impact of note-taking on memory retention relatively unexplored. Additionally, the majority of research investigates note-taking in controlled laboratory settings, raising questions about the generalizability of findings to real-world educational contexts. Furthermore, the influence of individual learning styles and preferences on the effectiveness of different note-taking strategies remains understudied. The theoretical underpinnings of the relationship between note-taking and memory can be traced back to various cognitive theories, including dual-coding theory and

elaborative encoding theory. Dual-coding theory posits that learning and memory are enhanced when both verbal and visual representations of information are processed.

4.The Research Methodology for this Study

4.1 Research Approach

Regarding the nature of our study, an exploratory approach is conducted in order to investigate the role of handwritten note taking on student's memory retention. Moreover, the present study depended on a mixed methods approach in order to answer the research questions.

The study employed a mixed method research design, which allows for a comprehensive understanding of the research problem by combining the strengths of both quantitative and qualitative methodologies. This design provided a more holistic view of the topic under investigation.

4.1 Population and Sample

This study is situated within community of Mohammed Khider University of Biskra, especially focusing on the Department of English and Literature. Within this department, a rich tapestry of learners across various stages of their linguistic journey unfolds. However, this research specifically delved into the experiences of 40 Master's students who were chosen randomly enrolled in the English as a Foreign Language (EFL) program. Choosing this particular group allowed us to tap into their deeper understanding of language learning theories and methodologies, cultivated through their academic journey thus far.

Their enhanced proficiency and specialized focus on EFL make them an ideal sample for exploring the department's effectiveness in catering to advanced learners and fostering their continued development.

4.2 Research Tools

To carry out the present study, two research procedures was used .Namely, students' questionnaire and focus group discussion.

4.3 Students' Questionnaire

A structured questionnaire is submitted to first year master one students of English, at Biskra University. Students' answers are helpful to gain more understandings concerning The role of note taking in improving students' memory retention.

4.4 Focus group

Conducting a focus group with a group of master's of 6 students, delving into their insights on various topics through nine carefully crafted questions.

4.5 Data analysis

Quantitative data were analyzed using statistical techniques such as descriptive statistics using excel program, this analysis enabled the identification of numerical trends, associations. Qualitative data, on the other hand, were subjected to thematic analysis, where patterns, themes, and categories will beidentified to gain a deeper understanding of the research problem.

4.6 Ethical considerations

Ethical guidelines were followed throughout the research process, ensuring the protection of participants' rights and privacy. Informed consent is obtained from all participants, and their confidentiality was maintained. Additionally, any potential conflicts of interest will be disclosed and managed appropriately.

4.7 The Significance of this Study

This research illuminated the path for students and teachers alike to unlock the potential of note-taking. This research shines a light on the transformative power of strategic note-taking, revealing its potential to revolutionize learners' journeys. By demonstrating how it can unlock deep memory recall and enrich both memory development and English language acquisition, it empowers students to take control of their learning. Imagine classrooms humming with focused note-taking, each learner crafting personalized pathways to knowledge through thoughtfully captured insights.

The study goes beyond simply identifying strengths and weaknesses in existing note-taking practices; it equips students with the tools and understanding to forge their own, effective strategies. This shift in power dynamics, from passive consumption to active note-taking architects, promises a future where learners do not just recallinformation, they master it.

5. The Referencing Style for this Dissertation

This research adhered to the rigorous referencing standards of APA 7th edition, aligning seamlessly with established best practices in educational research. However, in collaboration with the supervisor, one deliberate and nuanced departure from the style guide was made: text alignment. While APA conventionally recommends left-aligned text, justified alignment was chosen for this work. This decision was not arbitrary, but rather motivated by a desire to optimize visual

presentation and enhance reader comfort. Justified alignment ensures consistency in line breaks and paragraph edges, creating a more balanced and unified aesthetic that promotes smoother reading and comprehension. Ultimately, this choice reflects a commitment to both the established APA framework and, within its boundaries, exploring formatting strategies that can further strengthen the clarity and accessibility of the research presented.

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6. Structure of the Study

The following outline describes the structure to which the dissertation adheres:

Chapter One is concerned with reviewing the related literature and it is divided into two sections. The first section provides a general overview about memory retention, it describes the main concepts of this including its types, importance and how it works.

Chapter Two set to shed light on the note taking technique , its importance, types, and how it is used by students . The second chapter deals with a detailed analysis of data gathered about investigating the role of note-taking in improving EFL learners' memory recall. It focuses on interpreting and analyzing students' questionnaire.

Chapter Three endeavors to present, describe, and categorize the extensive corpus of collected data, while simultaneously conducting an in-depth analysis and interpretation of both quantitative and qualitative findings. Besides, it aims to draw meaningful inferences, derive insightful conclusions, and contribute to the overall understanding of the research topic. It presents the implications and the recommendations deduced from the results.

Chapter One: Working Memory

Chapter One : Working Memory

Introduction

Memory serves as the cornerstone of human cognition, allowing us to navigate the world by recalling past experiences, knowledge, and skills. Often perceived as a passive archive, memory is in fact a dynamic process that continuously interacts with our present reality, shaping our perceptions, decisions, and behaviors. This chapter embarks on a journey to explore the intricacies of memory, from its fundamental definitions to its intricate workings in cognitive processes.

1.1 Memory Definition

Memory is often seen as a passive archive of past events, but its true significance lies in its dynamic role as a bridge between our lived experiences and the ever- changing present. This introduction sets the stage for exploring the active nature of memory and its profound impact on decision-making and behavior.

In the words of Sternberg (1999), memory is not merely a stagnant record; rather, it serves as a vital bridge between our evolving present and past encounters. It empowers us to apply past insights to adapt to the ever-changing present. Delving into memory's complexities reveals its active role in shaping our decisions and actions, drawing on a wealth of past experiences. It's the mechanism through which we utilize past knowledge to inform our current actions.Memory is regarded as a tool to remember past experiences. Ashman & Conway (1997) stated that memory refers to the ability to retain and recall what has been learned and it is the place where information is retained.

According to Klein (2015) memory is a term commonly used in everyday conversation, but its academic definition is complex and often misunderstood. According to most philosophers and behavioral scientists, memory involves a process of registration, storage, and retrieval of information, which results in neural alterations. These alterations must be causally linked to changes in behavior to qualify as memory. While this definition is broad enough to encompass

contemporary views, it leaves room for discussions on various aspects of memory, such as its unity, consciousness, and malleability. Despite ongoing debates, the majority of contemporary definitions of memory align with these principles.

To emphasize this even more, memory is the active activity of retrieving and using the knowledge we have acquired, not just passive storage. However, if we dig a little more, we find

that memory, as mentioned earlier, is not easily understood. Its complex and multifaceted scholarly definition provokes intense discussion. Experts concur that registering, storing, and retrieving information is a fundamental process that permanently alters our brain networks. If this impression is to be considered a true memory, it must clearly affect our actions. Although this wide definition takes into account different viewpoints, it also allows for more research. The primary questions continue to be those that explore memory's wholeness, relationship to awareness, and extraordinary flexibility. Even if there are still disagreements, the fundamental ideas align with the majority of modern theories of memory.

1.2 Working Memory

Memory was the first studied subject in psychology and philosophy for several years and has become a major topic in the branch of cognitive psychology. For years, researchers in the field conducted many studies to determine the meaning of memory, how it is formed, its organization, and its functions. Memory is important in the human species because it enables individuals to recall information and events in their lives and accordingly have a sense of self.

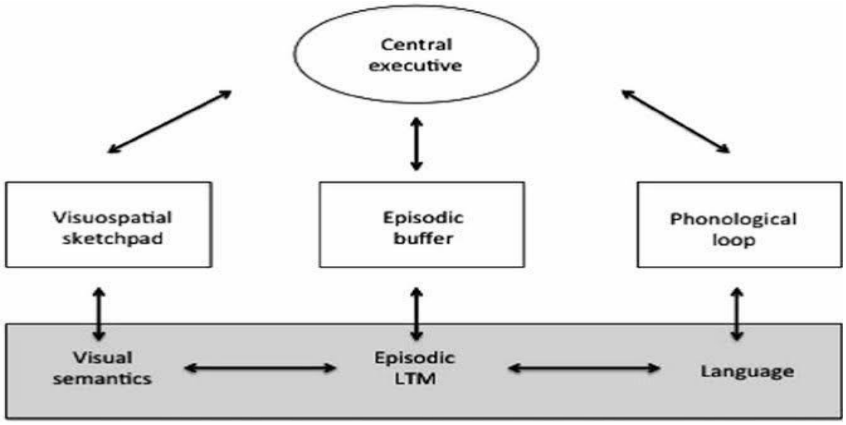
It is stated in the book 'Cognitive Psychology: A Students Handbook' that memory is what allows humans to recognize persons and things around them, moreover, it enables individuals to recall linguistic clues and communicate (Michael & Mark, 2015).

However, the study of human memory is interesting and complex, because a memory depends on its nature and the interconnections between four factors related to events, participants, encoding, and retrieval, as claimed by Styles "psychologists have been able to distinguish many varieties of memory, with different capacities, that endure for different periods of time and store different kinds of knowledge information using different representations" (Styles, 2005, pp. 8).

Figure 1.2

Baddeley Revised Model of Working Memory

Baddeley's 2011 in **Figure 1** depicts the updated model of working memory, highlighting its core components and their interactions.



Note: (*adapted from Baddeley*, 2011.p.11)

Baddeley's 2011in **Figure 1** on working memory illustrates the updated model, including the central executive, phonological loop, visuospatial sketchpad, and episodic buffer, demonstrating the interplay between these components in cognitive processing.

1.3 The Stages of Information Storage

There is three-stage system for information storage within the human mind. First, sensory memory briefly holds raw data like fleeting sights and sounds. Next, short-term memory temporarily processes limited information, like the sentence you're currently reading. Finally, long-term memory acts as a vast library, storing knowledge and experiences for extended periods, like memories of your childhood home.

This three-stage model highlights how different types of information are managed within the complex architecture of human memory.

1.4 Sensory Register

The brain's temporary sensory holding tank, receives input from all five senses. There remains debate on the potential influence of other senses on memory function, despite the fact that the primary research areas are hearing and vision (iconic and echoic memory). Even while attention is essential for the transfer of information, the potential connection between senses at this levelof memory remains an exciting field of study.

From the perspective articulated by Atkinson and Shiffrin (1968) The assumption that the functioning of the sensory apparatus is closely linked to the intake of external stimuli is central to the understanding of human cognition. Their theoretical framework highlights the importance of sensory processing in cognitive functioning by arguing that human perception of the world is essentially mediated through the senses.

The core of their argument is the recognition that humans have five different senses, each of which is said to have special abilities for processing and receiving information. This recognition prompts a comprehensive investigation into the possible effects of this variety of senses on the systems controlling perception or memory. Essentially, Atkinson and Shiffrinintrocudedan interesting issues about whether using various sensory modalities has distinct implications on how perceptual information is encoded and retained, which in turn affects how cognitive processing dynamics are shaped.

Though debates about the possible effects of more senses on memory function abound, the sensory register serves as an essential conduit for information from all five senses. The basic significance of sensory processing in human cognition is emphasized by Atkinson and Shiffrin's theoretical framework, which encourages further research into the ways in which various sensory modalities may affect the encoding and retention of perceptual data and, ultimately, the dynamics of cognitive processing.

1.4.1 Short term memory

Atkinson and Shiffrin's conceptualization posits Short-Term Memory (STM) as a pivotal intermediary within the memory system, serving as a crucial bridge between the initial encoding of sensory information and its potential long-term storage. Essentially, STM acts as a temporary holding ground, retaining incoming sensory data for a sufficient duration to facilitate its potential transfer and encoding into Long-Term Memory (LTM).

This transitional role underscores the dynamic interplay between different memory stages and highlights the intricate process through which information is processed and stored. Moreover, this particular aspect of their model illuminates the fundamental principles of memory organization and highlights the intricate interconnections between various memory subsystems, thereby offering valuable insights into the workings of human cognition and memory processes.

Atkinson and Shiffrin (1968) initially denoted what we now commonly recognize as Short-Term Memory (STM) as Working Memory (WM). This distinction marked the beginning of our understanding of the cognitive architecture. The second core component within this framework is This term encapsulates the active cognitive processes involved in temporarily holding and manipulating information to facilitate ongoing tasks and problem-solving. Thus, the conceptualization of STM as WM underscores its dynamic role in cognitive functioning, highlighting its significance in orchestrating various mental operations within the broader framework of human cognition.Upon closer examination of the literature, it becomes increasingly apparent that during this particular era, the term Working Memory (WM) was utilized interchangeably with the concept of Short-Term Memory (STM), implying that STM functioned in a dual capacity as both a processing center and a temporary storage facility (Baddeley, 1992). This convergence of terminology underscores the nuanced nature of STM, which not only serves to transiently retain incoming information but also actively engages in complex cognitive operations such as manipulation, rehearsal, and decision-making.

Baddeley's seminal insights into the structure and function of memory systems provide valuable elucidation on the multifaceted nature of STM, highlighting its pivotal role in facilitating a myriad of cognitive processes, problem-solving endeavors, and adaptive behaviors within the broader framework of human cognition and behavior. Such comprehensive understanding deepens our appreciation of the intricate interplay between memory processes and cognitive functioning, offering invaluable insights into the mechanisms underlying human thought and behavior.

the short-term store, a mental repository that serves as the individual's 'working memory.'

1.4.2.Long-term Memory

A long time ago, the human memory system was viewed as a unitary system that involved the long-term storage and manipulation of information. After that, in the 1960s, it was Suggested that the human memory might be divided into different components which were Termed later as long-term memory and short-term memory (see Atkinson and Shiffrin, 1968). The concept of long-term memory (LTM) refers to the system in the human brain in which the information is stored permanently. The information that is stored in long-term memory may be transferred to the short-term memory system where it can be manipulated. The capacity of the long-term memory is indefinite. According to Cave and Squire (1992), long-term memory consists of two main components. First, a declarative memory (knowing what); is concerned with factual information; for example, knowing about the parts of a vehicle. Second, a Procedural memory (knowing how); deals with the knowledge of how to perform things; for instance, knowing how to drive a car. To explain‹In understanding the intricate workings of our long-term memory (LTM), it becomes evident that it is not merely a monolithic storage bin but rather a complex and multifaceted library with seemingly endless capacity. Within this cognitive repository, information is not haphazardly thrown together; instead, it is meticulously categorized and organized, akin to the meticulous arrangement of books in a vast library.

One prominent section of this cognitive library is the declarative memory, which functions much like a comprehensive encyclopedia, housing a wealth of facts, concepts, and general knowledge. Here, one can delve into a repository of information, ranging from historical events to scientific principles, akin to flipping through the pages of a well-curated encyclopedia. It is within this domain that we store our understanding of the world around us, encompassing everything fromthe names of car parts to the intricacies of quantum mechanics.

Declarative memory serves as our go-to section for “knowing what” and is instrumental in our ability to recall factual information and concepts with ease. Conversely, nestled within the labyrinthine corridors of our cognitive library, lies another crucial section known as procedural memory. This section operates more akin to a manual collection, meticulously storing a repertoire of skills, routines, and procedures essential for navigating the complexities of daily life. From the intricate movements required to master a musical instrument to the fine motor skills involved in tying shoelaces, procedural memory encapsulates our ability to “know how” to perform various actions and tasks.

Just as one would consult a manual for step-by-step instructions, procedural memory allows us to access the practical knowledge needed to execute tasks efficiently and effectively. Thus, it becomes apparent that LTM is far from being a mere information dump; rather, it is a sophisticated and intricately organized system designed to remember both the "whats" and the "hows" of our lived experiences. Through the intricate interplay of declarative and procedural memory, we are endowed with the remarkable ability to recall facts, concepts, skills, and procedures, thereby enriching our understanding of the world and empowering us to navigate the complexities of everyday life with precision and proficiency.

1.5 Phonological Loop

The Phonological Loop, a fundamental aspect of working memory, facilitates speech-based dataprocessing and manipulation, serving vital roles in both speech comprehension and working memory tasks.

Baddeley and Hitch (1974) introduced the notion of the Phonological Loop all-encompassing working memory model, the Phonological Loop. It is hypothesized that this domain-specific slave system acts as a specialized mechanism for speech-based data processing andmanipulation. The idea of a phonemic buffer—a particular mental storage space devoted to processing and temporarily storing phonological components of incoming stimuli—is at the heart of their approach. Using this approach, Baddeley and Hitch propose that, in contrast to other forms of sensory information, speech input experiences a unique kind of processing within the Phonological Loop.

Additionally, the authors support the application of a number of methodological strategies, including articulatory suppression and word length manipulation, in order to better define and explore the operation of the phonemic buffer.By using these methods, scientists can learn more about the subtleties of the storage, manipulation, and retrieval of speech-coded data inside the Phonological Loop. As a result, the Phonological Loop becomes apparent as a crucial element in the larger context of cognitive processing, providing understanding of the processes behind human language generation and comprehension. The phonological loop, also recognized as the phonological short-term memory (PSTM), constitutes a critical component within cognitive processing, acting as a specialized reservoir primarily for speech-based verbal information with limited capacity (Dehn, 2011).Its other name, the articulatory loop, describes how it functions in the processing and recall of spoken language.

There are two separate subcomponents to this cognitive system, yet they are interrelated. To begin with, the phonological loop has a passive temporary storage system that stores incoming verbal

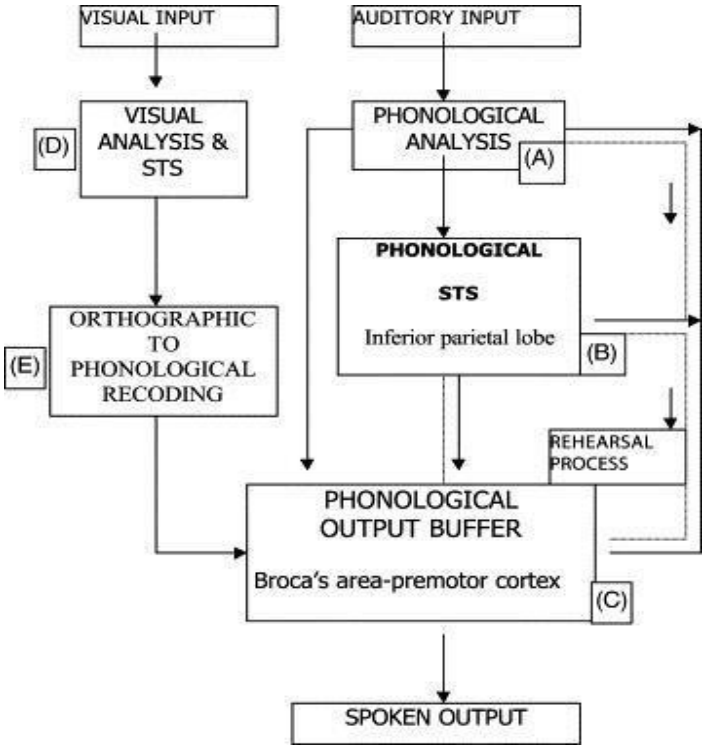
information. This part makes it possible for speech-based data to be temporarily stored for brief periods of time, which makes processing easier. Secondly, the phonological loop encompasses a sub-vocal rehearsal process, wherein verbal information is actively rehearsed and manipulated. Beyond mere retention, this rehearsal mechanism also extends to the encoding and maintenance of visual stimuli, suggesting its involvement in multimodal information processing (Baddeley, 2003).

The phonological loop's dual role as a register for visual inputs and a storage facility for speech- based information highlights how dynamically it functions in cognitive processes. This complex interaction between visual and auditory processing demonstrates the phonological loop's plasticity and versatility, which is important for a number of cognitive processes, including working memory and language comprehension.

Figure 1.2

A proposed structure for the phonological loop.

Baddeley's 2003 figure elucidates the auditory and visual components of the phonological loop within the working memory model, showcasing their integration under the central executive's control. This framework offers insights into how auditory and visual information is processed and manipulated in cognitive tasks.



Note: *Adapted from Baddeley* (2003).

Baddeley's 2003 **Figure 2** on the phonological loop illustrates its auditory and visual components, depicting how auditory information is processed through the phonological store while visual information is managed by the visuospatial sketchpad, both under the control of the central executive, providing a comprehensive framework for understanding working memory's role in cognitive tasks.

1. 6 What Causes Forgetting?

This review delves into the complexity of forgetting in short-term memory, exploring the

interplay between "fading memories" and "interference" theories, while contrasting multistore and unitary models. Through behavioral and neural insights, it seeks to unravel the mechanisms driving memory lapse in STM.

According to Jonides, Lewis, Nee, Lustig, Berman, and Moore (2008) argue that understanding how we forget things is crucial for building a complete picture of short-term memory (STM). Traditionally, two main explanations for forgetting existed: fading memories and interference from new information. This review examines the evidence, both behavioral and brain-based, to weigh these explanations against each other and proposes a possible mechanism for forgetting in STM.

Most theories about STM fall into two broad categories: multistore and unitary. Multistore models see STM and long-term memory (LTM) as separate systems with unique representations, while unitary models suggest they largely share the same representations but differ in how active they are and the processes involved. This review focuses on the key differences between these theories and how they answer three main questions about forgetting. Throughout the discussion, we consider memory as a collection of features linked to the context in which it was learned.

To explain, traditionally, two schools of thought have dominated the scene: the "fading memories" theory, where information simply vanishes over time, and the "interference theory," where new information disrupts and dislodges the old. This review embarks on a journey to weigh these explanations against each other, drawing upon evidence from both behavior and the intricate workings of the brain. But the landscape of STM theories isn't a simple binary. On one end lie the "multistore" models, envisioning STM and long-term memory (LTM) as separate entities with distinct storage areas. On the other hand, "unitary" models contend that both memories share the same fundamental storage space, differing only in the level of activation and the way they are processed. This review dives deep into the contrasting perspectives offered by these theories, focusing on how they approach three key questions surrounding forgetting: What causes information to slip away? How quickly does it happen? And can we do anything to hold onto it better

1.7 Note-Taking and Memory

Examining the role of note-taking on memory retention, a study conducted with 97 university participants aimed to elucidate how note-taking influences recall, shedding light on effective study strategies

Bohay, Blakely, Tamplin, and Radvansky (2011) in their experiment Where Ninety-seven people (53% female) were recruited from the University of Notre Dame's psychology department's participant pool in return for a half-credit course. Of the participants, 48 were not allowed to check their notes before the test, while the remaining participants were allowed to do so.The materials used for this study were Three written texts, each addressing a different subject,

were used: an explanation of the biological notion of prions, a summary of Samuel Beckett's "Waiting for Godot," and an outline of communism and Russia's economy from the 1920s to the present. Two more people examined and revised these writings for coherence and clarity after they were written using material taken from a variety of encyclopedias and online resources. Only two of the three texts that were prepared were seen by each participant. These writings have lengths of 53, 59, and 82 sentences, or 1,072, 1,175, and 1,392 words, in that order.

Memory assessment comprised 15 four-alternative, multiple-choice recognition test questions. For each topic, three question types were presented. First, questions with verbatim answers directly extracted from the texts. Second, questions with correct answers paraphrasing the text.Lastly, questions with correct answers require inference beyond explicit text statements. Each question type consisted of five questions, and their order was randomized for each test. Two versions of each test were created for each topic, with one version administered immediately and the other for delayed memory testing. Both versions comprised 15 questions with identical distributions of question types. The administration of these versions was counterbalancedacross participants.

However, fifteen multiple-choice, four alternative recognition exam questions made up the memory assessment.

Three different sorts of questions were offered for every topic.questions with exact responses ta ken straight out of the texts are presented first.Second, questions that have accurate responses summarize the content.Finally, questions that require more than just clear textual declarations t o be inferred as correct responses.

Five questions made up each question type, and the order of the questions varied for every test For every topic, two test versions were developed, one for immediate administration and the ot her for delayed memory testing. There were 15 questions total in both versions, with the same mix of question categories. Participants received these versions in a balanced manner.

All things considered, the results support the idea that active involvement with the content, like taking notes, improves memory, especially at higher comprehension levels, like the situation model level. These findings are consistent with earlier studies showing that taking notes can enhance performance.

1.8 What Has Visual Imagery to Do With Working Memory?

An essential component of human cognition that is closely linked to memory functions is visual imagery. Our minds frequently create mental representations that depict and summarize the information we come across. These vivid, precise mental representations can be a potent tool for encoding and preserving memories. The function of visual imagery in memory has been thoroughly studiedin cognitive psychology research, which has shown that it significantly affects the encoding, consolidation, and retrieval processes. Research has indicated that visualstimuli, as opposed to only verbal or auditory ones, can aid with memory recall and recognition. Furthermore, it has been discovered that using visual imagery improves learning and understanding in a variety of contexts, including language learning and problem-solving exercises. Gaining knowledge about the processes that underlie the association between memory and visual imagery will help us better understand how humans perceive, process, and remember information. Additionally, it has applications in the fields of education, mnemonics, and therapeutic interventions when the goal is to enhance cognitive functioning and memory performance.

Nelson and Brooks (1973) conducted an extensive experiment intended to explore the complex connection between phonetic similarity and word pair learning, or paired-associate learning. Words with comparable phonetic features, like “bat” and “cat,” have historically been shown to be more difficult to learn simultaneously than words with different sounds. This difficulty is linked to the brain’s propensity to compare and contrast word sounds, which may cause disruption and misunderstanding when matching words. The researchers painstakingly created three different experimental conditions to see if this phonetic similarity effect holds when learning takes place through visual stimuli as opposed to auditory or verbal ones.

Firstly, in the traditional word condition, participants were given the task of learning word pairings in which they came across pairs that had either a high or low phonetic similarity. Second, students participated in the image condition, which involved verbalizing just the pictorial representations of the word pairs rather than the actual words. Finally, participants completed the picture-name condition, which was similar to the picture condition but required them to say the word associated with each picture before trying to memorize its pair. The experiment's findings revealed some amazing revelations. As expected, phonetic similarity in the word condition greatly hindered learning, with higher similarity pairs being more difficult to memorize than their dissimilar counterparts.

Remarkably, phonetic similarity had essentially no effect on the picture condition, suggesting that the brain relies less on phonetic features when information is presented visually, leading to more effective memory retention. However, when participants verbalized the words corresponding to the pictures in the picture-name condition, the similarity effect resurfaced, reminiscent of the challenges observed in the word condition. This recurrence underscores the enduring influence of verbal processing mechanisms, even within a predominantly visual learning context, shedding light on the complex interplay between auditory and visual modalities in memory formation. Overall, the findings underscore the robustness of pictorial representations as effective memory codes, capable of circumventing the traditional challenges posed by phonetic similarity in paired-associate learning, while also highlighting the subtle yet profound impact of verbal processing in shaping memory encoding processes.

The experiment described In the passage offers insights that can be applied to note-taking strategies. Specifically, the findings suggest that utilizing visual representations, such as pictures or diagrams or mind mapping can help overcome the interference caused by phonetic similarity when learning new information. This implies that incorporating visual elements into notes, alongside textual information, could aid in memory encoding and retention, particularly for concepts or terms with similar sounds. Additionally, the experiment highlights the importance of minimizing reliance on auditory processing during learning, as verbalizing the words in the "picture-name" condition brought back the similarity effect. Therefore, note-taking methods that focus on visual representations and minimize verbalization, such as using symbols, abbreviations, or visual summaries, may be beneficial in reducing the impact of phonetic similarity interference and enhancing overall learning outcomes.

1.9 The capacity of immediate memory and Chunking

Immediate memory, often referred to as short-term memory, plays a crucial role in cognitive processes, allowing individuals to temporarily hold and manipulate information for brief periods. One fascinating aspect of immediate memory is its limited capacity, which suggests that humans can hold a certain number of items at any given time. However, this capacity can be expanded through a cognitive process known as chunking. Chunking involves groupingtogether individual pieces of information into larger, meaningful units, enabling more efficient memory retention.Understanding the interplay between immediate memory capacity and chunking sheds light on the mechanisms underlying human cognition and information processing

Mathy, Fartoukh, Gauvrit, and Guida (2016) conducted an experiment, observing that both adults and children as young as 2 to 3 years old have a general ability to restructure information to improve memory efficiency. The main goal of the study is to evaluate whether untrained children aged 6 to 10 can employ this recoding process in immediate memory tasks.

To experiment, a large sample of 374 children within the specified age range was recruited. The participants were tasked with an immediate serial recall exercise based on SIMON®, a classic memory game comprising four colored buttons: red, green, yellow, and blue. In this game, players are required to reproduce a sequence of colors, including instances where repetitions occur.

The hypothesis posited that a fundamental ability to detect redundancies exists across all age groups, potentially enabling memory span expansion through on-the-fly recoding. In the experimental setup, a chunkable condition was introduced, which encouraged participants to form chunks based on perceived color repetition structures within the sequences to be recalled.

The results of the study revealed a consistent linear improvement in memory span with age, irrespective of whether the condition allowed for chunking or not. Surprisingly, the amount of information retained in immediate memory systematically increased for sequences conducive to chunking across all age groups, even though the average age-group span was measured on sequences containing fewer repetitions.

This finding suggests that chunking confers a memory enhancement benefit to young children comparable to that observed in older children. The study also initiates a discussion on the role of recoding in expanding immediate memory capacity and speculates on the potential involvement of data compression in the formation of chunks within long-term memory.

In essence, the study contributes valuable insights into the mechanisms underlying memory

development and the role of chunking in enhancing memory efficiency across different age groups.The experiments conducted in this study shed light on the significance of chunking in immediate memory tasks and its potential implications for note-taking practices. By demonstrating that both young children and adults can benefit from chunking, the findings suggest that this cognitive strategy could be leveraged in educational settings, particularly in the context of note-taking.

In note-taking, individuals often need to quickly capture and retain information presented in lectures, presentations, or readings. The ability to chunk information effectively could enhance memory encoding and retrieval processes, thereby improving the quality and efficiency of note-taking. For example, students could organize information into meaningful chunks based on concepts, themes, or key points, facilitating easier recall and comprehension during later review.

Furthermore, understanding the role of chunking in immediate memory could inform the development of note-taking strategies tailored to different age groups and learning styles. Educators could incorporate techniques that encourage students to identify and utilize meaningful chunks of information in their notes, such as concept mapping, outlining, or summarizing.

Overall, the study underscores the importance of considering cognitive processes like chunking in educational practices, including note-taking strategies. By leveraging insights from research on immediate memory and chunking, educators can empower students to optimize their note-taking techniques and enhance their learning outcomes.In other words, Note-taking often involves encoding information from short-term memory into a more permanent form, such as writing it down. Effective note-taking strategies often leverage the limitations of short-term memory by summarizing information, organizing it into meaningful chunks, and relating it to existing knowledge. This helps in enhancing comprehension, retention, and later recall of the information. So, understanding the principles of immediate memory capacity can inform and improve note-taking practices.

Conclusion

In unraveling the mysteries of memory, this chapter sheds light on its dynamic and multifaceted nature, highlighting its active involvement in shaping human cognition and behavior. From the complexities of working memory to the mechanisms of forgetting, each facet of memory reveals new insights into the workings of the human mind. By delving into these

intricacies, we deepen our understanding of memory's profound impact on our lives, paving the way for further exploration and discovery in the field of cognitive psychology.

Chapter Two: Note-Taking

Chapter Two : Note-Taking

Introduction

This chapter delves deeper into note-taking tool, unearthing its theoretical underpinnings and practical applications. It serves as a guiding light, illuminating the path for students with an arsenal of specific techniques, transforming them into information ninjas with unparalleled mastery. So, let us embark on this intellectual odyssey together, exploring the intricate art of note-taking and unlocking the hidden potential within every student, propelling them towards academic excellence. Remember, it's not just about capturing words on paper, butabout igniting a flame of curiosity and nurturing a lifelong love of learning.

1.1Definition of Note taking

Note-taking, in the context of educational endeavors, is aptly characterized as the deliberate and methodical act of recording information in a detailed and systematic manner. This process, as explicated in dictionaries, serves as a pivotal strategy for amplifying the proficiency of English language learners. It involves the meticulous capture of lecture content, fostering both comprehension and retention of the acquired knowledge. Through this intentional and systematic approach, learners can establish a more robust foundation for language acquisition and assimilation of academic material. According to the Oxford Dictionary, note-taking is "noting something down "to be remembered later. In addition, O" Malley and Chamot (1990) defined note-taking as "writing down the keywords and concepts in abbreviated verbal, graphic, or numerical form to assist the performance of a language task' (p.138). That is to say, it is the practice of capturing important information by writing down keywords and concepts. This canbe done using brief verbal expressions, simple drawings, or numerical representations. The purpose of this is to create a condensed version of information that can be easily referenced and used to enhance performance in language-related tasks. It's like creating a quick reference guide that aids in better understanding and remembering information when working on activities that involve language skills.

Another general definition presented by O'Hara (2005) is that note- taking involves besides active listening, relating information to previous knowledge and answering the questions that arise from the material taking notes effectively means not just listening but also linking new information with what you already know and using it to generate questions for a deeper understanding.

1.2 The Importance of Note-Taking

Note-taking is a powerful tool for learners. It goes beyond just writing down information it helps you actively choose what's important, organize your thoughts, and connect new ideas to what you already know. This active process improves your focus and understanding. Research also shows that note-taking significantly enhances your ability to remember and recall information, making it a valuable skill for long-term learning and success in various academic situations.

Peper and Mayer (1986) argues that note-taking is a powerful tool for learners. It helps you actively choose what's important, organize your thoughts, and connect new ideas to your existing knowledge. This act of filtering and connecting actually boosts your focus, as you're naturally trying to grab both the big picture and the supporting details. It's like training your brain to listen closely and make the most of the information being presented. By taking notes, you're not just passively receiving, you're actively building a deeper understanding. Similarly in a comprehensive exploration of effective study methodologies, Zohrabi and Esfandyari's (2014) research establishes note-taking as a pivotal and multifaceted tool with far-reaching implications for students' academic success.

The study illuminates the intricate ways in which note-taking contributes to the enhancement of various cognitive processes, underscoring its role not merely as apassive recording mechanism but as an active catalyst for improved learning outcomes. Through meticulous analysis, the research reveals that note-taking functions as a dynamic process, significantly improving students' ability to

capture, record, and subsequently recall new terms. This cognitive engagement extends beyond mere memorization, encompassing a more profound acquisition of knowledge and comprehension.

The act of taking notes becomes a conduit for synthesizing information, facilitating a deeper understanding of complex concepts that extends beyond the immediate study session. Moreover, the research suggests that the benefits of note-taking extend to long-term retention, as students develop a more robust memory framework that aids in the recall of information over extended periods. The acquired skillset not only empowers students to remember crucial details but also enables them to apply and contextualize this knowledge in subsequent learning scenarios. In essence, Zohrabi and Esfandyari's study advocates for a paradigm shift in perceiving note-

taking from a mere transcribing activity to an active and strategic approach fostering comprehensive cognitive development. It posits note-taking as a cornerstone for holistic learning, equipping students with aversatile set of skills that transcend rote memorization and lay the groundwork forsustained academic success and intellectual growth.

1.3Note-Taking Methods

Non-linear note-taking methods, like mind maps, enhance comprehension by visually illustrating connections between ideas, surpassing the sequential structure of linear styles.Piolat (2001) classified note-taking methods into linear and non-linear styles. Linear methods, a familiar terrain for students, mirror the structure of written text, presenting ideas in a sequential and straightforward manner. Conversely, non-linear methods embrace visual elements, employing tools such as mind maps to illustrate connections between ideas. Despite their disparate appearances, both approaches demand comparable cognitive effort and result in equivalent levels of understanding. The choice between these styles should be informed by your individual learning preferences and the nature of the information being addressed.

Piolat, Olive, and Kellogg (2005) argued that non-linear styles of note-takinghold a superior efficacy compared to linear styles, primarily due to their inherent ability to establish connections between ideas. In essence, the argument emphasizes the visual and relational advantages of non-linear methods, such as mind maps or concept diagrams, over the more traditional linear approach characterized by sequential organization. According to this perspective, non-linearnote-taking allows for a more dynamic representation of information, facilitating the illustration of intricate relationships and associations between concepts. The visual nature of non-linear styles is believed to provide a holistic understanding, enabling learners to grasp the broader context and interdependencies within the subject matter. Thus, the effectiveness attributed to non-linear note-taking lies in its potential to enhance comprehension by capturing the nuanced connections among ideas, offering learners a more comprehensive and interconnected view of the material being studied.

1.4 Note- taking During Listening/Reading

When note taking is considered, writing based on the things listened or read comes to mind. in the study carried out by Özçakmak and Sarigöz (2019) a survey of university students found a strong preference for "listening notes" over "reading notes." 61% of students primarily associated note-taking with capturing spoken information, while only 31% viewed it as summarizing written text.This suggests a notable bias towards note-taking during lectures compared to reading materials. Notes generally used in academic learning can be taken from a course or a written document. Notes that are mostly taken under a deadline of time during a lesson can be written on intended speed while being taken from a written document (Olive and Barbier, 2017).

Taking notes during listening or reading is regarded as a useful strategy in terms of developing storage of information (Carrier and Titus, 1979). When it is regarded in terms of linguistic skills, it forms a basis for improving listening, reading, speaking and writing skills. It is not possible for a student to tell a matter without understanding it. When this is taken into consideration, the importance ofreading and listening skills appear by itself. In our study it was investigated how reading and note taking during reading and listening and note taking during listening affected students' comprehension success. Furthermore, note taking during reading and note taking during listening which are two components of notetaking were compared with regard to their effect on the students' comprehensionsuccess. When the literature was searched, no studies were found revealing which of the skills that were note taking during reading and note taking during listeningwas more effective.

1.5 Note-taking techniques

Researchers have put forth a range of note-taking techniques aimed at aiding students in effectively organizing their notes for future use. Notably, notes can bebroadly classified into two distinct styles: linear and nonlinear. Linear styles, as described by Piolat (2001), bear a resemblance to conventional written texts andstand out as one of the most commonly adopted styles by students. In contrast, nonlinear styles rely on graphical representations, employing a systematic and unconventional format for structuring notes.

Piolat's insights from 2001 shed light on the prevalence of linear styles among students, underscoring their conventional appeal. Within the realm of note-takingtechniques, there exists a diverse array, including but not limited to outlining, mind mapping, and charting. These techniques provide students with options to choose the most suitable method based on their learning preferences and the nature of the material they are capturing. The versatility offered by

these techniques contributes to a more personalized and effective approach to note- taking in academic settings.

1.5.1Linear Note

Piolat et al. (2005) presents linear notes as a cornerstone of effective note- taking. These notes aim to capture the essence of heard or read information through condensed summaries. Utilizing complete sentences, sentence fragments, or strategic abbreviations, they offer flexibility in extracting crucial data suitable for individual student needs.

The effectiveness of linear notes lies in their versatility, applicable when:

Engaging with written works: Whether textbooks or research articles, linear notes enable you to distill the essential knowledge contained within their pages.

Absorbing lecture content: As professors expound upon key concepts, linear notesbecome instrumental in capturing the core ideas presented during class sessions.

Participating in interactive discussions: Lively classroom exchanges offer valuable insights, and linear notes provide a means to record these thought-provoking contributions from peers and instructors alike. Structuring personal reflections: Beyond external sources, linear notes empower you to organize and solidify your own thoughts and ideas, fostering deeper understanding and personal growth.

The effectiveness of linear notes unfolds across two distinct levels:

Level 1: Extracting the Essence: Quickly scan the text to grasp the main themes without taking notes. Then, add headings and subheadings to outline the content, leaving space between them for further details.

Level 2: Refining and Connecting: Once the skeletal framework is established, encourages revisiting and enriching your notes. After you have your headings and subheadings written down, go back to the Beginning. As you read, look forwords in bold key words and phrases Explanations; make note of these. Leave margin space or write on every other line sothat you can add more notes in later.

Organize and structure: Arrange your notes in a manner that aligns with your learning style and preferences. Whether you opt for bullet points, outlining, or other methods, this organization fosters clarity and accessibility.

Connect and synthesize: Go beyond individual facts and concepts. Seek out connections between them, weaving a tapestry of understanding that reflects theinterconnected nature of knowledge.
Remember to prioritize capturing the most critical details, such as key vocabulary, explanations, and highlighted content. Consider incorporating phrases like “the main point is…” or “this will be on the test” to further emphasize pivotal information. By adopting these strategies, you can elevate your linear notes from simple summaries to powerful tools for enhancing your learning journey.The key to utilizing linear notes effectively lies in understanding their core principles and adapting them to your unique learning style and preferences. Embrace the flexibility and versatility they offer to unlock their full potential in your academic endeavors.

1.5.2The Outline Method

The Outlining Method, frequently utilized by college students, organizes information in a structured and logical way, highlighting the connections between concepts. This approach, as described by Wong (2010), streamlines note editing, facilitates review, and involves arranging notes from most to least important points using symbols .

One of the tangible manifestations of the outlining technique’s efficacy is embodied in Figure 01, which serves as an illustrative exemplar of how this method can be practically applied. This visual aid showcases the hierarchical organization of information, portraying the meticulous structuring and prioritization inherent in the outlining process. In essence, the outlining technique emerges as a robust tool not only for organizing information but also for enhancing clarity and conciseness in communication, thereby fostering an effective exchange of ideas.

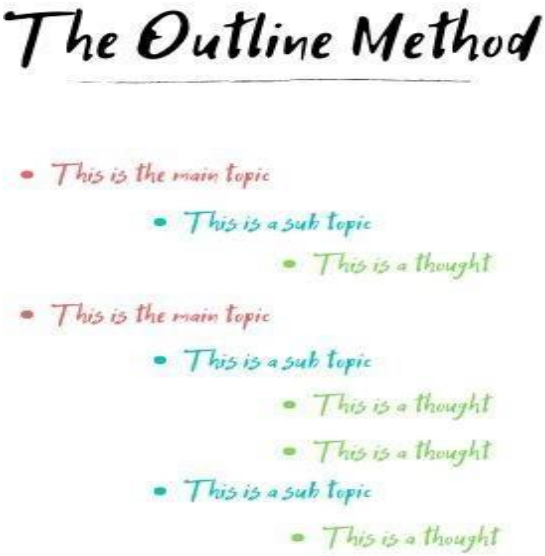
The outline note-taking method is considered as the most efficient method, since it creates well organized notes, this method requires writing key points and each one construct of sub points, as a result, it allows the writer to see the existing relationship between topics (Tamm, 2021)

Advantages for this method is its visible relationship between topics, and logical order of the notes that ease the review no special materials are required, and utilizable during classes.While its disadvantages are its impracticality for Science, Technology, Engineering, Math subjects (STEM),and its requirement of concentration and strong thoughts.

The outline method, illustrated in **Figure 1,** structures notes hierarchically with main topics followed by subtopics and supporting details, organizing information clearly.

Figure2.1

Outline Note-Taking Method



Note. From " Medium.com" , By W. Liedner , 2020.

1.5.3 Mind Mapping Method

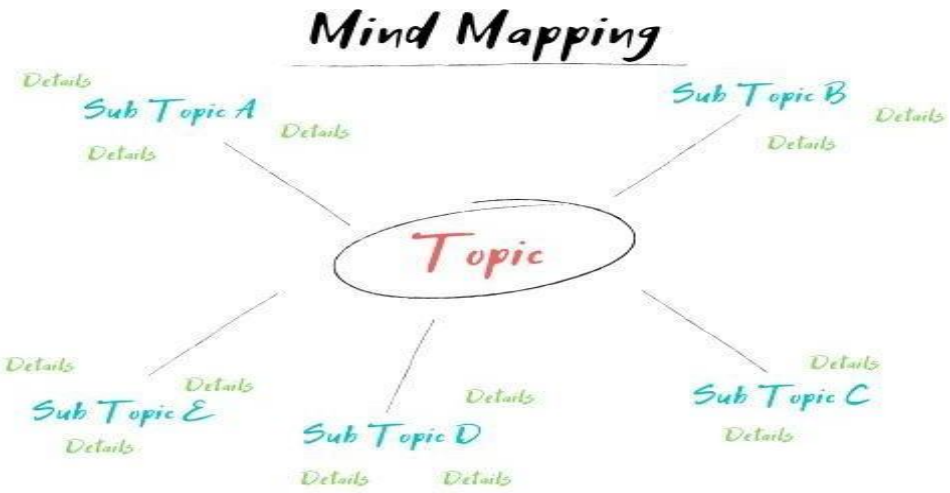
Mapping Note-Taking Method. The mapping note-taking method provides Graphical representation of notes, it starts with central topic to be branched outinto subtopics, Supporting topics, and smaller details (Tamm, 2021).

Advantages for this it its usefulness for visual learners, facilitates reviewing anddetecting the connection between elements, while a disadvantage is time consuming, and it is unsuitable during class.

The mind mapping method, shown in **Figure 2**, visually organizes information with a central idea connected to related concepts through branches, fostering creativity and understanding.

Figure 2.2

Mind Mapping Note-Taking Method



Note. From *" Medium.com"* , By W. Liedner , 2020.

1.5.4 Cornell Note-Taking Method

The Cornell note-taking method requires to break the page into three sections(Tamm,2021)

Cue: narrow column devoted to the main points.Notes: a wider column used to explain the cues.

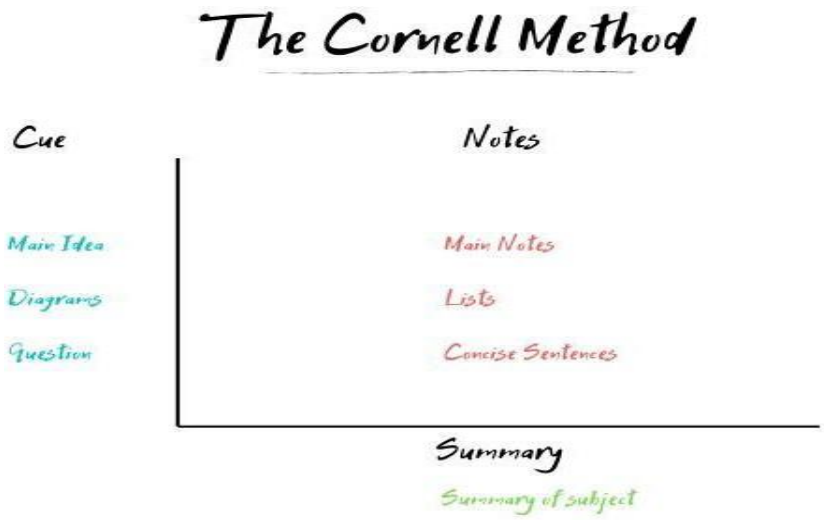
Summary: written at the bottom and used for summarizing all information.Advantages easy as both recording and reviewing notes, time efficient.

Practical in most subjects, and helpful in extruding the important concepts and ideas. Its disadvantage is it requires creating special pages, and unsuitable for large notes.

The Cornell method, depicted in **Figure 3**, uses a divided page layout with sections for notes, cues, and summaries to enhance comprehension and review.

Figure 2.3

Cornell Note Taking Method



Note. From *" Medium.com"* , By W. Liedner, 2020.

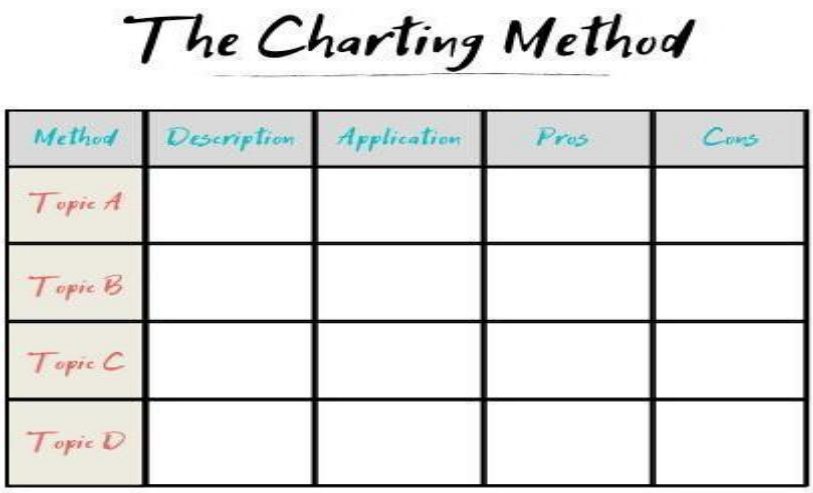
1.5.5 Charting Note-Taking Method

The charting note-taking method uses charts To organize notes in columns and rows. Each column has its own category and each row have Its own topic (Tamm,2021).

The advantages for this methods is its usefulness with facts and statistics and reducing notes' size and comparison between topics. While a disadvantage is it is unsuitable for most subjects because it requires basic understanding of topics.

The charting method, featured in **Figure 4**, organizes information into columns and rows, making it ideal for comparing and contrasting data.

Figure 2.4 Charting Note Taking Method



Note. From " *Medium.com*" , By W. Liedner, 2020.

1.5.6Mapping Note-Taking Method

The mapping note-taking method provides Graphical representation of notes, it starts with central topic to be branched out into subtopics, supporting topics, and smaller details (Tamm, 2021).

Advantages for this method is its usefulness for visual learners, facilitates reviewing and detecting the connection between Elements. While its disadvantages is as follows Time consuming method, unsuitable during class.

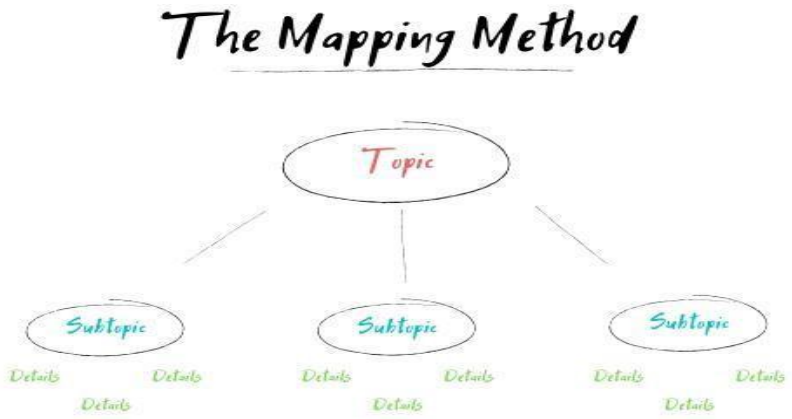
The Mapping Method, formally characterized as a knowledge visualization technique, utilizes a graphical representation to depict the core content of a lecture. This approach facilitates the visual tracking of information, enabling students to efficiently summarize vast amounts of material within a compressed timeframe. Furthermore, the method demonstrably enhances both comprehension and memorization of acquired knowledge. Additionally, it cultivates the development of critical thinking skills in students.

In practice, the Mapping Method entails inscribing the central ideas or core keywords at the apex or center of the map. Subsequently, the map is segmented into subordinate points situated on the left and right sides. Arrows are then employed to connect these sub-points, visually signifying the interconnectedness and hierarchical relationships between individual components and the central theme. This formalized structure promotes a deep understanding of the presented material.

The mapping method, presented in **Figure 5**, focuses on hierarchical and relational connections in a structured format similar to mind mapping.

Figure 2.5

Mapping Not Taking Method



Note. From " *Medium.com"* , By W. Liedner , 2020.

1.5.7Boxing Note-Taking Method

The boxing note-taking method is useful in case of noting several topics that are separately organized in boxes, which facilitate the process of taking and reviewingnotes for visual note-takers (Tamm, 2021).

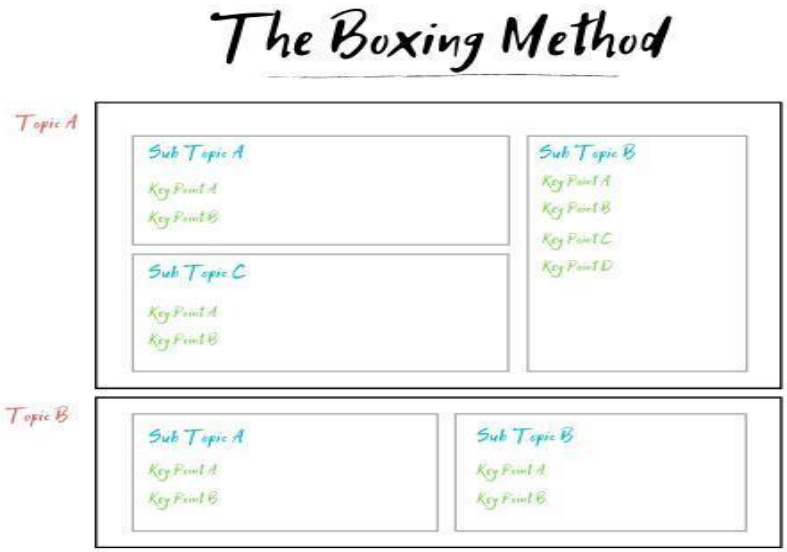
Advantages for this method is considered to be practical for visual learners, note-takers,and the

notes are aesthetically pleasing. while disadvantage is it takes long time, and impractical for note-taking in class.

The boxing method, represented in **Figure 6**, divides information into boxes, each containing related content, aiding in visually segregating different topics.

Figure 2.6

Boxing Note-Taking Method



Note. From " *Medium.com*" , By W. Liedner , 2020.

1.5.8 Sentence Note-Taking Method

Sentence note-taking method uses lines and sentences, each new idea is written in a new separate line and it contains as much information as possible (Tamm, 2021).

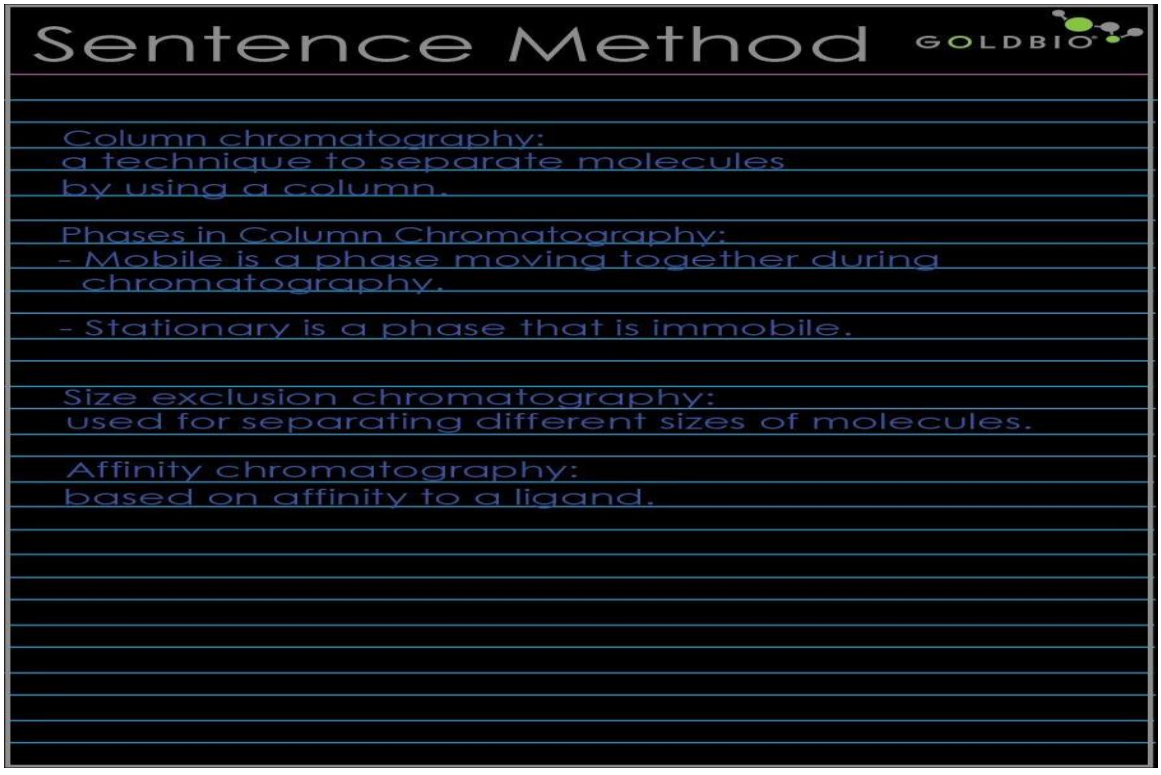
The Advantages for this method is it is good for any subject and for quick not- taking, while its disadvantages is as follows,difficult in reviewing notes, Requiresquick writing.

To conclude, each note-taking method has both advantages and disadvantages, each method is suitable for its own situation depending on the preferences and choices of the notetaker, besides collaborating with other main skills.

The sentence method, illustrated in **Figure 7**, captures each new piece of information as a separate sentence, useful for detailing in a linear fashion.

Figure 2. 7

Sentence Not Taking Method



Note. From " *Goldbio.com*", By T. Kroemer, (n.d)

1.5 The SQ3R Strategy

The SQ3R is an abbreviation representing the sequential steps suggested by Robinson to enhance active and effective reading of a particular text. These steps,namely Survey, Question, Read, Recite, and Review, aim to facilitate the readers' comprehensive engagement with the text throughout the pre-reading, reading, and post-reading phases, thereby promoting deeper understanding.

To effectively engage with the material, begin by surveying it to grasp the main ideas and structure. Generate questions based on the content to deepen understanding. Then, thoroughly read the material, actively seeking answers to the questions posed. After reading, recite the information in your own words to enhance comprehension. Finally, regularly review your notes to reinforce learningand maintain retention.

1.6 Note -Taking Skill

Williams and Eggert (2002) study found the following:

Suritsky and Hughes (1991) proposed that note-taking requires four extensive skills: listening, cognitive processing, writing down lecture content, and reviewingnoted information.

The first three skills usually occur contiguously. Listening and processing may arise virtually together, with note taking generally following in a matter of seconds.Although reviewing one's notes ideally should begin soon after the conclusion of each class session, it is frequently delayed until an examination is imminent. (p.174). They announced that both listening and cognitive processing occur together and are followed by the third skill which is recording.

However, the fourth skill (i.e., reviewing notes) can take a place by the end of the lecture or postponed prior to exams.

1.6.1 Listening

Williams and Eggert (2002) reported that although it is difficult to differentiate between listening and cognitive processing, there is a slight difference between them. They determined listening by linking it with paying attention. Hence, they emphasized that in case students' attention is not focused on what the instructor is saying, there is little chance that meaningful processing and information encoding would follow. However, little consideration has been given to moment- to-moment student awareness in the college classroom.

1.6.2 Cognitive Processing

Suritsky and Hughes (1991) reported that cognitive processing contains at least two Stages: (1) understanding each lecture idea and (2) connecting that understanding with Previous knowledge. According to Williams and Eggert (2002), the first stage is based on the comprehension of the students, by understanding the ideas mentioned in the lecture, and rewriting them using their own words, then connecting them with the previous knowledge by using examples like: "that's an example of …….,", "that's related to …….," so that new knowledge becomes uncomplicated to later use.

1.6.3 Note-taking

Williams and Eggert (2002) found that "the first challenge in note-taking is to achieve a balance between listening, processing, and note-taking. Efficiency in note-taking would seem fundamental to achieve this balance "(p.175). They expressed that the effectiveness of making a balance between listening, processing, and recording will help to achieve this balance. They described efficiency as "the ratio between the number of conceptual points recorded and the number of words in the notes " (p.175). Moreover, they stressed that students should be able to differentiate between critical ideas and superfluous information.

1.6.4 Reviewing

Armbruster (2000) found that most of the research on reviewing highlighted the nature Of the notes discussed rather than the timing and logistics of the discussedprocess. DiVesta andGray (1972) explained that students who do not assess their notes get lower points than students who assess their notes before exams. (as cited in Williams & Eggert, 2002, p.178).

1.7 Stages of Note-Taking

Note-taking is a process which starts before the lecture and ends after the students recall their notes. Understanding this process can help palectur as well asteachers to a better preparation of students fornote-taking.

1.7.1 Before the Lecture

Students should prepare to learn before the start of the lecture. They should finda seat with a good view of the teacher and blackboard. Besides, students who have visual problems should seat close to the front of the room. Also, when they prepare to take notes, they should write the current date and the topic ofdiscussion on the page.

Writing the date and the topic will help students locateinformation more easily.

In addition, if time permits, students may write down some information about thetopic to activate prior knowledge. Another part of the preparation process involves making sure that students have adequate writing tools and available paper so that they do not have to interrupt learning by searching for more (Boyle, 2007).

1.7.2 During the Lecture

Boyle and Weishaar (2001) study found that taking notes during lectures serves two basic purposes: It helps students understanding of lecture points, and it provides to preserve lecture information. Researchers (Aiken, Thomas, &Shennum, 1975; Bretzing&Kulhavy, 1979; DiVesta& Gray, 1972; Kiewra,1984) have proven that taking notes during lectures for students is very effective for increasing understanding and improving remembering information later. For example: learners who took notes improved their attention to lecture material (Kiewra, 1987),were constructively engaged in lectures (DiVesta& Gray, 1972), reworded and detailed On lecture information (Suritsky& Hughes, 1996), sought to illuminate their understanding of confusing ideas (Ruhl&Suritsky, 1995), and rised their test performance of lecture material (Peper&Mayer, 1986). (as cited in Boyle &Weishaar, 2001, p.133).

1.7.3After the Lecture

The final step in note-taking is reviewing lectures. Suritsky and hughes(1996) indicated that at, reviewing is analyzing the recorded notes to fill in the gaps, simplify complex concepts and correct spelling mistakes. Reviewing notes immediately and regularly after lectures promotes learning outcomes. Further, it transmits new knowledge and skills from short-term to long term memory.

Conclusion

While instructors undoubtedly provide valuable guidance, attempting to assimilate the entirety of course material solely during the pre-examination period demonstrably yields suboptimal outcomes. This reactive approach to learning is inherently unsustainable and inevitably culminates in academic disappointment. Therefore, it is imperative for students to proactively engage with the course content, independently explore and implement diverse note-taking methodologies, and critically select a strategy that aligns with their individual learning styles. By capitalizing on in-class time through meticulous preparation, diligent note-taking practices, and in-depth analysis of the acquired knowledge, learners can optimize their academic journeys and achieve sustained success. The inherent value derived from such dedicated efforts transcends the immediate realm of examination performance, fostering the development of invaluable transferable skills and solidifying a foundation for lifelong learning.

The act of note-taking serves as a cornerstone of effective learning strategies. By meticulously capturing key concepts, fostering active listening skills, and enhancing knowledge retention, this practice demonstrably contributes to academic achievement. Additionally, note-taking plays a pivotal role in the development of both listening comprehension and writing proficiency, skills critical for future academic and professional endeavors. However, numerous obstacles can impede the efficacy of note-taking practices, warranting further investigation and the implementation of appropriate strategies to overcome thesechallenges.

Chapter three: Data analysis and interpretation of the results

DESIGN AND METHODOLOGY & RESULTS

Introduction

The first section of this chapter is an outline of the methodology followed throughout this study to achieve the aims and answer the questions. It describes the context and setting of the study. It also explains the procedures of data collection tools that are questionnaires and an interview. In addition, it provides explanations of data analysis procedures. The second section is devoted to the description of the findings of the findings collected through the use of illustrations such as tables and diagrams.

3.1 Context and Setting

In order for us to do our observation sessions and distribute the questionnaire, we have selected English students from the University of Biskra as a sitting or investigation in this research. during the second semester of the year 2024 .

3.2The Participants

Our research is conducted in the department of English at Biskra University, the participants were selected randomly and it concerned of (40) students (n=40) of master one EFL students at the University of Biskra, responding to questionnaires and conducting the interview with them. The choice of master students was not random, in other words, students of this level are accustomed with using note-taking as a strategy of learning, and this is a reason to explore whether they are adapted to taking notes in a suitable manner, to get well prepared for higher levels where note-taking is used as a main strategy.

3.3 Data Collection Tools and Procedures

Procedures deals with the description of our data collection tools and the techniques we used to analyze and interpret the findings. We opted for two methods to collect the data: focus group and a questionnaire addressed to the selected sample which concerned of (40) students (n=40) of master one EFL students at the University of Biskra,

3.3.1Focus Group

We chose to conduct a focus group as a research tool for my study with a group of (6) Master's level first year students at the University. This specific demographic was selected to ensure a homogeneous yet diverse pool of participants, allowing for meaningful discussions within the context of higher education. By gathering students at this academic level, I aimed to tap into their nuanced perspectives and experiences related to the subject matter. Additionally, the university setting provided a conducive environment for open dialogue and sharing of insights among peers. The intimate groupsize facilitated deeper engagement and rapport among participants, fostering a collaborative atmosphere conducive to rich data collection. Overall, the choice of conducting a focus group with Master's students at the University served as a strategic approach to capturing comprehensive and insightful data for my research.

3.3.1.1 Validation and Piloting of Focus Group Questions

The following focus group questions were developed as part of the Master's research on "Investigating the Role of Note-taking in Enhancing Students' Memory Recall." To ensure these questions effectively gather valuable insights, a systematic process of validation and piloting was undertaken. Each question was crafted with specific objectives and subjected to a thorough validation process, followed by pilot testing with a small group of students.

1. How does taking notes help you pay more attention during lectures?

Objective

To understand how note-taking influences students' attention and engagement during lectures.

Process

The question was piloted with a small focus group of students. Feedback was collected on its clarity and relevance. Based on the feedback, the wording was refined to better align with the research objectives.

1. In what ways is note-taking beneficial for your learning?

Objective

To explore the perceived benefits of note-taking on students' overall learning and comprehension.

Process

The question was tested in a pilot focus group session. Students provided feedback on its clarity and the depth of responses it elicited. Revisions were made to ensure the question prompted detailed and meaningful discussions.

3. What problems do you face when taking notes during lectures?

Objective

To identify the challenges students encounter while taking notes in real-time during lectures.

Process

The question was included in a pilot focus group. Feedback on its clarity and the range of issues it uncovered was collected from the participants. The question was then refined to ensure it accurately captured a wide range of potential challenges.

4. How does regularly reviewing your notes assist in preparing for exams and presentations?

Objective

To assess the role of note review in students' exam and presentation preparation.

Process

The question was piloted with a small group of students. Their feedback on the clarity and depth of responses was used to refine the wording and ensure it generated specific and insightful examples.

4. Do you think that the strategies of note-taking should be taught?

Objective

To gauge students' opinions on the formal teaching of note-taking strategies.

Process

The question was tested in a pilot focus was gathered on its clarity and the effectiveness in eliciting opinions on group. Feedback teaching note-taking strategies. Based on this feedback, the question was refined

3.3.2 Student's Questionnaire

Questionnaires are considered as a research instrument that includes structured questions Data and statements and is used by researchers for data gathering. The aim of using thisinstrument is to measure attitudinal data, behavioral data, and factual data, within a short period of time.

It serves as a tool that helps to get individual data about a specific topic. A questionnaire is an efficient way of getting a large amount of data, however, it has some limitations, like the uncertainty of the answers, and some participants may not collaborate and refuse toanswer.

Our data were collected from questionnaires addressed to the participants: of first-yearmasters students in the department of English at Biskra University.

The questionnaire of this study includes twenty-three (23) questions, divided into three sections, and they are close-ended questions, options and open ended.

The first section: it deals with eight (11) questions about note taking habits. The questions are designed according the potential note taking habits done by students .

The second section: it covers nine (7) option questions open-ended questions, devotedto explore students' note taking methods and styles and their perception about note taking.

The third section: it includes four (3) questions about note taking and memory.

3.3.2.1 Validation and Piloting of the Questionnaire

As part of the Master's research on "Investigating the Role of Note-taking in Enhancing Students' Memory Recall," a comprehensive questionnaire has been developed to gather valuable insights from students. The questionnaire aims to explore students' note-taking habits, their perceived effectiveness, and the impact of these habits on memory recall and exam preparation. To ensure the reliability and validity of the collected data, a systematic process of validation and piloting has been undertaken.

Pilot Test Process

1. The questionnaire was distributed to a group of 10 students.
2. Feedback on the clarity, length, and relevance of the questions was collected.
3. Necessary adjustments to the wording or format were made based on the feedback received
4. Pilot data were analyzed to ensure responses aligned with expected patterns based on existing research.

5. Questions were adjusted as needed to enhance clarity and reliability.

Part One: Note-taking Strategies

Objective

This section aims to identify students' note-taking habits, the effectiveness of their notes, their preferred environments for note-taking, and the methods and techniques they use.

Validation

A pilot test involving a small sample of students was performed. This initial test helped identify any ambiguous or confusing questions. Based on the feedback, revisions were made to improve comprehension and ensure the questions accurately captured the intended data.

Part Two: Students' Perception of Note-taking

Objective

This section aims to understand students' perceptions of how note-taking affects their focus, learning, and exam preparation, and to gauge their opinions on whether note-taking strategies should be taught.

Validation

This step ensured that the questions were interpreted as intended and provided meaningful data.

Pilot Test Process

Part Three: Note-taking and Memory

Objective

This section aims to explore the role of between note-taking abilities and memory recall, and to assess students' beliefs about the effectiveness of technology in aiding these processes.

Validation

A thorough literature review was conducted to ensure that the questions reflected current research on note-taking and memory. This ensured that the questions were theoretically sound and relevant to the study's objectives.

Final Steps

Upon completing the pilot test and analyzing the feedback, final revisions were made to the questionnaire. This included incorporating all necessary adjustments to ensure that each section effectively captured the intended data. The final version of the questionnaire was then prepared for distribution to a larger sample for the main study. This rigorous process of validation and piloting ensures that the questionnaire is a reliable and valid tool for investigating the role of note-taking in enhancing students' memory recall.

3.4 Methods and Data Analysis

In this study we used the mixed-method that suits the research, thus, it is both exploratory and descriptive. It is exploratory because it investigates the student's perception of notetaking during lectures through their behavior and their by analysing their perception about it. It is also descriptive in the way it deepens our understanding of between their personality traits and their cognitive functions. We used a questionnaire for the descriptive part to measure students' learning styles, motivation, and WM. The observation is usedfor obtaining qualitative data, while the latter is used for quantitative.

3.4.1Qualitative Content Analysis

Qualitative method of data analysis is used to analyze the non numerical data. Weused this method to interpret the data collected from the focus group session.

3.4.2Quantitative analysis

We used the quantitative method for the analysis of the quantifiable data gathered from the questionnaire. In order to interpret the data, we used Microsoft office Excel program to arrange them through the use of graphs.

Results of Students' Questionnaire

This questionnaire is handled to fourth (40) first year masters students in thedepartment of English at the University of Mohamed Kheider Biskra.

This questionnaire opens by asking three sections of twenty-four questions to measure their perception, investigate their note taking methods styles, and measure their WM.

Section one: Note taking perception

Q1: I take notes regularly during lectures.

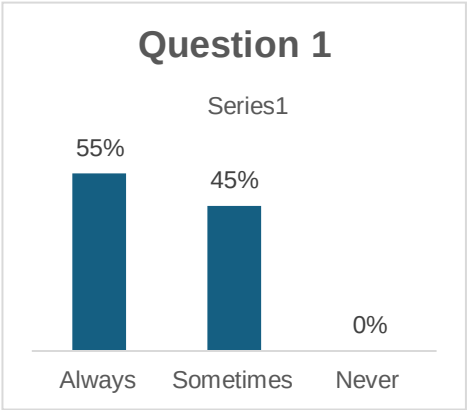


Figure 3.1 : Lecture Note-taking Activity

The analysis of the questionnaire results indicates that the majority of the surveyed students, comprising 55% of the total indicated that they always take notes. Conversely, 45% of the students admitted to only sometimes taking notes during lectures, indicating a potential variability in their engagement or understanding of the material presented.While the absence of responses indicating no note-taking.

The survey among master students at Biskra University shows that most students regularly take notes during lectures, indicating strong engagement and understanding. However, a notable portion only sometimes takes notes, suggesting varying learning styles and potential focus challenges. The absence of non-note takers indicates a widespread recognition of note-taking's importance, presenting an opportunity for educators to promote consistent habits. These findings emphasize note-taking's significance and suggest strategies for supporting students' academic success.

Q2: I constantly review my notes after lecture.

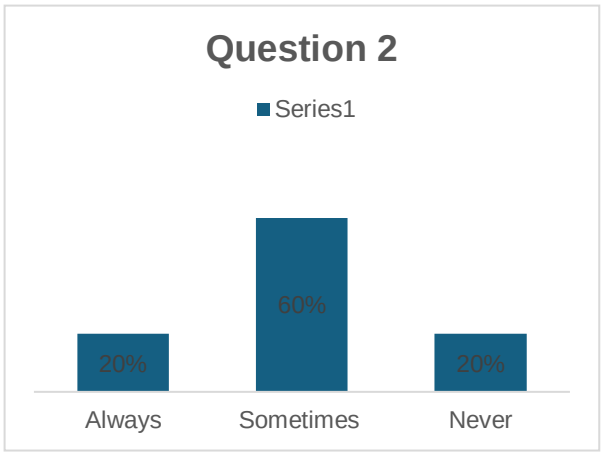


Figure 3.2: Reviewing notes after lecture **.**

The questionnaire's second question reveals diverse studying habits among the surveyed students. A majority, comprising 60% of the respondents, indicated that theysometimes review their notes after lectures. Conversely, a proactive approach was evident among 20% of the students who reported always reviewing their notes.

Surprisingly, an equal proportion, also constituting 20% of the sample, admitted to never reviewing their notes.

The findings reveal a range of study habits among the surveyed master students at Biskra University regarding reviewing lecture notes. While some students consistently review their notes, indicating a proactive approach to learning, others only review them occasionally. Surprisingly, a portion of the students admitted to never reviewing their notes, suggesting a potential gap in their study strategies. This diversity in reviewing habits could impact students' comprehension and retention of the material covered in lectures. It highlights the importance of promoting effective study practices to enhance learning outcomes among students.

Q3: I struggle to find enough time for note-taking during lectures.

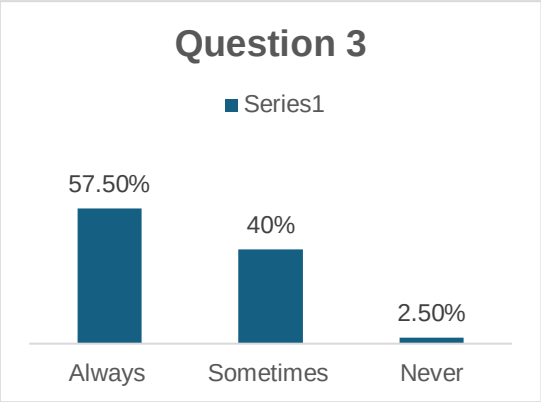


Figure 3.3 :student's struggle to find enough time for note-taking during lectures

The analysis of the responses to question 3 highlights that a majority of students, representing 57.5% of the sample, reported always struggling when taking notes during lectures. Additionally, 40% of the students indicated that they sometimes face challenges with note-taking.

Only a small minority, comprising 2.5% of the respondents, reported never struggling with not The analysis of responses to question 3 reveals that a majority of students consistently struggle to find enough time for note-taking during lectures. This highlights a common challenge in time management during lectures among the surveyed students. Additionally, a notable portion sometimes face difficulties with note-taking, indicating variability in their ability to manage time effectively. Overall, the findings underscore the importance of addressing time management skills and providing supportfor students to enhance their note-taking abilities during lectures.

Q4:I struggle to find time for note taking during lectures.

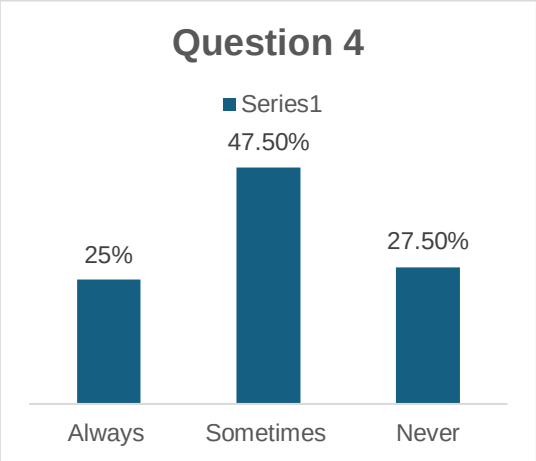


Figure 3.4 : Struggle to find time for note taking

The histogram displays the responses from a questionnaire of 40 students regarding their struggles with note-taking during lectures. Among the respondents, 25% indicated that they "always" struggle, 47.5% stated they "sometimes" struggle, and 27.5% reported they "never" struggle with note-taking during lectures. This distribution providesa clear representation of the varying levels of difficulty students experience when attempting to take notes during lectures.

Students' struggles with note-taking during lectures vary, with a significant portion reporting "sometimes" struggling, highlighting the challenges they face in managing note-taking during class.

Q5: I prefer taking notes using paper and pen/pencil or electronic device.

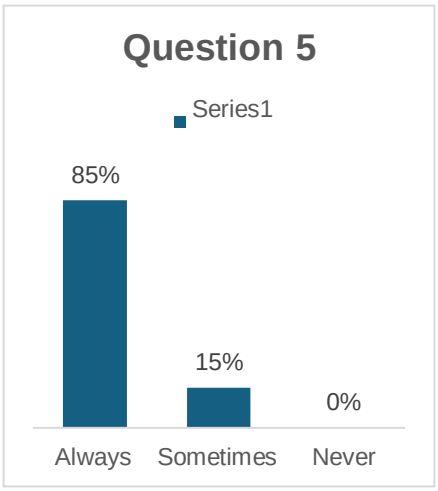


Figure 3.5: Preference for Note-Taking Tools: Paper and Pen vs. Electronic Devices"

When considering the preference of pen and paper over electronic devices for note- taking, the questionnaire revealed that a substantial majority of respondents,constituting 85%, indicated that they "always" prefer using pen and paper. In contrast, a smaller proportion, accounting for 15% of respondents, reported "sometimes" preferring this traditional method. This data highlights a strong preference for pen and paper amo There is a strong preference among students for traditional pen and paper over electronic devices for note-taking, indicating a widespread preference for this method among the surveyed students. the surveyed students for their note-taking endeavors. While an apsece of the answer "never".

Q6: Taking notes enhances my focus during lectures .

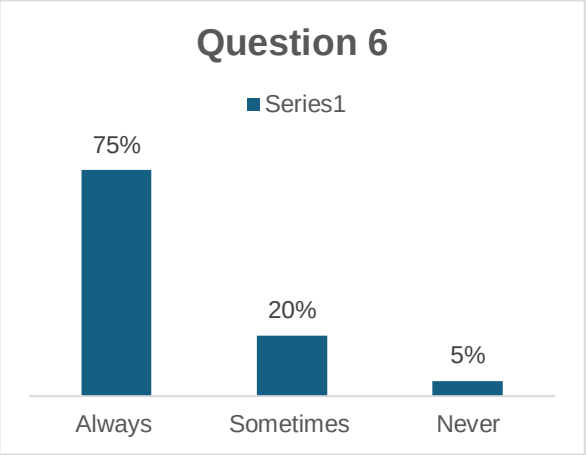


Figure 3.6: Enhancement of note taking of the focus

When considering the statement "Taking notes enhance my focus during lectures," responses from the questionnaire of 40 students reveal the following breakdown: 75% of the students strongly agreed, 20% agreed, and 5% disagreed. This data suggests a prevalent belief among the surveyed students that note-taking contributes significantly to their focus during lectures, with a minority holding a differing perspective.

The majority of students agree that taking notes enhances their focus during lectures, emphasizing the perceived importance of note-taking for concentration and engagement.

Q 7: I use various methods to highlight key points in my notes.

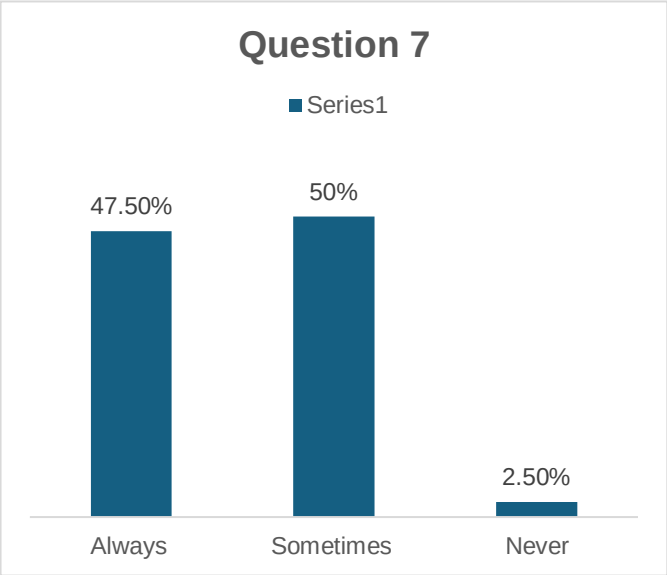


Figure 3.7 : Using various methods to highlight key points in my notes.

When examining the statement "I use various methods to highlight key points in my notes" based on responses from a questionnaire of 40 students, it was found that 47.5% of the students reported "always" using various methods, while 50% indicated "sometimes," and only 2.5% stated "never." This breakdown underscores a prevalent tendency among the surveyed students to employ diverse techniques for highlighting key points in their notes, with a majority either consistently or intermittently utilizing suchmethods, and a small minority indicating a lack of usage.

Many students use various methods to highlight key points in their notes,indicating an active effort to organize and prioritize information during note-taking.

Q8: My notes significantly aid in my understanding of the material.

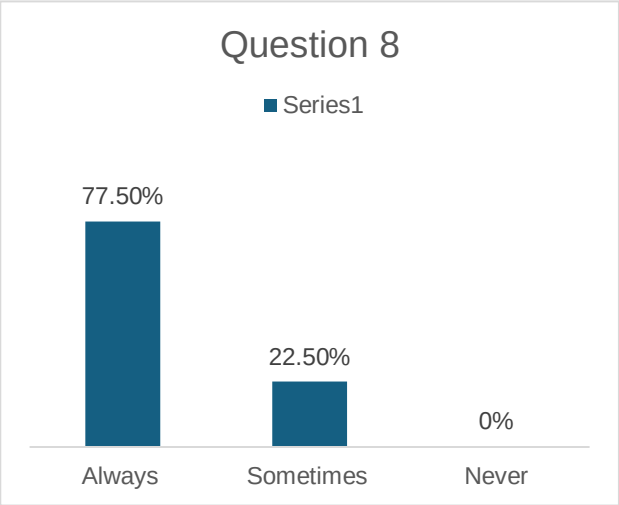


Figure 3.8: Notes aid the understanding of the material

When assessing the statement "My notes significantly aid in my understanding of the material" based on responses from a questionnaire of 40 students, it was revealed that 77.5% of the students reported their notes "always" aiding understanding, while 22.5% indicated "sometimes." Notably, none of the respondents stated "never." This breakdown underscores a widespread agreement among the surveyed students regarding thesubstantial role their notes play in enhancing their comprehension of the material, with asignificant majority consistently relying on their notes for this purpose, and a smaller proportion occasionally seeking assistance from their notes in understanding the material.

Students overwhelmingly agree that their notes significantly aid in their understanding of the material, underlining the crucial role of notes in comprehension and learning.

Q9: I prefer a quiet environment when taking notes.

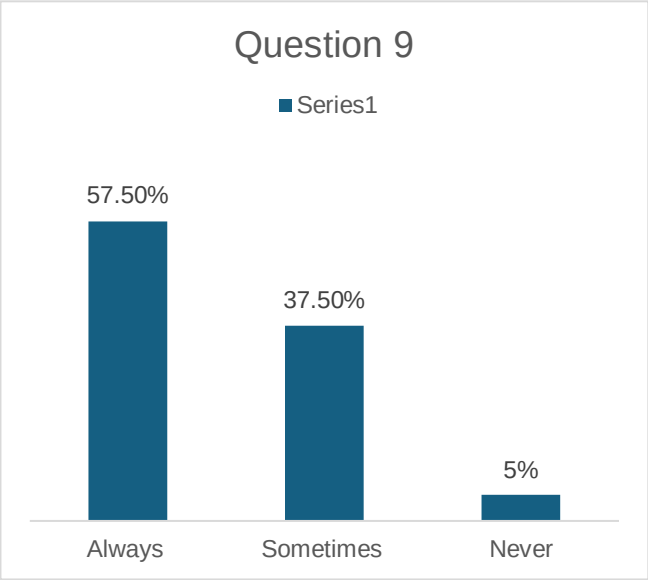


Figure 3.9: Preference of a quiet environment while taking notes

In response to the statement "I prefer a quiet environment when taking notes," the questionnaire results from 40 students revealed that 57.5% of respondents expressed a consistent preference for a quiet setting, while 37.5% indicated they sometimes preferred it. Interestingly, a minority of 5% stated they never preferred a quiet environment for note-taking. These findings highlight a predominant inclination towards quiet surroundings among the surveyed students, with occasional flexibility and a small minority expressing a different preference.

A majority of students prefer a quiet environment for note-taking, suggesting the importance of a conducive atmosphere for effective learning.

Q10: I find that having access to supplementary materials (such as slides or handouts)during lectures improves my note-taking process.

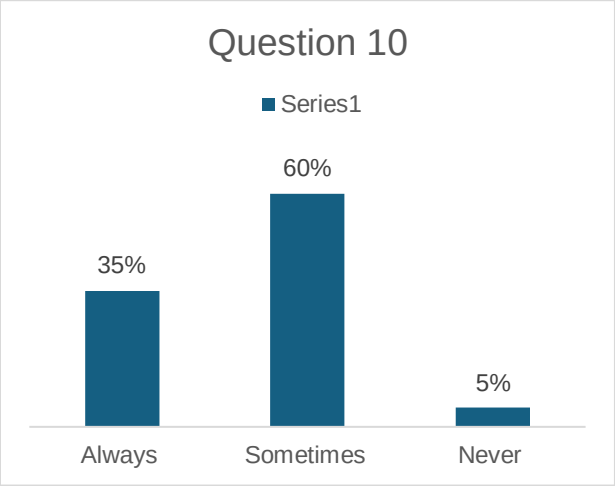


Figure 3.10 : The aid of supplementary materials with improving not taking

Among the responses to the statement "I find that having access to supplementary materials (such as slides or handouts) during lectures improves my note-taking process" from a questionnaire of 40 students, 35% indicated they always experience an improvement, while 60% reported it sometimes helps. A minority of 5% stated that access to supplementary materials never enhances their note-taking process.

Access to supplementary materials during lectures is perceived by many students as beneficial for improving their note-taking process, highlighting the value of additional resources in enhancing learning experiences.

Q11:Reviewing regularly my notes assists me in preparing for exams and presentations.

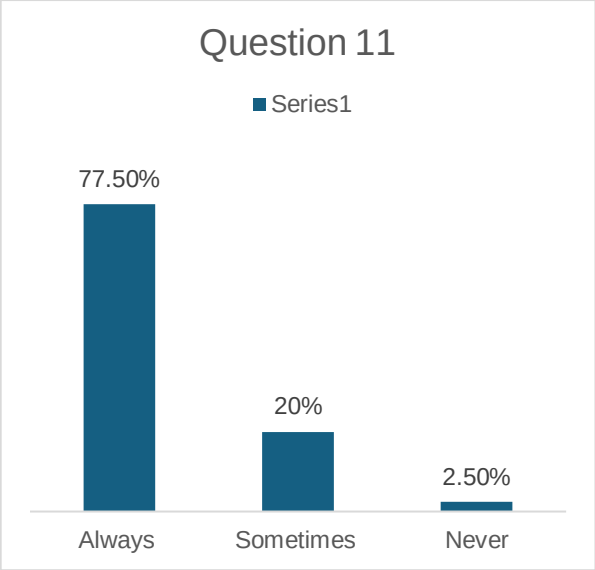


Figure 3.11: Reviewing notes assists in preparing exams

Among the responses to the statement "Reviewing regularly my notes assists me in preparing for exams and presentations" from a questionnaire of 40 students, 77.5% indicated that they always find it helpful, while 20% reported it sometimes aids in preparation. A mere 2.5% stated that reviewing their notes never assists them in preparing for exams and presentations.

Regularly reviewing notes is widely seen as beneficial for exam and presentation preparation, indicating its perceived importance among students for reinforcing learning and enhancing performance.

Section two: Note taking methods and techniques.

Q12: What strategy do you use when taking notes ?

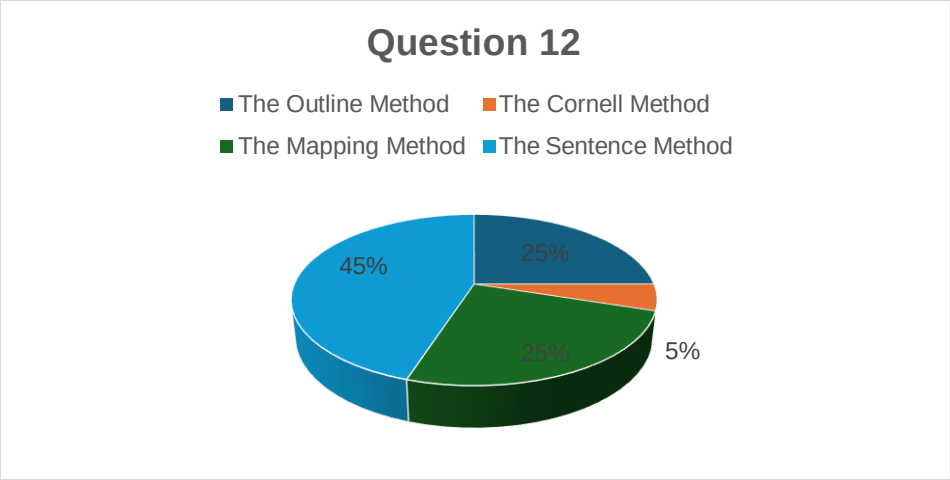


Figure 3.12 :Method used to take notes

Among the noted strategies for taking notes, 25% of the 40 students surveyed preferred the outline method, while 5% favored the Cornell method. Additionally, 25% opted for the mapping method, while the sentence method was the most popular, with 45% of respondents utilizing it.

Different note-taking strategies are employed by students, with the sentence method being the most popular. This suggests a variety of approaches to organizing and capturing information during lectures.

Q13: When I am taking notes, I usually use

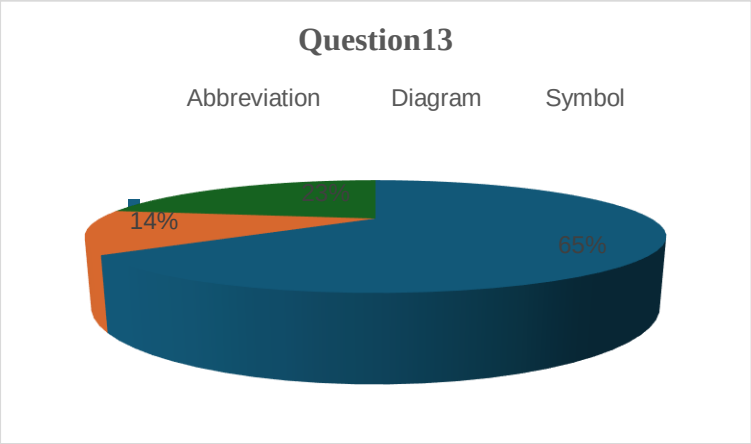


Figure 3.13: Techniques used for note taking

Among the strategies commonly employed during note-taking, 65% of the 40 students surveyed indicated a preference for using abbreviations, while 12.5% opted for diagrams, and 22.5% utilized symbols.

Abbreviations are commonly used during note-taking, indicating a preference for shorthand methods to capture information efficiently. Diagrams and symbols are also utilized by a portion of students, demonstrating diverse approaches to representing information visually.

Q14: Do understand your notes?

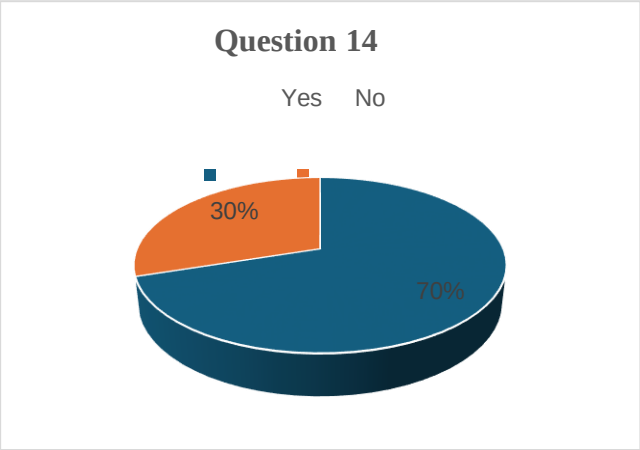


Figure3.14: Understanding of notes

In response to the question "Do you understand your notes?" from a questionnaire of 40 students, 70% of respondents indicated they understand their notes, while 30% reported not understanding them. This distribution highlights a majority of students expressing confidence in their comprehension of their notes, with a significant minority indicating difficulties in understanding them.

The majority of students understand their notes, reflecting a sense of confidence in their comprehension abilities. However, a significant minority report difficulty in understanding their notes, indicating potential challenges in note-taking or comprehension strategies.

Q15: The reason for not understanding notes.

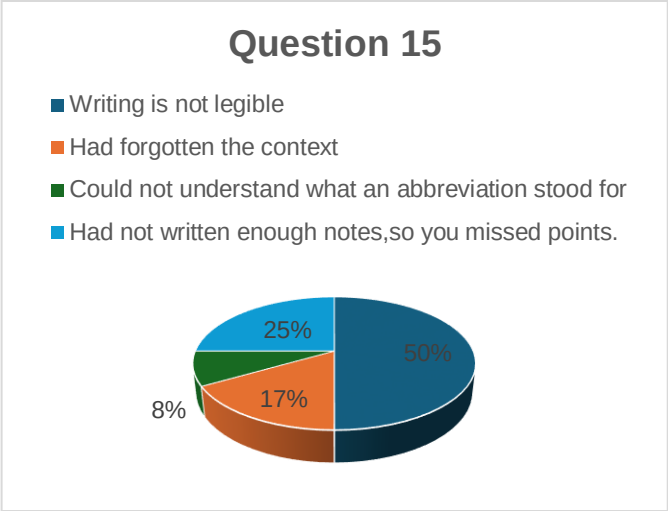


Figure 3.15: Reason for not understanding notes

Among the respondents, 50% expressed that their writing was illegible, while 17% reported having forgotten the context of their notes. Additionally, 25% indicated they had not written enough notes, and 8% stated they had missed points due to insufficient note-taking.

Various reasons contribute to students' difficulties in understanding their notes, including illegible writing, forgetting context, insufficient note-taking, and missing important points. These challenges highlight the importance of effective note-taking techniques and strategies to support comprehension and learning.

3.6 Qualitative Data Analysis and Interpretation" or "Thematic Analysis of Responses

Based on the thematic analysis of the responses from the 40 students:

Question 1: How does taking notes help you pay more attention to the lecture?
Common Pattern: Taking notes keeps students engaged in the material, indicating that note-taking facilitates active participation and involvement in the learning process.

Question 2: Do you find note-taking to be beneficial for your learning?
Common Pattern: Students perceive note-taking as beneficial for understanding concepts, particularly when they write down concepts in their own words, suggesting that note-taking promotes comprehension and internalization of the material.

Question 3: Do you face problems when taking notes during lectures?

Common Pattern: While some students reported no problems with note-taking, the majority highlighted the fast pace of the lecture as a challenge, indicating that the rapid delivery of information hinders their ability to keep up with note-taking.

Question 4: Does reviewing your notes regularly assist you in preparing for exams and presentations?

Common Pattern: While some students mentioned that note review only helps immediately after the lecture, most emphasized that regular review reinforces concepts and aids exam preparation, suggesting that revisiting notes contributes to long-term retention and understanding of key concepts.

These common patterns highlight key themes and insights gleaned from the responses, providing valuable perspectives on the role of note-taking in students' learning experiences.

The responses to the questionnaire questions provide valuable insights into students' perspectives on note-taking and its impact on their learning experiences.

Firstly, note-taking emerges as a key strategy for active engagement during lectures. Many students indicated that taking notes helps them stay focused and attentive, contributing to their overall participation in class discussions. Secondly, note-taking is widely perceived as beneficial for comprehension and retention of course material. Students noted that summarizing concepts in their own words helps them better understand and remember key ideas, highlighting the importance of this practice in theirlearning process.

However, students also face challenges with note-taking, particularly in fast-paced lecture environments. The rapid delivery of information makes it difficult for them to capture all the necessary details, indicating a need for strategies to manage the pace of lectures effectively. Despite these challenges, students recognize the value of regularly reviewing their notes. Many mentioned that reviewing their notes helps reinforce their understanding of the material and prepares them for exams, underscoring the importance of this practice in their academic success.

In summary, the responses underscore the significant role of note-taking in promoting engagement, comprehension, and exam preparation among students. They highlight the benefits of this practice while also acknowledging the challenges studentsface in implementing it effectively.

Q16:I think that note taking should be taught .

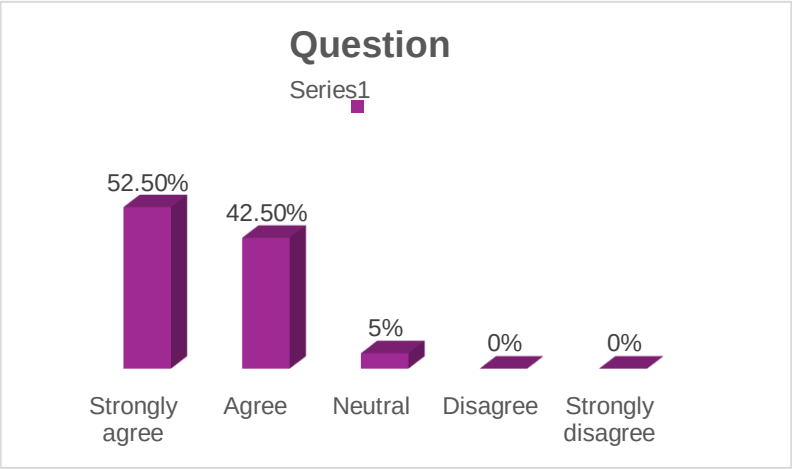


Figure 3.16: The importance of teaching note-taking skills

The majority of respondents, 52.5%, strongly agree that note-taking should be taught. Additionally, 42.5% agree with this sentiment. A small percentage, 5%, remain neutral on the matter, while no respondents disagreed or strongly disagreed.

The overwhelming majority of respondents strongly agree or agree that note-taking should be taught. The absence of any disagreement suggests a widespread recognition of the importance of note-taking skills and the need for formal instruction in this area. This indicates a strong endorsement for incorporating note-taking instruction into educational curricula.

Section three: Note-taking and memory.

Q 21: I believe that improving my note-taking skills boost my memory.

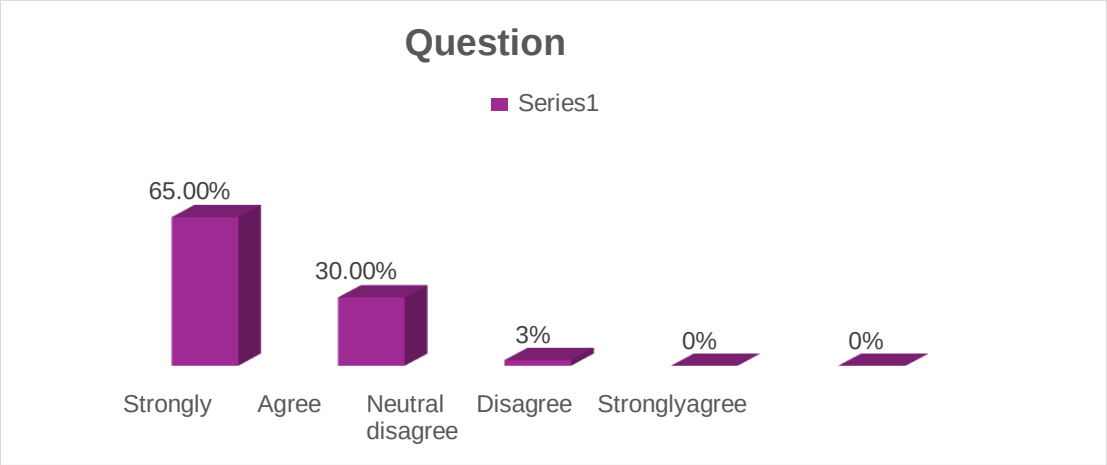


Figure 3.17: Attitudes Towards Note-Taking and Memory Enhancement.

65% of respondents strongly believe that improving their note-taking abilities could boost their ability to remember information, while 30% agree with this statement. Only 2.5% remain neutral, and another 3% disagree, with no respondents strongly disagreeing.

A significant majority of respondents strongly believe that improving their note- taking skills could enhance their memory. This suggests a strong correlation between note-taking proficiency and memory enhancement in the minds of students. It highlights a belief in the practical benefits of effective note-taking beyond merely capturing information during lectures.

Q18: Note-taking assists me in recalling information when preparing for exams.

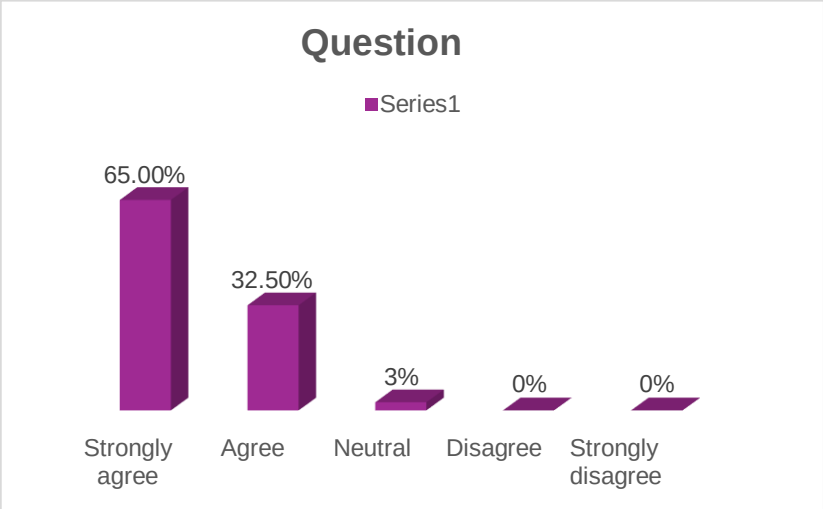


Figure 3.18: Perceived attitude of Note-Taking on Memory, Exams, and Presentations**.**

65% of respondents strongly believe that note-taking assists them in recalling information when preparing for exams or presentations, while 32.5% agree with this statement. Only3% remain neutral, with no respondents disagreeing or strongly disagreeing.

Q: Perceptions of Technology and Note-Taking Apps on Memory Enhancement

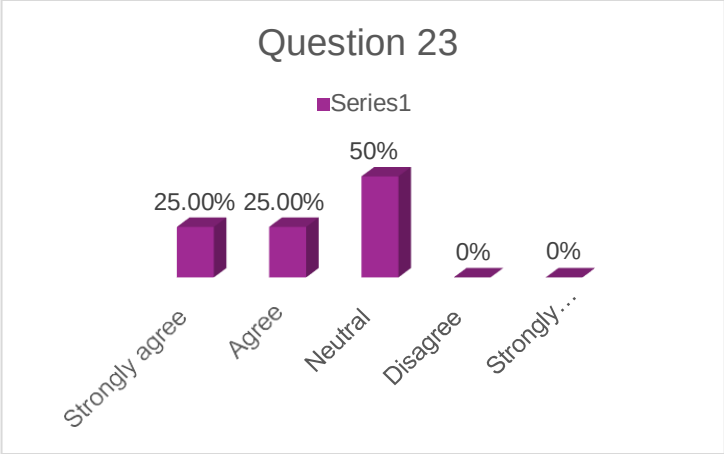


Figure 3.19**:** Perceptions of Technology and Note-Taking Apps on Memory Enhancement

Out of the respondents, 25% strongly agree that technology, tablets, and note- taking apps assist in memory and information recall. Similarly, another 25% agree with this sentiment. The majority, comprising 50%, remain neutral, with no respondents expressing disagreement.

Regarding perceptions of technology and note-taking apps on memory enhancement, while there is a significant proportion of respondents who remain neutral, a sizable portion strongly agrees or agrees that technology aids in memory and information recall. This suggests a recognition of the potential benefits of incorporating technological tools into note-taking practices, albeit with some reservations or uncertainties among students.

3.7 Presentation of the Focus Group Discussion

Q1.How does the act of taking notes impact your level of engagement during lectures?

Responses indicated that taking notes helps participants stay focused and engagedduring lectures by encouraging active listening and processing of information. Many noted that jotting down key points helps them stay attentive and reinforces understanding.

Q2.In what ways do you perceive note-taking to enhance your learning experience?

Participants expressed that note-taking facilitates comprehension and retention of information by organizing thoughts, summarizing complex concepts, and providing a reference for review. Some highlighted how the act of writing reinforces memory and promotes deeper understanding.

Q3.How do you believe note-taking contributes to your ability to retain information?

Many participants emphasized that reviewing their notes regularly aids in information retention, especially when preparing for exams or assignments. They noted that the act of revisiting notes helps reinforce learning and consolidate memory.

Q4 .Have you faced any challenges or difficulties while taking notes in lectures?

Several participants mentioned challenges such as difficulty keeping up with the pace of the lecture, deciphering handwriting, or prioritizing information. Others cited distractions or multitasking as obstacles to effective note-taking.

Q5.Can you describe how regularly reviewing your notes aids you in exam preparation and information retention?

Participants highlighted the importance of note review in exam preparation, citing it as a way to identify key concepts, reinforce understanding, and identify areas needing further study. They noted that reviewing notes regularly enhances recall and performance.

Q6.Do you believe that the strategies of note-taking should be formally taught? What do you think would be the most effective way to teach note-taking strategies?

Opinions varied on whether note-taking strategies should be formally taught, with some advocating for structured instruction to improve skills and others suggesting self- directed learning. Suggestions for effective teaching methods included hands-on workshops, interactive tutorials.

Q7.Have you ever engaged in sharing your notes with classmates or peers?

Many participants shared experiences of collaborating with peers by sharing notes, comparing insights, and filling gaps in understanding. They noted the benefits of collective learning and the opportunity to gain new perspectives through note-sharing.

Q8. Can you describe the methods you typically use when taking notes during lectures?

Responses varied, with some participants prefered sentence methods and and the outline method.Common methods included outlining key points, summarizing content, and annotating slides or textbooks.

Q9.Regarding working memory

Participants identified difficulties in remembering long sentences given in several steps, highlighting challenges with sequential processing and retaining complex information. However, many expressed consistency in remembering facts, indicating strengths in factual recall.

The findings of the focus group discussion shed light on the multifaceted role of note- taking in enhancing the learning experience. Participants articulated various ways in which note-taking impacts their engagement, comprehension, retention, and exam preparation. This essay will analyze the responses to each question and interpret their implications.

1. **Impact on Engagement**: Participants unanimously agreed that taking notes fosters engagement during lectures. By actively listening and processing information to jot down key points, individuals stay focused and attentive. This suggests that note-taking serves as a tool to combat distractions and promote active participation in the learning process.
2. **Enhancement of Learning Experience:** Note-taking was perceived as a means to enhance learning by facilitating comprehension and retention. The act of summarizing complex concepts and organizing thoughts aids in understanding, while the physical act of writing reinforces memory. This highlights the cognitive benefits of note-taking beyond mere transcription.
3. **Contribution to Information** Retention: Regular review of notes emerged as a crucial factor in information retention. Participants emphasized the role of note review in reinforcing learning and consolidating memory, especially in exam preparation. This underscores the importance of note-taking as a long-term learning strategy rather than a short-term memory aid.
4. **Challenges in Note-Taking:** Despite its benefits, note-taking poses challenges such as keeping up with lecture pace, deciphering handwriting, and managing distractions. These obstacles can hinder effective note-taking and underscore the need for strategies to overcome them, such as improving handwriting legibility or minimizing distractions.
5. **Role in Exam Preparation:** Participants highlighted the instrumental role of note review in exam preparation. By identifying key concepts, reinforcing understanding, and targeting areas for further study, note review enhances recall and performance. This emphasizes the utility of note-taking as a study tool beyond the classroom.

6. **Formal Instruction in Note-Taking**: Opinions were divided on whether note- taking strategies should be formally taught. While some advocated for structured instruction to improve skills, others favored self-directed learning. Effective teaching methods proposed included hands-on workshops and interactive tutorials, catering to diverse learning preferences.
7. **Peer Note-Sharing**: Many participants engaged in peer note-sharing as a collaborative learning practice. By comparing insights and filling gaps in understanding, students benefit from collective learning and gain new perspectives. This highlights the social aspect of note-taking and its potential for knowledge exchange.
8. **Methods of Note-Taking:** Responses varied regarding preferred methods of note-taking, with some favoring handwritten notes for better retention and others like sent method and the outline method for convenience. Common techniques included outlining key points and annotating materials, reflecting individual preferences and learning styles as some of the participants indicated they are visuals and others are kinesthetic which compliment the skill of note-taking.

1. **Working Memory Challenges**: Participants identified difficulties in remembering long sentences and processing sequential information. However, strengths were noted in factual recall, indicating potential areas for improvement in sequential processing skills.

In conclusion, the findings underscore the significance of note-taking as a dynamic learning tool that enhances engagement, comprehension, retention, and collaboration. Addressing challenges and incorporating diverse teaching methods can optimize the effectiveness of note-taking strategies in promoting student learning and academic success.

3.7 Synthesis of the Findings

Given that a preliminary analysis of the findings was already discussed in the results section, the following section will provide a more extensive examination and interpretation. This segment aims to clarify the main discoveries of the study, explore potential connections between them, and determine if there are any discrepancies or agreements between the quantitative and qualitative outcomes. It is crucial at this stage to revisit the research questions that guided the study, which were addressed through the implementation of fieldwork and the analysis of both qualitative and quantitative data.

Research question 1:Are master's students aware about the importance of note-taking strategies?

In the questionnaire, the majority of respondents expressed a strong preference for traditional note-taking methods, such as using pen and paper, over electronic devices. This preference suggests a recognition among students of the tactile and cognitive benefits associated with physically writing down information. Additionally, when asked about the impact of note-taking on focus during lectures, students overwhelmingly agreed that note-taking enhances their engagement and attentiveness. This aligns with the findings from the focus group discussions, where participants unanimously agreed that note-taking fosters active participation and combats distractions during lectures. Overall, the preference for traditional note-taking methods and the acknowledgment of its role in enhancing focus indicate that master's students are indeed aware of the importance of note-taking strategies in facilitating learning andcomprehension.

Question 2:What are the potential benefits of note-taking practices in enhancing memory recall?

The questionnaire responses indicate that students perceive note-taking as a valuable tool for comprehension and memory recall. Many students reported that their notes significantly aid in their understanding of the material, suggesting that the act of summarizing and organizing information

contributes to better comprehension. Moreover, when asked about the impact of note-taking on memory recall, students expressed a strong belief that improving their note-taking skills could enhance their ability to remember information. This belief reflects an understanding among students that actively engaging with course material through note-taking promotes better retention and recall of key concepts. In the focus group discussions, participants elaborated on how the act of writing down information helps reinforce memory and internalize concepts, further emphasizing the cognitive benefits of note-taking in enhancing memory recall.

Question 3: What are the reasons for note-taking difficulties?

The questionnaire results and focus group discussions highlight various factors contributing to note-taking difficulties. Time constraints emerged as a significant challenge, with many students reporting struggles to find enough time to take thorough notes during fast-paced lectures. Additionally,concerns about illegible handwriting and distractions further compoundnote-taking challenges. Students may find it difficult to keep up with lecture pace or maintain focus when faced with external distractions, impacting thequality and comprehensiveness of their notes. The preference for certain note-taking methods, such as the sentence method, may also influence students' ability to effectively capture and organize information during lectures. Overall, the identified challenges underscore the complex natureof note-taking and the need for targeted strategies to address time management, handwriting legibility, and attentional focus during note-takingactivities.

Conclusion

In this chapter, we delved into the intricate dynamics of note-taking among master's students, exploring their awareness, perceptions, and challenges associated with this fundamental learning practice. Through a comprehensive analysis of questionnaire responses and focus group discussions, we uncovered a nuanced understanding of how note-taking strategies impact students' learning experiences. From the preference for traditional pen-and-paper methods to the recognized benefits of note-taking in enhancing focus and memory recall, the findings underscored the centralrole of note-taking in academic success. Moreover, the identification of common challenges, such as time constraints and distractions, provided valuable insights into areas for improvement and targeted intervention. Overall, this chapter elucidates the multifaceted nature of note-taking and its profound implications for student engagement, comprehension, and retention in the master's education landscape.

General Introduction

General Conclusion

In the pursuit of understanding the dynamics of note-taking and its impact on memory recall among master's students, this study embarked on a journey from specific observations to broader implications. By delving into the intricacies of reading comprehension and the cognitive processes underlying it, the study aimed to shed light on effective learning strategiesin the EFL context.

The study found that Master's students of English at Biskra University recognize the importance of note-taking strategies for learning and focus. Students prefer traditional pen-and-paper methods, acknowledging the cognitive benefits of physically writing information. Note-taking was perceived as valuable for understanding and memory recall, with many students believing it enhances comprehension and retention. However, challenges such as time constraints, illegible handwriting, and distractions hinder effective note-taking. Focus group discussions reinforced these findings, highlighting the need for strategies to address these issues. Overall, the research underscores the critical role of effective note-taking in academic success and the necessity of tailored support to optimize these practices.

Despite its contributions, the study is not without its limitations. The relianceon self-report measures and the relatively small sample size may have introduced biases and limited the generalizability of the findings.

Additionally, the study's focus on master's students within a specific educational context may restrict the applicability of the results to other student populations or academic disciplines. These limitations point to areas for future research to address and expand upon the current findings.

Moving forward, it is imperative to consider several recommendations based on the study's findings. Educators should prioritize integrating cognitive strategies, such as note-taking techniques, into their pedagogical practices to enhance reading comprehension and memory recall among students. Additionally, future research should employ diverse methodologies and larger sample sizes to corroborate and extend thecurrent findings. Furthermore, efforts should be made to

raise awareness among educators about the role of cognition in learning outcomes and provide

training opportunities to enhance their pedagogical effectiveness.

In conclusion, this study provides valuable insights into the complex interplay between note-taking, cognitive processes, and memory recall in the EFL learning context. By traversing from specific observations to broader implications, the study emphasizes the importance of addressing cognitive factors in enhancing reading comprehension among students. While acknowledging its limitations, the study sets the stage for future research endeavors aimed at optimizing teaching and learning practices in EFL education. Ultimately, by incorporating cognitive strategies into pedagogical approaches, educators can foster a more conducive learning environment and empower students to achieve academic success.

Recommendations and Implications

In this section, practical recommendations are offered based on the study's conclusions to effectively address the identified concerns. By drawing inspiration from the comprehensive findings and insights provided by both students and teachers, specific actions are proposed for students to optimize their note-taking practices. These recommendations aim to empower students with actionable strategies to enhance their learning experiences and academic performance.

Prioritize active engagement. Students should recognize the value of active engagement during lectures by actively participating in note-taking activities. This includes consistently taking thorough and organized notes toenhance comprehension and retention of course material.

Develop effective note-taking strategies. Students should experiment with different note-taking methods and find the approach that works best for them. Whether it's using outlines, diagrams, or annotations, adopting effective note-taking strategies can improve the quality and usefulness of their notes. Allocate time for regular review. It's crucial for students to allocate time for regular

review of their notes after lectures. This practice reinforces learning, aids in memory recall, and prepares students for exams and presentations.

Minimize distractions: Students should take proactive steps to minimize distractions during note-taking sessions and lectures. This may involve finding a quiet study environment, turning off electronic devices, and practicing mindfulness to maintain focus.

Seek support and guidance. Students should not hesitate to seek support and guidance from

instructors or academic resources if they encounter difficulties with note-taking. Seeking feedback on note-taking practices and attending workshops or tutorials can help students refine their skills and overcome challenges effectively.

By implementing these recommendations, students can maximize the benefits of note-taking in their academic journey, enhancing their learning outcomes and overall academic success.

Limitations and Suggestions for further research

In any research endeavor, it is essential to acknowledge the limitations encountered during the study, as well as to identify avenues for future research that can build upon the current findings and contribute to the advancement of knowledge in the field. In the context of our investigation into the role of note-taking in enhancing memory recall among master's students, several limitations and suggestions for further research emerge.

One of the primary limitations of our study is the reliance on self-report measures, such as questionnaires and focus group discussions, to gather data. While these methods provide valuable insights into students' perceptions and experiences with note-taking, they are subject to biases and inaccuracies inherent in self-reporting. Future research could complement these methods with objective measures, such as observational studies or experimental designs, to provide a more comprehensive understanding of note-taking behavior and its effects on memory recall.

Another limitation is the relatively small sample size of participants in our study. Although we obtained valuable insights from the participants involved, a larger and more diverse sample would enhance the generalizability of our findings. Future research could aim to recruit a more representative sample of master's students from various disciplines and educational backgrounds to capture a broader range of perspectives on note-taking practices and memory recall. Additionally, our study focused primarily on note-taking practices and their perceived effects on memory recall during lectures. However, note-taking is a multifaceted process that extends beyond the classroom and encompasses various contexts, suchas studying for exams or preparing presentations. Future research could explore how note-taking practices differ across different learning contexts and how these variations impact memory recall and academic performance.

Furthermore, our study primarily focused on master's students, limiting the generalizability of our findings to other student populations, such as undergraduate or doctoral students. Future

research could investigate whether the observed relationships between note-taking and memory recallhold true across different educational levels and academic disciplines.

In conclusion, while our study provides valuable insights into the role of note-taking in enhancing memory recall among master's students, it is important to recognize the limitations of our research and identify opportunities for further investigation. By addressing these limitations and pursuing future research avenues, we can continue to deepen our understanding of note-taking processes and their implications for learningand academic success.

List of References

Ashman,F.,& Conway, R.(1997). *An introduction to cognitive education: Theory & Application.* New York,NY, Routledge.

Atkinson, R. C., &Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. *In Psychology of learning and motivation* (Vol. 2, pp. 89-195). Academic press https://doi.org/10.1016/S0079-7421(08)60422-3.

Atkinson, R. C., &Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. *In Psychology of learning and motivation* (Vol. 2, pp. 89-195). Academic press.

Baddeley, A. (1992). Working Memory. *Science, 255*(5044), 556–559. https://doi.org/10.1126/science.1736359.

Baddeley, A. .D. (2011). Working memory: Theories, Models, and controversies. *The Annual review of psychology, 63*, 1–29.

Baddeley, A. D., & Hitch, G. (1974). *Working Memory. In Psychology of Learning and Motivation (Vol. 8, pp. 47–89)*. Elsevier https://doi.org/10.1016/S0079-7421(08)60452-1.

Baddeley, A.D. (2003).Working memory and language: an overview. *Journal of Communication Disorders*, *36* (4),189-208.

Bohay, M., Blakely, D. P., Tamplin, A. K., &Radvansky, G. A. (2011). Note-taking, review, memory, and comprehension. *The American journal of psychology*, *124*(1), 63-73.

Boyle, J. R. (2007). The process of note-taking: Implications for students with mildDisabilities. *The Clearing House, 80* (5), 227-230.

Boyle, J. R., &Weishaar, M. (2001). The effects of strategic notetaking on the recall and comprehension of lecture information for high school students with learning disabilities. *Learning Disabilities Research & Practice, 16(*3), 133-141.

Carrier CA, Titus A (1979). The effects of notetaking: A review of studies. *Contemporary Educational Psychology* 4:299-314.
http://dx.doi.org/10.1016/0361-476X(79)90050-X.

Cave, C. B., & Squire, L. R. (1992). Intact and long-lasting repetition priming in amnesia. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 18*(3), 509.

Dehn, M. J. (2011). *Working memory and academic learning: Assessment and intervention*. John Wiley & Sons.

Jonides, J., Lewis, R. L., Nee, D. E., Lustig, C. A., Berman, M. G., & Moore, K. S. (2008). The mind and brain of short-term memory. *Annu. Rev. Psychol., 59,* 193-224.

Jonides, J., Lewis, R. L., Nee, D. E., Lustig, C. A., Berman, M. G., & Moore, K. S. (2008). The mind and brain of short-term memory. *Annu. Rev. Psychol., 59,* 193-224.

Klein, S. B. (2015). What memory is. *Wiley Interdisciplinary Reviews: Cognitive Science, 6*(1), 1-38.

Kroemer, T. (n.d). *Sentence note-taking method* [Photograph]. Strategies for taking lecture notes efficiently.
https://s3.amazonaws.com/commercio/goldbio2018/pages/Sentence%20Method.png.

Liedner, W. (2020a, May 17). "*Note-taking":* The 12 best methods.
https://medium.com/@williamliedner/note-taking-the-12-best-methods-9636ef4f19f0.

Liedner, W. (2020b). *The Boxing method* [Photograph]. Note-taking: The 12 best methods.

Liedner, W. (2020c). *The Charting method* [Photograph]. Note-taking: The 12 best methods.

Liedner, W. (2020d). *The Cornell method* [Photograph]. Note-taking: The 12 best methods.
https://miro.medium.com/max/1000/1*iDGEcABNv5HVpo1iNKVhtA.png.

Liedner, W. (2020e). *The Mapping method* [Photograph]. Note-taking: The 12 best methods

https://miro.medium.com/max/1000/1*U51Wo82mZZR5PkgGtXYxqQ.png.

Liedner, W. (2020f). *The Outline method* [Photograph]. Note-taking: The 12 best Methods. https://miro.medium.com/v2/resize:fit:1000/1*-XwNheRUyMqELEKugnXHBQ.png.

Mathy, F., Fartoukh, M., Gauvrit, N., &Guida, A. (2016). Developmental abilities to form chunks in immediate memory and its non-relationship to span development. Frontiers in psychology, 7,201.

Mathy, F., Fartoukh, M., Gauvrit, N., &Guida, A. (2016). Developmental abilities to form chunks in immediate memory and its non-relationship to span development. *Frontiers in psychology, 7*, 201.

Michael W. E., Mark T. K . (2015). *Cognitive Psychology: A Student's Handbook (7th ed.)*. Psychology Press.

Nelson, D. L., & Brooks, D. H. (1973). Functional independence of pictures and their verbal memory codes. *Journal of Experimental Psychology, 98*(1), 44–48 https://doi.org/10.1037/h0034299.

O'Hara, S. (2005). *Improving your study skills: Study smart, study less*. Houghton Mifflin Harcourt.

O'malley, J. M., &Chamot, A. U. (1990). *Learning strategies in second language acquisition.* Cambridge university press.

Olive T, Barbier ML (2017). Processing time and cognitive effort of longhand note taking when reading and summarizing a structured or linear text. *Written Communication 34*(2):224-246 https://doi.org/10.1177/0741088317699898.

Özçakmak H, Sarıgöz O (2019). Evaluation of Turkish teacher candidates' perception of note taking concept. *Educational Research and Reviews 14*(3):78-86 https://doi.org/10.5897/ERR2018.3623.

Peper, R. J., & Mayer, R. E. (1986). Generative effects of note-taking during s cience lectures. *Journal of Educational psychology, 78*(1), 34 https://doi.org/10.1037/0022-0663.78.1.34.

Piolat, A. (2001). La prise de notes [Note Taking]. *Paris*: Presses Universitaires de France.

Piolat, A., Olive, T., & Kellogg, R. T. (2005). Cognitive effort during note taking. *Applied Cognitive Psychology, 19*, 291-312.

Sternberg, R.J.(1999). *Cognitive psychology(2nded).*Fort Worth, TX: Harcourt Brace College Publishers.
Styles A. E. (2005). *Attention, Perception and Memory: An Integrated Introduction.* Psychology Press.

Suritsky, S. K. & Hughes, C. A. (1996). *Note-taking strategy instruction in teaching Adolescents with learning disabilities(2nd ed.).*

Suritsky, S. K. & Hughes, C.A. (1991). Benefits of note-taking: Implication for secondary and Postsecondary students with learning disabilities. *Learning Disabilities Quarterly, 14*(1), 7-18.

Suritsky, S. K. & Hughes, C.A. (1991). Benefits of note-taking: Implication for secondary and postsecondary students with learning disabilities. *Learning Disabilities Quarterly, 14*(1), 7-18.

Tamm, S. (2021, March 23). "The 6 Most effective note-taking methods". https://estudent.org/note-taking-methods.

Williams,R.L,&eggert.A. (2002).note-taking predictors of test performance. *Teaching of psychology, 29*(3),234-237.

Wong, L. (2009). *Essential study skills* (6th ed.). Boston: Houghton Mifflin.

Zohrabi, M., &Esfandyari, F. (2014). The impact of note taking on the improvement of listening comprehension of Iranian EFL learners. *International Journal of English Language and Literature Studies, 3*(2), 165-175.

Appendices

Appendices

Students'Questionnaire on Enhancing Learning Though Note-Taking

Dear student,

As part of my Masterresearch on 'Investigating the Role of Note-taking in Enhancing Students' Memory Recall,'You are kindly invited to provide responses to the present questionnaire, yourparticipation in this questionnaire will provide valuable insights into this topic.

Please do thoroughly read and reflect on the questions, as your answers will aid the progressof our study. Your input will be kept anonymous and greatly appreciated .Kindly indicate your answers by ticking (✔) the corresponding options or providing information wherenecessary.

Thank you for your participation.

Part One: Note-taking Strategies

Please indicate how frequently you engage in owning note-taking strategies

Note-Taking Habits

Statement	**Always**	**Sometimes**	**Never**
1-I actively take notes during lectures			
2-I consistently review my notes after lectures.			
3-I prioritize note-taking as a key part of my study routine.			
4-I struggle to find enough time for note-taking during lectures			
5-I prefer taking notes using paper and pen/pencil or			

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electronic device.			

Note-taking Effectiveness

Statement	**Always**	**Sometimes**	**Never**
1-Taking notes enhance my focus during lectures.			
2-I find my notes to be comprehensible and useful			
3-I utilize various methods to highlight key points in my notes.			
4-My notes significantly aid in my understanding of the material.			

Note-taking Environment

Statement	Always	Sometimes	Never
1-I prefer a quiet environment when taking notes			
2-I find that having access to supplementary materials (such as slides or handouts)during lectures improves my note-taking process.			

Note-taking and Exam Preparation:

Statement	Always	Sometimes	Never
1- Reviewing regularly my notes assists me in preparing for exams and presentations.			

Note taking Methods and Techniques

1-What strategy do you use when taking notes?

The outline Method writing: each idea on a separate line following the order □

The Cornell Method: it divides the page into three columns; each column containsspecific items of the lecture (titles, details and cues). □

The mapping Method: the main idea comes at the centre and the supporting ideasaround it attached with arrows. □

The sentence Method: each idea is written at the form of sentences. □

Other (s), please specify

……...……

……

2- When I am taking notes, I usually use:

Abbreviation □

Diagrams□ Symbols□

3- Do you always understand your notes?

Yes □No □

-If no, is it because:

Your writing is not legible□

You had forgotten the context in which you had written something□

You could not remember what an abbreviation stood for□

You had simply not written enough notes, so you missed important points□

Part two: Students' Perception of Note taking

1- In your opinion, how does taking notes help you pay more attention to the lecture?

How……

……..…….

2- I find that note-taking is beneficial for my learning

How……

……

3-I face problems when taking notes during lecture

How…….……

…….

4- Reviewing regularly my notes assists mein preparing for exams and presentations

How…….…….……

……..

5-I think that the strategies of note taking should be taught

Strongly agree □

Agree □

Neutral □

Disagree □

Strongly disagree □

Part Three: Note-Taking and Memory

1-I believe that improving my note-taking abilities might boost my ability to remember information.

Strongly agree□

Agree □

Neutral □

Disagree □

Strongly disagree □

2-Note-taking assist me in recalling information when preparing foe exams or presentation.

Strongly agree□

Agree □

Neutral □

Disagree □

Strongly disagree □

3-I thinkthat technology (e.g., tablets, note-taking apps) help with note taking and memoryrecall ?

Strongly agree □

Agree □

Neutral □

Disagree □

Strongly disagree □

Concluding question:

1-Is there any additional feedback or comment you would like to provide regarding note-taking strategies? Please feel free to share below.

……

Thank you for your contribution

Focus Group Questions

1. How does the act of taking notes impact your level of engagement during lectures?
2. In what ways do you perceive note-taking to enhance your learning experience?
3. How do you believe note-taking contributes to your ability to retain information?
4. .Have you faced any challenges or difficulties while taking notes in lectures?
5. Can you describe how regularly reviewing your notes aids you in exam preparationand information retention?
6. Do you believe that the strategies of note-taking should be formally taught?
7. Have you ever engaged in sharing your notes with classmates or peers?How?
8. What tools or methods do you find most helpful for taking notes, such as paper/pen ordigital devices? Can you describe the methods you typically use when taking notes during lectures?
9. Do you have difficulty remembering long sentences given in several steps. (For example when following work assignments or following a chronological order).

الملخص

تكشف دراسة أجريت في جامعة بسكرة حول طلاب الماجستير الذين يدرسون اللغة الإنجليزية كلغة عن تعقيدات خاصة تواجه استرجاع المعلومات لديهم. استخدم البحث منهجية مختلطة، حيث تم استطلاع آراء 40 طالبًا وأُجريت مجموعة بؤرية مع ستة طلاب. كشفت الدراسة عن عقبات رئيسية مثل قيود الوقت، وصعوبة الكتابة بخط اليد، والالهاءات المحيطة التي تؤثر على قدرة الطلاب على التركيز ومعالجة المعلومات. علاوة على ذلك، أبرزت الدراسة أهمية طريقة تدوين الملاحظات. ففي حين تضمن طريقة الجمل تدوين المعلومات بشكل حرفي، إلا أنها قد تعيق الفهم العميق. بناءً على هذه النتائج، هناك حاجة ماسة إلى استراتيجيات تعليمية مستهدفة تركز على مهارات إدارة الوقت وتقنيات التركيز وتعزيز أساليب تدوين الملاحظات التي تشجع على التفكير النقدي مثل خرائط المفاهيم. من خلال تطبيق هذه الاستراتيجيات، يمكن للطلاب بناء معرفة راسخة وتعزيز استرجاع المعلومات، مما يمهد الطريق في نهاية المطاف لتحقيق النجاح في دراساتهم للغة الإنجليزية كلغة أجنبية

الكلمات المفتاحية: طلاب الماجستير، اللغة الإنجليزية كلغة أجنبية، تدوين الملاحظات، استرجاع الذاكرة، استراتيجيات التعلم