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Submitted and Defended by:

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## **Title**

**Exploring The Role of Studying Before Sleeping Using Audio-Visual Aids  
in Developing Students Memorization and Recall**

**The Case of First Year EFL Students at Mohamed Kheider University of  
Biskra**

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## **Declaration**

I, **MOURZAGH ASMA** do hereby declare that the work presented in this dissertation is solely my own effort, and has not been submitted for any academic institution or University for any degree before.

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## Dedication

*I dedicate this work to my family*

*To my mother, the one who taught me to fight and never give up.*

*To my father; the one who have been my guiding light, providing strength and encouragement in every step of my journey.*

*To my brother and sisters : Meriem, Youcef, chaima, and the little Zahra*

*Who have been my constant pillars of support.*

*To all my friends, I will never forget your support. Your unwavering friendship has been a source of comfort during difficult times and has uplifted my spirits in the best of moments.*

*Thank you all*

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## **Abstract**

Memory is the basis of the brain through which data is encoded, stored and retrieved when needed. Memory loss on the other hand is the inability to retrieve information that hold before. It is the case of EFL learners at Mohamed Kheider university of Biskra where they face obstacles in memorizing as well as recalling. The present study attempted to explore the role of audio-visual aids as a strategy used before sleeping that can address students' challenges in memorizing and recall their lessons as well as upgrade their motivation. For this purpose, the quantitative method approach was adopted to gather data to assess its effectiveness and to know students' perceptions towards this strategy. To answer the research questions, one data collection tool, namely, a questionnaire was used with first year EFL learners with a sample of 25 students as volunteers at Mohamed Kheider University of Biskra. The analysis of the obtained data revealed that the implementation of audio-visual aids before sleeping as a student-centered strategy resulted in a positive impact on students' memory in memorization effectively. They also showed interest, willingness, and satisfaction in using this strategy. To conclude, the students are recommended to integrate audio-visual materials as a new engagement strategy.

**Key Terms:** Audio-visual aids, memory , recall, sleep.

## **List of Abbreviation and Acronyms**

**AVAs:** Audio-visual aids

**AAs:** Auditory aids

**VAs:** Visual aids

**EFL:** English foreign language

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# **General introduction**

## **1. Introduction**

The human body is a complex network of cells, tissues and organs, that together makes life possible. This body need to be in a healthy mode so it can do the job effectively, and one of the aspects that effect the body in positive way is sleeping.

Sleep is the most important thing human can do but many people give little attention to it. Researchers claimed that from seven to eight hours is the normal average to sleep per day. In addition they appeal that every disease that killing people such as cancer diabetes and even suicide all have significant and causal links to insufficient sleep .

People won't sleep because of some biological issues. Others see it as waste of time or just a way of rest when all the important works are done .Others like students pass all night studying for test thinking they will get good grades, neglected the importance of sleep on memory.

Scientists have been gathering clues about the complex relationship between sleep and memory. Their findings might eventually lead to new approaches to help students learn or help older people hold new memories.

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

Memorization is the process of learning and storing information in memory for future recall. It is a cognitive activity that begins in childhood and continues to develop throughout adolescence. While adolescents may encounter challenges with memorization, it doesn't necessarily indicate problems with their memory. Memory itself is a complex and intricate process. Difficulties in memorization among students often arise from not employing the right techniques, timing, and materials. For effective memory consolidation, it is important

to utilize audio-visual aids, which are considered effective tools in the learning process. Students commonly employ this method for other aspects of their education.

Additionally, sleep plays a crucial role in memory. Insufficient sleep or disregarding its importance can negatively impact memory consolidation. It is essential for students to allocate adequate time for sleep, as it forms a fundamental element for improving memory consolidation.

In this regard, our research try to manage the student's better time to take memorization just before sleeping using audio-visual materials. So it helps them memorize easily and effectively their lessons for better grades.

### **3. Research Questions**

The following questions served as a guide to this study:

**RQ1:**Do first year EFL learners give importance to audio-visual materials?

**RQ2:** Can audio-visual materials be an effective way to develop EFL learners' memorization and recall?

### **4. Research Aims**

The research aims to:

\*Discover whether EFL learners give importance to audio-visual materials.

\*Determine if audio-visual materials are beneficial for better memory consolidation.

## **5. Significance of the study**

This study can contribute effectively to the learning processes. It may promote students' level in their working memory. This suggested technique may fill the gap of lack memory abilities. It may allow students to demonstrate their memory through using audio-visual aids in suitable time. Audio-visual aids may be able to address the issues and challenges that students face in memorization. The use of audio-visual aids may alter the concept of long term memory loss and provide students with the opportunity to hold information deeply and for long time.

## **6. Research Methodology**

### **6.1 Research approach:**

To achieve the main aims of this research study, the researcher will follow a quantitative approach. She will opt to using one data gathering tool; a questionnaire for first year EFL students of University Mohammed Kheider. This may help the researcher gather valid and reliable data that will, therefore, help her confirm or reject her hypothesis.

### **6.2 Population and sample:**

This study will be conducted in the University of Mohammed Kheider Biskra; the researcher will choose first year learners as a population because they are expected to be exposed to different grammar rules, vocabulary need to be memorized. A group of 25 students will be chosen to be the sample of this study.

### **6.3 Data Analysis Procedures**

After gathering the most important data and relevant information, the researcher will characterize, classify, and summarize them. This process will eventually be accomplished

by using various specific techniques and methodologies, which the purposes of this study should choose. The researcher will use textual and verbal data to analyze the quantitative data.

#### **6.4 Data gathering tools:**

As mentioned earlier, the researcher will opt for one data gathering tool. She will use a questionnaire to explore whether students use audio-visual materials before; also, to gather some important information. These tool will be for the sake of knowing if audio-visual aids beneficial for their long term memory.

#### **7. Structure of the Study:**

The present dissertation is divided into two parts: the first one concerns a comprehensive literature review about audio-visual materials, memory , and the sleep process. The second one presents our fieldwork. This study is divided into three chapters. The first chapter divided into tow sections: the first section is about memory. However, The second section is sleeping process and the relationship between memory and sleep. The second chapter of the literature review is about audio-visual materials; will explore Historical and Conceptual Overview of audio-visual aids, explain the use and the characteristics. Finally, the third chapter represents the fieldwork, in which the researcher will analyze the questionnaire and planned for the sample and the population. Then discuss the results and findings.

# **Chapter one**

## **Memory and sleep**

## **Introduction**

Memory and sleep are interconnected processes that play vital roles in our cognitive functioning and overall well-being. Memory refers to the ability to encode, store, and retrieve information, while sleep is a physiological state characterized by reduced consciousness and bodily activity. In this chapter, the researcher will discuss in details the concept memory as a first part. The second part is going to be mainly about sleeping

### **1. Definitions of memory**

Memory is crucial for various aspects of human life, including learning, problem-solving, decision-making, and social interaction. It also plays a critical role in the development of the human sense of self and personal identity. The term 'memory' is used in various ways by both memory theorists and everyday language users.

According to Einstein and May (2013) definition; “Memory is often defined as application of learning over time”. It implies that memory involves the retention and use of knowledge or skills acquired through experience or training. In other words, memory enables the human to apply what he have learned in the past to current or future situations. This definition of memory as the application of learning over time highlights the fundamental role that memory plays in our cognitive and behavioral functioning, and underscores the importance of ongoing learning and adaptation in the human lives.

Additionally, memory was defined as “ the capacity that allows us to connect experiences, learn and make sense of our lives.” ( Camina and Güell, 2017).

Moreover, Burnham (1903, p. 132) stated that memory involves an ongoing process of organization that occurs both physically and psychologically. He added, for ideas to become

ingrained in long-term memory, it takes time for these organizational processes to be fully carried out through repetition and association.

Also, Sherwood and Ward (2019,p.126) claimed that “Memory is the storage of acquired knowledge for later recall. Learning and memory form the basis by which individuals adapt their behavior to their particular external circumstances”. Thus, Memory can be defined as the storage of acquired knowledge, experiences, and skills that can be later retrieved and used for various purposes. It is through learning and memory that individuals are able to adapt their behavior based on their external circumstances and past experiences.

## **2. The multisystem model of memory**

The idea behind the multiple systems model is that memory is not a single, unified system that depends on a single neural circuit (May and Einstein, 2013). Rather, they claimed that memory consists of various memory systems that are capable of functioning separately from each other.

The multisystem model typically includes the following memory systems:

### **2.1 Sensory memory**

Sensory memory as the first stage in memory process defined by May and Einstein (2013) as “a memory system that works for a very brief period of time that stores a record of information received by receptor cells until the information is selected for further processing or discarded”. So, The sensory register is a memory system that operates for a short duration, temporarily storing incoming information from sensory receptors. It holds a record of this information until it is either chosen for additional processing or disregarded.

## **2.2 Short-term memory**

As a second stage of memory processing, Vallar (2014) claimed that short-term memory is the ability to maintain a limited amount of information in an active and easily accessible state for a brief period.

## **2.3 Long-term memory**

Camina and Güell (2017) said that long-term memory enables us to store information over extended periods, ranging from minutes to years. They added that this stage stored information that can be consciously accessed and retrieved (explicit memory) or unconsciously expressed and utilized (implicit memory).

### **2.3.1 Declarative memory**

May and Einstein (2013) claimed that declarative memory, also known as explicit memory, refers to a type of memory that is under conscious and intentional control. This memory system typically requires some level of effort and intentionality, and individuals can utilize memory aids, like mnemonics, to retrieve stored information .

#### **2.3.1.1 episodic memory**

According to Schacter et al.(2009), episodic memory refers to the compilation of individual personal experiences that took place at specific moments and locations, such as the celebration held on someone's seventh birthday. So, it employed to retrieve previous occurrences, such as a film watched a week ago, the meal consumed the previous night, the title of the book suggested by a friend, or a birthday celebration attended.

#### **2.3.1.2 Semantic memory**

Ken et al.(2013) refers to semantic memory as it encompasses the general knowledge about the world that individuals gather and accumulate throughout their lifetime. Moreover, Semantic memory stores a wide range of information, including vocabulary, factual knowledge like the mathematical equation " $2+2 = 4$ ," and knowledge about specific states like Michigan being a part of the United States (May and Einstein, 2013).

### 2.3.2 Nondeclarative memory

It is a type within long-term memory described by May and Einstein (2013) as follows:

**“is a memory system that influences our current perceptions and behavior without our knowledge, awareness, or intention. Nondeclarative memory is not used intentionally and involves no effort. it is assessed with an implicit memory test in which the individual is unaware she or he is taking a memory test”.**

This definition is describing Nondeclarative memory, which is a memory system that impacts the individuals present perceptions and actions without being consciously aware of it or intentionally using it. Nondeclarative memory operates automatically, requiring no conscious effort. It is assessed using implicit memory tests where individuals are unaware that they are being tested for memory.

Nondeclarative memory as they described, ,encompasses different forms of learning and memory abilities, including:

- **Priming** : As they stated, is an unconscious process that improves the speed and accuracy of response due to prior experiences. Also, It involves the activation of memory connections by different cues, without a single specific location in the brain associated with a particular memory. So, Priming facilitates the retrieval of associated concepts or memories, enhancing the efficiency of the retrieval process.

- **Procedural memory:** they refers it to the memory system responsible for storing the knowledge and skills involved in performing a task. Moreover, it encompasses motor memory and becomes activated once the task has been extensively practiced and becomes automatic.
- **Classical conditioning:** May and Einstein mentioned that CC is a form of memory that involves the formation of associations between two stimuli.

They provide with one classic example of classical conditioning which is Pavlov's experiment with dogs in which , in this experiment, Pavlov paired a neutral stimulus, such as the sound of a bell, with the presentation of food. Initially, the bell had no inherent effect on the dogs' behavior. However, after repeated pairings of the bell with the food, the dogs began to associate the bell with the food. Eventually, the sound of the bell alone, without the presence of food, would elicit a salivary response in the dogs. In this case, the neutral stimulus (bell) became a conditioned stimulus that triggered a conditioned response (salivation) due to its association with the unconditioned stimulus (food).

### **3.Recall in memory**

In the context of memorization and learning, recall holds significant value. According to the Encyclopedia Britannica , recall was defined as follows:

**recall, in psychology, the act of retrieving information or events from the past while lacking a specific cue to help in retrieving the information. A person employs recall, for example, when reminiscing about a vacation or reciting a poem after hearing its title.**

This definition emphasizes that recall refers to the process of remembering and accessing information or past experiences without the aid of a specific cue. It occurs when an individual

retrieves information from memory, such as recalling details of a vacation or reciting a poem based solely on its title.

In addition to that recall or retrieval, according to the Human Memory Website(2022), involves the act of remembering information or events that were previously processed, encoded, and stored in the brain. It is the third stage in the memory process, following the initial encoding and subsequent storage of memories. Indeed, The process of retrieval is crucial since without it, the act of storing information would serve no purpose.

#### **4.Sleeping**

Sleep is often perceived as a period of inactivity where the brain shuts down and the body rests. Consequently, some individuals underestimate its importance and prioritize other responsibilities over getting enough sleep. However, scientific research reveals that sleep plays a crucial role in various essential functions that contribute to overall health and optimal functioning. Neglecting sleep can have adverse effects on individuals' well-being and performance.

##### **4.1Definition of sleep**

According to Broadbent (2018p.06)“Sleep is a dynamic and regulated set of behavioral and physiological states during which many processes vital to health and well-being take place”. He wants to say that sleep is a complex and controlled series of behavioral and physiological states that encompass various essential processes crucial for our overall health and well-being.

In addition, according to the National Sleep Foundation (2023) adequate that sleep is crucial for maintaining good health, as it provides numerous advantages. Moreover, high-quality sleep enhances energy levels, strengthens the immune system, and aids in cognitive

functions such as memory retention. Indeed, insufficient sleep can lead to significant repercussions and disrupt daily activities such as work, school, and driving.

Furthermore, the U.S Department of Health and Human Services (2005, p.4) said that: "Thanks to sleep research studies done over the past several decades, it is now known that sleep has distinct stages that cycle throughout the night in predictable patterns". So, The current understanding reveals that sleep is characterized by specific stages that repeat in regular patterns throughout the night.

#### **4.2 Chronotypes**

Broadbent (p.07) describe that chronotypes refer to individual differences in preferred timing of sleep and wakefulness. Also, they represent variations in the internal biological clock, Different people have different natural inclinations regarding the timing of their sleep and wake patterns. He indicated tow Chronotypes commonly described:

- Morning Larks (also known as "Early Birds" or "A-types"): Morning larks tend to feel most alert and energetic in the early morning hours. Indeed, they prefer to wake up and start their day early, and they may feel sleepy and tired earlier in the evening, leading to an earlier bedtime.
- Night Owls (also known as "Night Owls" or "B-types"): Night owls have a preference for staying awake and active during late evening and nighttime. So, They often find it challenging to wake up early in the morning and may experience increased alertness and productivity during late evenings or even into the night.

### 4.3 The sleep process

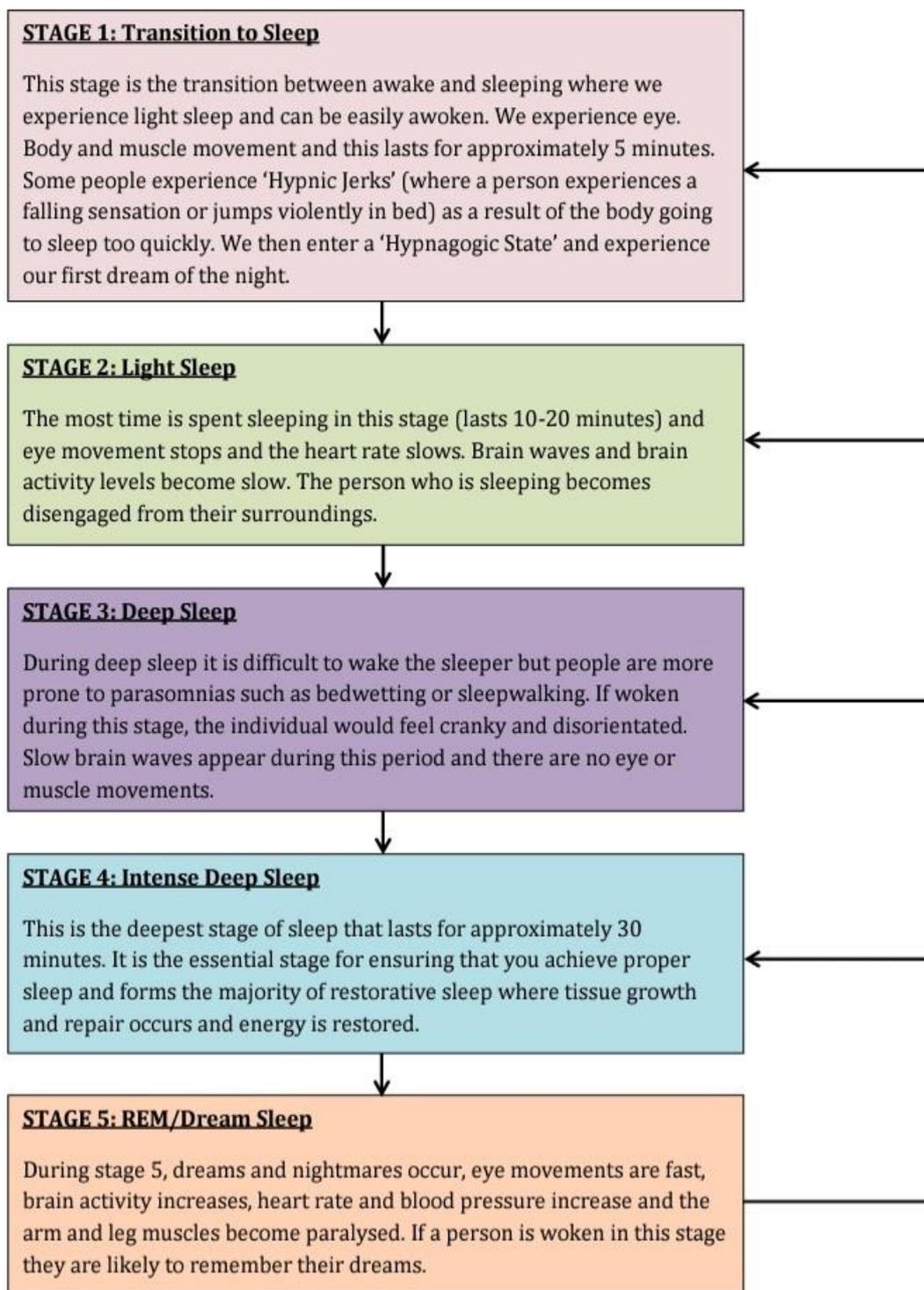


Figure 01: stages of sleep retrieved from Broadbent p.11

The sleep process consists of five stages, illustrated in Figure 01. The initial four stages make up Non-Rapid Eye Movement (NREM) sleep, which serves restorative purposes. The fifth stage is Rapid Eye Movement (REM) sleep, which is associated with cognitive processing and dreaming. Furthermore, Broadbent (p.12) also added that each sleep cycle lasts approximately 90-110 minutes, during which individuals progress through the stages of sleep and experience the first dream of the night. He added, this cycle repeats around four to five times throughout the night.

#### **4.4 Sleep Debt and Sleep Deprivation**

According to Rahman and Newsom (2023) Sleep debt, also known as a sleep deficit, refers to the disparity between the required amount of sleep an individual needs and the actual amount they obtain. They provided an example, if someone's optimal sleep duration is eight hours per night, but they only manage to sleep for six hours, they accumulate a sleep debt of two hours. Nonetheless, they added, by adopting healthy sleep practices and making necessary lifestyle adjustments, it is possible to recover from sleep debt and restore the advantages associated with rejuvenating sleep.

Sleep deprivation, on the other hand, “occurs when someone does not get the amount of sleep they need”( Dimitriu and Suny,2023). So, Sleep deprivation refers to the state that occurs when an individual fails to obtain the necessary amount of sleep.

#### **4.5 Napping**

Napping refers to the practice of taking short periods of sleep during the day, typically lasting anywhere from a few minutes to an hour or more.

Napping offers several benefits that can positively impact overall well-being and cognitive functioning. Singh and Summer (2023) provided that Napping can offer various benefits,

including reducing daytime fatigue and countering the effects of insufficient sleep and it can be particularly helpful for shift workers who struggle with irregular sleep patterns. Also, naps have been found to enhance workplace performance by improving cognitive functions like memory, logical reasoning, and task completion. Indeed, physical performance, including endurance and reaction times, may also see improvements after a nap, making it beneficial for athletes. Moreover, Some studies suggest that regular napping may lower the risk of cardiovascular problems, although more research is needed, associated with stress relief, immune system support, and a lower risk of rupture in individuals with intracranial aneurysms.

### **5.The relationship between memory and sleep**

The relationship between memory and sleep is a fascinating area of research that has revealed the critical role sleep plays in memory processes.

The National Institute of Health (2005,p.12) claimed :

**“Students who have trouble grasping new information or learning new skills are often advised to “sleep on it,” and that advice seems well founded. Recent studies reveal that people can learn a task better if they are well rested. They also can better remember what they learned if they get a good night’s sleep after learning the task than if they are sleep deprived. Study volunteers had to sleep at least 6 hours to show improvement in learning. ”.**

This aims to explore that recent studies have provided evidence supporting the notion that these findings highlight the importance of sleep in optimizing learning and memory. Adequate sleep not only facilitates the acquisition of new information but also enhances memory consolidation. Students and individuals in general are encouraged to prioritize sufficient sleep to optimize their cognitive performance and educational outcomes.

Also, the Nih (2013) added that the connection between sleep and memory is intricate. Sufficient sleep aids in the assimilation of new information upon awakening, and sleeping subsequent to learning facilitates the consolidation of this information into memories, enabling their storage in the brain.

Broadbent (p.13) suggest that In addition to physical benefits, sleep offers a multitude of mental advantages that contribute to overall well-being, these include improved cognitive function, enhanced mood, stress relief, and heightened levels of memory and concentration. He added, research suggests that even a one-hour increase in sleep duration can result in a remarkable 25% boost in productivity. Conversely, insufficient sleep may lead individuals to rely on caffeine and other stimulants to stay awake, which creates a harmful cycle as these substances impede sleep later on.

The National Institute of Neurological Disorders and Strokes (2019) demonstrated that the interplay between NREM and REM sleep contributes to the complex process of memory consolidation. According to them, while NREM sleep sets the foundation for memory storage and organization, REM sleep adds depth and emotional significance to memories.

## **Conclusion**

Sleep and memory have a close and intricate relationship. Sleep plays a crucial role in memory . During sleep, the brain undergoes various processes that facilitate the transfer of information from short-term memory to long-term memory storage.

Research suggests that getting sufficient sleep, especially during the optimal sleep stages, enhances memory formation and retrieval. Sleep deprivation, on the other hand, can impair memory consolidation and retrieval, leading to difficulties in learning, retaining information, and recalling memories.

A healthy sleep pattern with adequate duration and quality sleep is essential for optimal memory function. Prioritizing sleep and maintaining good sleep habits can have a significant positive impact on memory performance and cognitive abilities.

# **Chapter two**

## **Audio-visual aids**

## **Introduction**

The role of technology in our lives is very important, as technology has facilitated the process of communication between people and the world as a whole. So it made the world as if it were a small village. It has contributed in solving various human problems, especially at the present time. Technology has played a significant role in facilitating development and progress, especially in the field of education. In which It has revolutionized the field of education, transforming the way teaching and learning processes are conducted. technology has made it possible for learners to access learning materials anytime and anywhere, allowing them to learn at their own pace and convenience .In the past, teaching and learning were largely dependent on traditional teaching aids such as printed materials and verbal instruction. However, with the emergence of modern audio-visual materials, many problems in the teaching and learning process has solved. Used both by the teachers and learners for many purposes.

In this chapter, the first part attempts to provide a general overview of audio-visual aids , its definitions, its components, the psychology of using audio-visual aids, and the importance of integrating it into the teaching and learning process.

### **1.Brief History of Using Audio-visual Aids**

The use of audio-visual materials has a long history. According to Aggarwal (2009), the initial introduction of audiovisual aids can be attributed to Desiderious Erasmus, a Dutch humanist, theologian, and writer. So, Erasmus rejected the method of memorization for learning and instead promoted the use of pictures or other visual aids to facilitate children's education.

In addition, dating back to the seventeenth century, educators like John Amos Comenius, Jean Rousseau, and Johann Heinrich Pestalozzi advocated the use of visual and play

materials in teaching. The author described that Comenius, in particular, is known for introducing pictures as teaching materials in his book *Orbis Sensualium Pictus* (Akram et al, 2012), and (Aggarwal, 2009). Moreover, Olsen and DeBernardes (1948) demonstrated that in the twentieth century, the use of audio-visual materials gained popularity, especially during and after World War II in which it played a significant role in the armed services particularly in the United States. The successful use of pictures and other visual aids demonstrated the effectiveness of instructional tools in military training and communication.

## **2. Definition of audio-visual aids**

There have been many concepts and perspectives in defining audio-visual materials. Each author has his concept that distinguishes him from other writers and researchers. According to Webster's Encyclopedic Unabridged Dictionary of the English Language (as cited in Ashaverand Lgyuv, 2013) audio-visual aids can be described as educational or training materials designed to engage both the auditory and visual senses. And, these aids include items such as films, recordings, photographs, and are commonly used in classroom settings, library collections, and similar contexts for instructional purposes.

Furthermore, according to the definition provided by Dike in (1993), audio-visual aids can be described as materials that go beyond relying solely on reading to convey meaning. In which these aids utilize the senses of hearing (audio resources), sight (visual resources), or a combination of senses. It is worth noting that the range and diversity of these resources are particularly notable.

Moreover, definition provided by Anzaku (2011) stated: "the term audio-visual materials is commonly used to refer to those instructional materials that may be used to convey meaning without complete dependence upon verbal symbols or language". Thus, according to the above definition, the term "audio-visual materials" is commonly used to describe

instructional resources that can convey meaning without relying solely on verbal symbols or language. These materials utilize a combination of auditory and visual elements to enhance communication and understanding.

In general,, audio-visual aids are instructional tools that utilize both audio and visual elements to enhance communication, understanding, and learning. They can be diverse in nature and are designed to make information more accessible, engaging, and memorable for the audience.

### **3.Types of audiovisual aids**

There are various types of audio-visual aids that are commonly used in educational, business, and other settings. They could be summarized as three categories: auditory aids, visual aids, audio-visual aids .

#### **3.1Auditory aids**

Auditory aids are instructional tools or materials that primarily utilize sound or the sense of hearing to convey information, enhance learning, and support communication. These aids focus on auditory cues, spoken information, and sound-based elements to engage the listener and reinforce key points. Some examples of auditory aids are listed below:

**Recorded Speeches:** they can be played back to convey information and provide auditory guidance. These recordings can be made by teachers or learners can be used in classrooms, presentations, or self-study settings.

**Podcasts:** Podcasts are audio recordings in the form of episodes or series that cover a wide range of topics. They can be educational, or informative and they provide an opportunity to learn through listening. Podcasts can be accessed through various platforms and can be a valuable auditory aid for individual learning.

**Audio Books:** Audio books are recorded versions of written texts or novels, allowing individuals to listen to the content rather than reading it. They are beneficial for auditory learners and can be used in educational settings or for personal enjoyment.

**Oral Presentations:** Live presentations or speeches delivered by a speaker can be considered auditory aids. The spoken words and vocal delivery can effectively convey information, engage the audience, and provide clarification or emphasis on key points.

**Music:** Music can be used as an auditory aid to create a particular mood or atmosphere, provide a mnemonic device, or support the learning process. It can be used in educational settings, presentations, or as a background for various activities.

### **3.2 Visual aids**

Visual aids are objects, materials, or media used to enhance communication and understanding by providing visual representations of information. Visual aids can take various forms depending on the context and purpose, and they are widely used in presentations, education, training, and other communication settings. Different types of audio-visual aids are listed as follows:

**Presentations:** Visual aids can be created using presentation software such as Microsoft PowerPoint or Google Slides. They often include text, images, charts, and other visual elements to support the presenter's message.

**Images and Photographs:** Visual aids can include pictures, photographs, or images relevant to the topic at hand. They are used to evoke emotions, provide examples, or enhance understanding.

**Maps:** Maps are visual representations of geographic areas, regions, or specific locations. They are used to convey spatial relationships, illustrate routes, or provide context for specific topics.

**Diagrams and Illustrations:** These visual aids use images, drawings, or diagrams. They are often used to simplify complex information and make it easier to understand.

**Charts and Graphs:** These are visual representations of data or information that help to illustrate trends, comparisons, and relationships. Common types include bar graphs, line graphs, pie charts, and scatter plots.

### 3.3 Audio-visual aids

**Television:** often abbreviated as TV, is a widely used electronic device for receiving and displaying broadcasted audio-visual content. It is a common household appliance and a significant source of entertainment, news, information, and education.

**Video:** refers to a visual medium that captures and presents moving images along with accompanying audio. It involves the recording, editing, and playback of sequences of images, either in analog or digital format. Videos are widely used for entertainment, education, communication, and various other purposes

**Computer-based training programs:** Software applications that provide interactive learning experiences

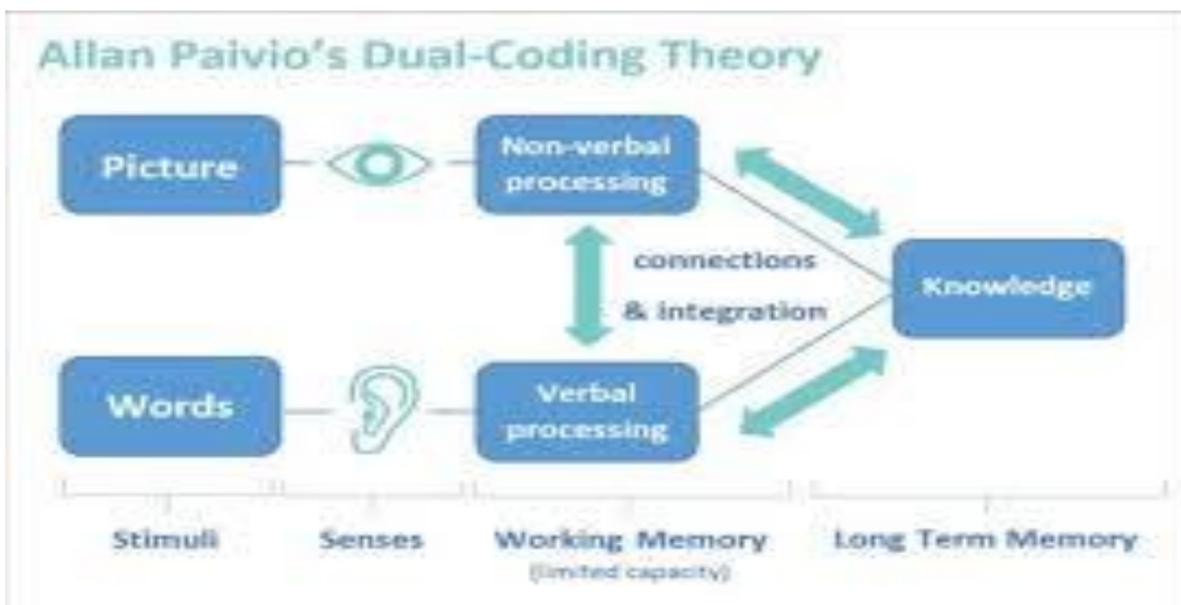
**Web-based materials:** Online resources that incorporate audio, video, and interactive features.

**Interactive presentations:** Presentations that allow user interaction through clickable elements or quizzes.

## 4. Psychology of using audio-visual aids

The use of audio-visual materials in psychology can have a significant impact on the learning, understanding, and retention of information. Some key aspects of the psychology behind using audio-visual materials listed as below:

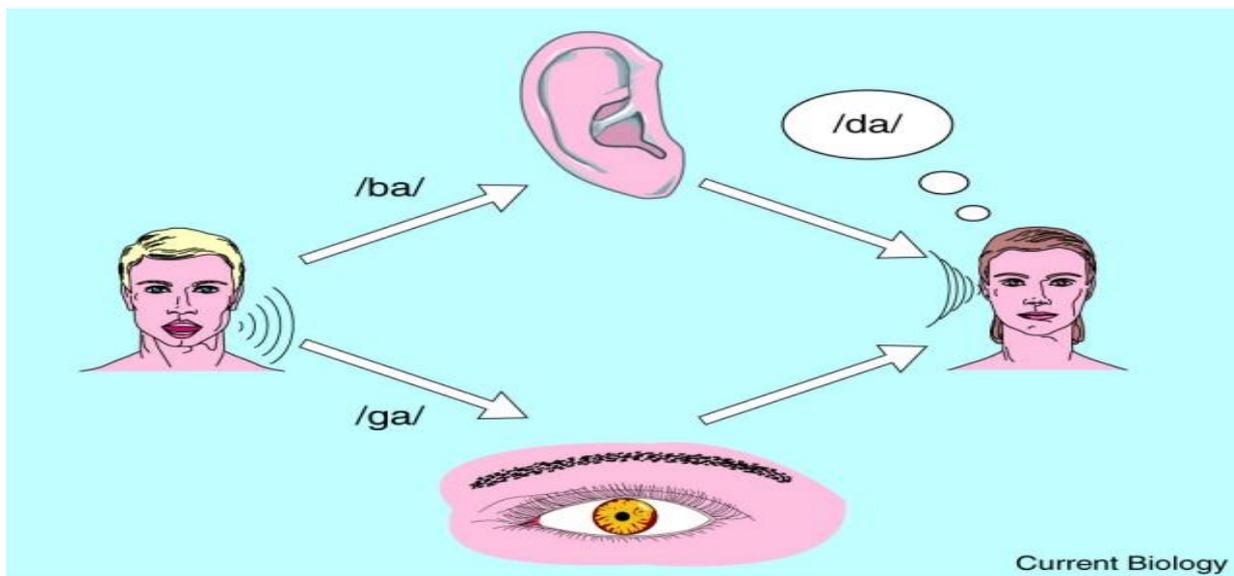
**Dual Coding Theory:** as cited in Wikipedia The dual coding theory suggests that humans have separate cognitive processing channels for verbal and visual information. Also, When audio and visual elements are presented together, they engage both channels, leading to enhanced encoding and retrieval of information. So, By utilizing both auditory and visual senses, audio-visual materials can facilitate deeper understanding and memory formation



**Figure02:** Dual Coding Theory by Allan Paivio (1971) retrieved from research Gates

**Multisensory Integration:** as Rowland et al.(2009) Audio-visual materials tap into multiple senses simultaneously, promoting multisensory integration. Combining auditory and visual stimuli can enhance cognitive processing, attention, and engagement. The brain integrates information from different sensory modalities, resulting in a more holistic and meaningful experience.

Furthermore, commonly known as the McGurk effect. When the speaker mouths the syllable /ga/, but the auditory stimulus is actually /ba/, subjects tend to hear /da/ (Andrew (2001)).



**Figure 3:** The influence of visual processing on the perception of speech sounds adopted from Current Biology (nd).

**Attention and Engagement:** Audio-visual materials can capture and sustain attention more effectively than purely verbal or visual content Moreno (2007). He said that the dynamic nature of videos, animations, and other audio-visual materials tends to be more engaging, holding the viewer's interest and reducing cognitive fatigue. So, This can lead to improved focus, comprehension, and retention of information

**Emotional Impact:** Audio-visual materials have the potential to evoke emotional responses in viewers. Visual elements, such as images or videos, coupled with appropriate audio cues, can stimulate emotions and create a stronger emotional connection to the content. Emotionally charged content tends to be better remembered and can enhance the overall learning experience Lukasz et al (2015).

**Facilitating Interaction:** Certain audio-visual aids, such as interactive presentations or multimedia tools, enable audience participation and interaction. Indeed They can include elements like quizzes, polls, or discussion prompts, which encourage active engagement and involvement. So, interactive audio-visual aids promote dialogue, critical thinking, and a sense of ownership in the learning process LISBDNETWORK (2015).

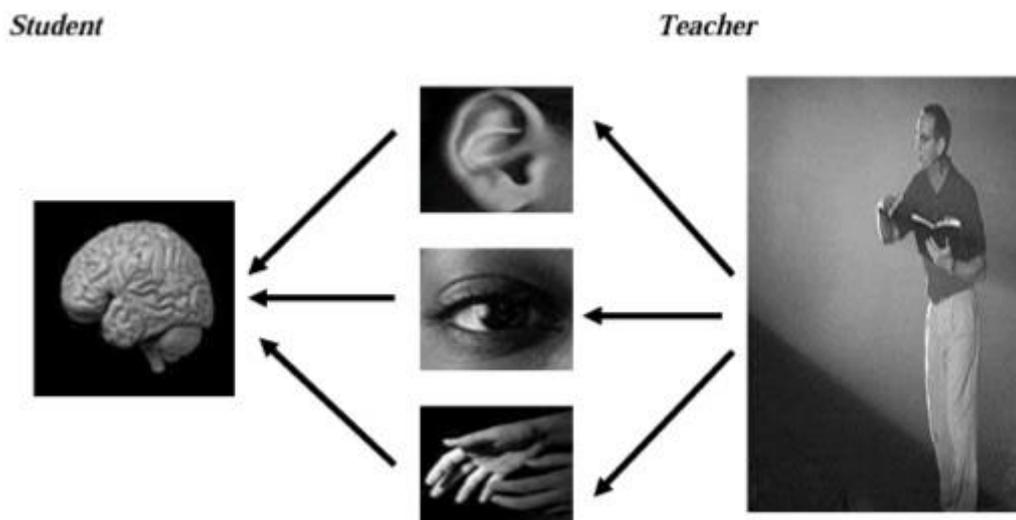


Figure 4: How information is received through senses. Retrieved from Alia (2012)

As a summary, audio-visual aids play a significant role in capturing and maintaining attention, enhancing comprehension, creating emotional connections, facilitating interaction, and catering to different learning styles. By integrating visual and auditory elements, they create a more immersive and engaging learning experience, leading to improved understanding, retention, and overall engagement with the content.

A research conducted by COBUN in 1968 suggests the following findings regarding learning and memory:

- .Learning: According to the research, individuals tend to learn:
  - 1% through taste
  - 1.5% through touch
  - 3.5% through smell
  - 11% through hearing
  - 83% through sight

These percentages imply that visual stimuli play a dominant role in the learning process, with sight being the most effective sense for acquiring new information.

- Memory: The research also suggests that individuals generally remember information in different proportions:
  - 10% of what they read
  - 20% of what they hear
  - 30% of what they see
  - 50% of what they hear and see
  - 70% of what they say
  - 90% of what they say and do

These percentages indicate that active participation, such as speaking and engaging in hands-on activities, enhances memory retention compared to passive modes of receiving information, such as reading or listening alone.

### **5. Importance of audio-visual materials in teaching and learning**

The integration of audio-visual materials into the teaching process has significantly enhanced the quality of education by making it more engaging and effective. Audio-visual materials have the potential to bridge the gap between students with varying levels of comprehension, particularly those who struggle to learn through traditional teaching methods..

Gopal (2010) said that audio-visual materials are acknowledged as resources that teachers use to convey knowledge across all levels of education. Indeed, these materials aid in

presenting lessons in a more practical manner, which helps to overcome the difficulties that often arise when teaching a particular subject matter.

Moreover, the incorporation of audio-visual materials in teaching and learning has led to an enhanced classroom experience for both students and teachers. First, it has improved relationships and promoted effective communication between teachers and their students. And, this is due to the fact that teaching materials have helped students to retain knowledge better, thereby facilitating permanent learning. Students are better able to recall what they have learned because they were able to visualize what was taught in the classroom. This idea is supported Dike (1993) .

A notion is supported by Joseph (2003), declared that the presence and appropriate application of audio-visual materials in teaching at junior high schools not only improve the speed of learning but also frees up time for teachers to engage in other activities such as curriculum development and creating lesson notes. Moreover, incorporating teaching materials also allows students to better understand concepts by providing them with a virtual experience, making lessons more explicit and broadening their experiential horizon.

So, according to the above definitions, the use of audio-visual materials in teaching and learning can have a significant impact on the effectiveness and efficiency of education, and can help to create a more engaging and dynamic learning experience for students.

## **Conclusion**

Audio-visual aids are tools or materials that combine visual and auditory elements to enhance communication, understanding, and learning. They are designed to supplement verbal communication by utilizing common examples include videos, slideshows, charts, graphs, diagrams, models, multimedia presentations, and props. Audio-visual aids possess three main elements. First, Visual Elements; They include images, charts, graphs, diagrams, or models that provide a visual representation of information or concepts. Second, Auditory Elements; They involve sound, such as recorded speeches, music, sound effects, or audio recordings, to enhance communication and convey information. Third, Audio-visual aids integrate visual and auditory components to present information in a cohesive and synchronized manner.

**Chapter Three**  
**Data Analysis and**  
**Interpretation of the Results**

## **Introduction**

The current research aims to explore the effectiveness of studying before sleeping using audio-visual aids in developing first-year EFL learner's memorization and recall, and to answer the research questions. The purpose of this chapter is to describe analyze and discuss the collected data through the tool used in this research which is an online questionnaire, as which aims to determine their perceptions about using audio-visual aids, their memory, their sleep habits and their experience with studying before sleeping.

### **1. Research method**

Research methods are the tools used in research to answer the research questions. There are three types of research methods. Croker (2009) explains that quantitative analysis involves the collection of mostly numerical data and the application of statistical methods to analyze it. On the other hand, qualitative research involves gathering predominantly textual data and using interpretative analysis to examine it. Furthermore, Shorten and Smith (2017) state that in a mixed-methods study, researchers collect and analyze both quantitative and qualitative data. This type of research rely on one approach, depending on the study's objectives, context, and the nature of the research questions being investigated. To collect reliable and valid data and see the effectiveness of study before sleeping using audio-visual aids, a quantitative approach was chosen to achieve the main objective of this research study by using one data gathering tool ;a questionnaire with first year EFL students.

### **2. Population/Sample**

The population of this study was first year EFL students at Mohamed Kheider University of Biskra. A group of 25 pupils as volunteers was used. This category was selected because They may encounter certain obstacles when it comes to memory and some common

challenges includes limited vocabulary, limited grammar rules and structures, lack of Pronunciation and phonetics and Lack of motivation and practice.

### **3.Data collection tools**

In this chapter, the researcher relied on one tool appropriate to the nature of the research in congruence with the purposes of this study. This tool was used to know the effectiveness of this kind of material and to see students' perceptions towards experiencing the implementation of audio-visual aids before sleeping in enhancing memorization and recall. For this purpose, a questionnaire was used with the aforementioned sample. Roopa and Rani (2012) stated that a questionnaire is a series of inquiries that are presented to students in order to gather statistically valuable data on a particular subject. When properly designed and executed, questionnaires are essential for making assertions about specific groups.

### **4.Data analysis procedures**

After having collected the data, different analysis techniques related to the study's aims were used to fit the quantitative design. the questionnaire data were analyzed statistically through the Excel, which generated bar charts and frequency tables.

### **5.Student's questionnaire**

In this chapter, we aimed to provide detailed information about students' questionnaire as step in our research.

#### **5.1Aim of the Students' Questionnaire**

The main aim behind the use of the questionnaire was to gather data about the student perceptions and attitudes towards studying before sleeping, the use of the audio-visual aids, their memory and their sleep habits . This data-gathering tool emphasized the learners' points

of view regarding using this engagement strategy to raise their memorization and recall. Additionally, to gain various responses and answer the research questions.

### **5.2 Description of the student's questionnaire**

The semi-structured questionnaire was designed for first year EFL students at Mohamed Kheider university of Biskra. It is divided into four sections containing 18 questions mixed with open-ended and close-ended questions with different forms (dichotomous questions yes/no, multiple-choice questions, checklist, and rating scales (agree/disagree and important/ not important). The first section about audio-visual aids contains six questions about their perceptions and experiences with audio-visual aids. The second section, entitled "memory" comprises five questions focused on the learner's memory, The third section is about sleeping; it addresses the learners' sleep habits. The final section is devoted to studying before sleeping as the central part of the research. It attempts to determine learners' points of view about the importance of studying before sleeping.

### **5.3 Validating and Piloting the Students' Questionnaire**

After designing the first draft of the student questionnaire, it was emailed to the supervisor to be validated in terms of form and content checks. The supervisor recommended to reject some unimportant questions . His modifications and advice were also considered while designing the final draft. After that, it was piloted online with five students from the same population who has some obstacles in understanding and answering the questions. So, the researcher reviewed those questions and try to simplified. Then she submitted the final draft to all the participants.

### **5.4 Administration of the Students' Questionnaire**

Since the students were in the tests period and research lives far from the university, the researcher could not go and distribute the questionnaire actually; for this purpose, the questionnaire was designed, and then posted online via the Google form platform.

## 6. Analysis of the Students 'Questionnaire

### Section One: Audio-visual aids

**Item 1:** What type of audio-visual aids you prefer?

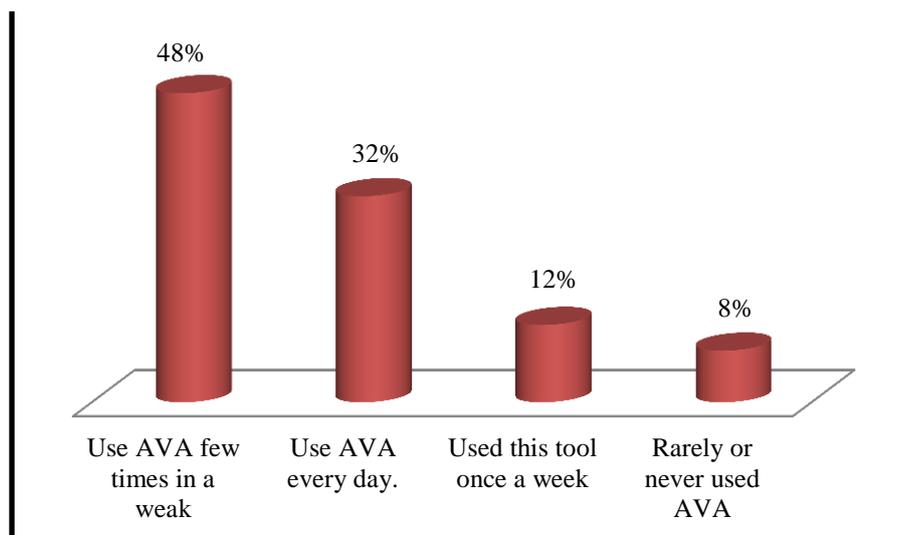
**Table 01:** Students preferable type of audio visual aids

Response	Participants	Percentage
Auditory aids	23	92%
Visual aids	1	4%
Audio-visual aids	1	4%
<b>Total</b>	<b>25</b>	<b>100%</b>

The results in the table show that most students prefer audio-visual aids with high percentage of 92% represents 23 students. However, only 1 student (4%) was interested with visual aids. And other student (4%) was interested with auditory aids. So, we can say that the majority of the students are audio-visual learners.

**Item 2:** how often do you use audio-visual aids?

**Figure 2.1:** frequency of students' use of audio visual aids



A very interesting question that shows how often do first year students of English as a foreign language use audio-visual aids. 12 students which means 48% of the participants say that they use AVA few times in a week. 32% (8 students) of the sample use AVA every day. 12% (3 students) used this tool once a week; however, 8% (2 students) claim to rarely or never use AVA. This may be because they are not interested in using this tool. We can say that the results obtained are pessimistic and assure that the majority of students used audio-visual aids. This means that they are interested in using AVA.

**Item 3:** For what purpose you have used audio-visual aids in your field of study?

This question can highlight the main activities the students supposed to use audio-visual aids in.

Following the above question, the researcher asked the students to justify their answers for better precision and understanding. We divided it into two themes.

The use of AAVs has become an integral part of the learning experience for EFL learners, both inside and outside the classroom.

- **Classroom Use:** EFL learners utilize AVA during classroom sessions to enhance their understanding and engagement. PowerPoint presentations, videos with motivational

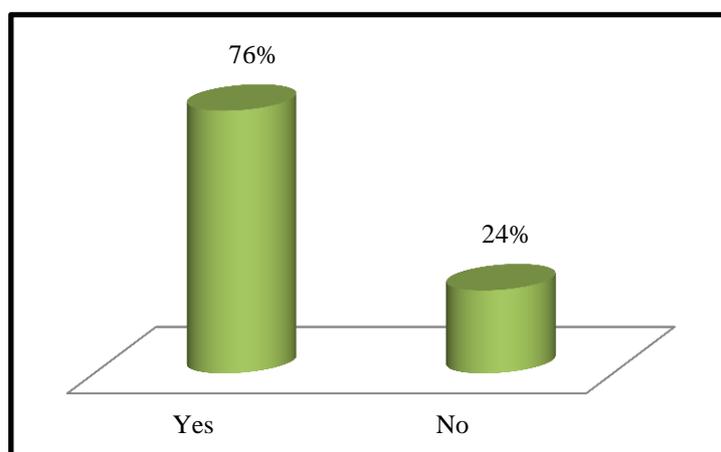
music or songs, and data-show presentations are common tools employed for this purpose. Visual aids, such as papers on the board, complemented by auditory explanations, provide a multi-sensory learning experience.

- **Student-Centered Learning:** Outside the classroom, EFL learners prefer using audio-visual aids as a student-centered strategy. They utilize recordings, papers, and YouTube videos to aid in memorization and revision. By listening and reading simultaneously, they enhance their understanding and retention of the foreign language. YouTube videos and language learning applications are also popular resources for improving language skills. Moreover, EFL learners often turn to YouTube videos as a preferred source of information over traditional search engines like Google. This highlights the effectiveness and appeal of audio-visual aids in delivering educational content and meeting the learners' information needs.

As a conclusion, Audio-visual aids have emerged as a solution to various academic challenges faced by EFL learners. They provide a dynamic and interactive learning experience, helping to improve comprehension, memory retention, and language skills. As technology continues to advance, incorporating audio-visual aids effectively into language learning can greatly benefit EFL learners.

**Item 3:** Did you have difficulty using audio-visual aids?

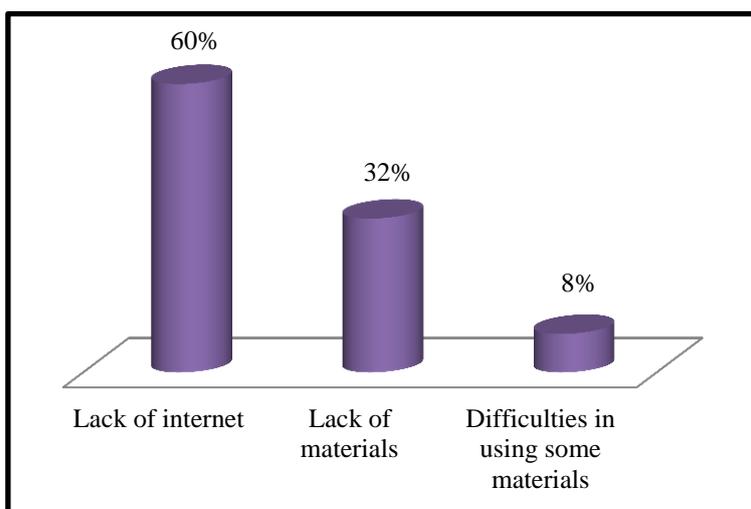
**Figure 3.1** Students' responses about whether they have difficulty in using audio-visual aids or not



In this dichotomous question, the main objective was to find out if they had ever faced difficulties accessing or using audio-visual aids. As shown in the above figure, 19 students with a percentage of 76% have never face any kind of difficulties using AVA. However only 24% indicated that six students had difficulties accessing AVAs

If yes, why?

**Figure 3.2** Students' difficulties difficulty in using audio-visual aids



The main objective of this question is to determine the main factors that may affect using AVA among students. We can observe that most students (15 out of 25) faced lack of internet. However, 8 students indicate lack of materials as a difficulty. Meanwhile, (2) students have difficulties using some materials. To sum up, through the above rates, we can say that major difficulties faced are Internet and materials lacking.

**Item 4:** In your opinion, how important are audio-visual aids for learning in your field of study?

**Table02 :** The degree of the importance of audio-visual aids for learning from students' point of view

Response	Participants	Percentage
Important	24	96%
Not important	1	4%
<b>Total</b>	<b>25</b>	<b>100%</b>

This question captures the student's opinion about the importance of AVA in their field of study. The Table questionnaire that 24 students with a percentage of say that AVA is important. Nevertheless, only one student think that AVA is not important with a rate of So, according to the student's rates, we can say that AVA is an important tool for their field of study.

**Item 6** : Audio-visual aids enhance the student's ability to memorize easily.

**Table 3** :Students' attitudes towards the effectiveness of audio-visual aids in enhancing their ability to memorize easily

Response	Participants	Percentage
Agree	20	80%
Disagree	5	20%
<b>Total</b>	<b>25</b>	<b>100%</b>

The table reveals that " agree" response received the highest rate(80%). Nevertheless, five students disagree about the importance of using audio-visual aids to memorize easily with a rate 20%. To conclude, the majority of students agree that audio-visual aids facilitate memorization.

## Section Two: memory

**Item 1**: How would you rate your overall memory ability?

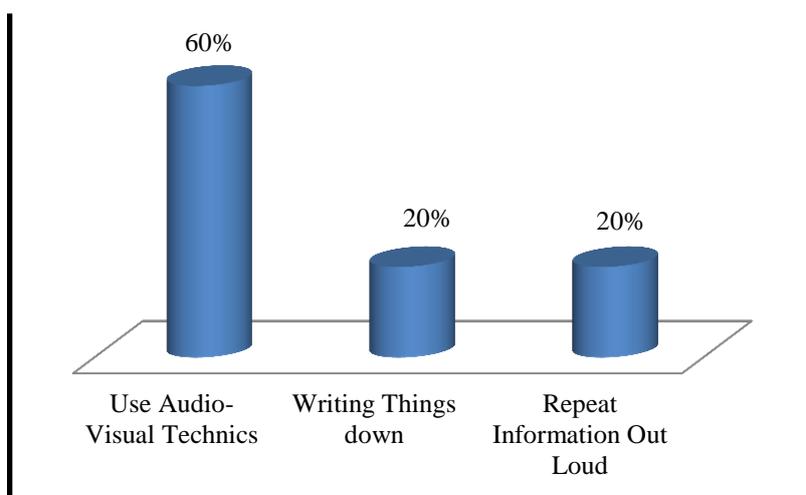
**Table 04**: Students' evaluation of their ability to memorize

Response	Participants	Percentage
A. Good	18	72%
B. Average	4	16%
C. Poor	3	12%
<b>Total</b>	<b>25</b>	<b>100%</b>

This question aims to identify the student's memory level. The above table reveal that most students (18 out of 25) mentioned the choice (A) However, 4) participants choose option (B) which indicated that their memory level is average. In addition, only three students have poor memory. The results indicates that memory ability is diverse.

**Item 2:** What are some strategies you use to remember important information?

**Figure 2.1:**The main strategies that students use to remember important information



The figure shows that integrate audio-visual technics to enhance remember importance information had the highest percentage (60%) which represents 15 students. In addition (20%) which means 5 students claimed that repeat information out loud as a strategy to remember information. Lastly, others with percentage (20%) said that writing things down help to remember important information. The results demonstrate the importance of integrating audio-visual technics for better memorization.

**Item 3:** Are there any particular memory challenges that you find difficult to remember in your courses?

**Table05:** Memory challenges that students face to remember their courses

Response	Participants	Percentage
Yes	23	92%
No	2	8%
<b>Total</b>	<b>25</b>	<b>100%</b>

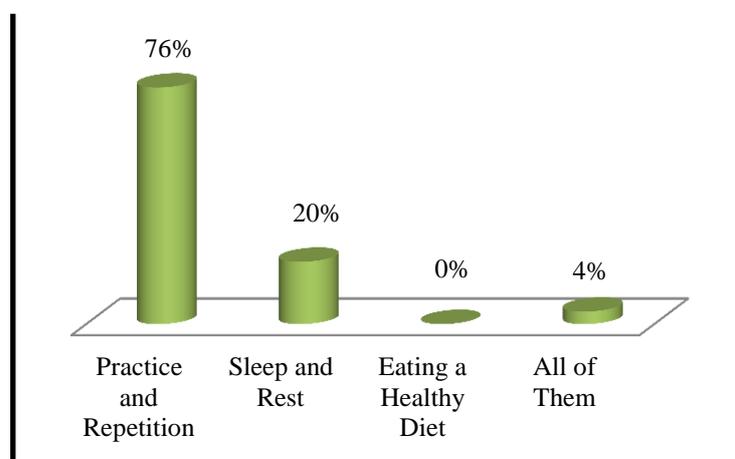
This question aims to gather students' challenges in memorizing target aspects. So that, to discover where exactly they face difficulties in memorization. As shown in the above table, (23) students with a percentage of (92%) had difficulties in memorizing particular aspects. Nevertheless, 8% indicated that tow people have no particular memory challenges.

If yes . Describe those challenges. .

To conclude, memorization is a complex process that many students find difficult. It involves the retention and recall of various types of information, including vocabulary, grammar, dates, names, and explanations. Each individual may have their own unique set of challenges when it comes to memorization.

**Item 04:** What are some factors that you think can help improve memory?

**Figure 4.1:** The main factors that help improve students' memory ability



The above figures presents various factors that can help improve memory ability. Mostly, 19 students prefer to improve their memory ability through practice and repetition. Whereas, few students believe that sleep and rest is the best way to improve memory. Nevertheless, no student support eating healthy diet. Lastly, one student prefer use all of them. To conclude, most of the students prefer to memorize through practice and repetition.

**Item 5:**Did you used any memory enhancement tool before?

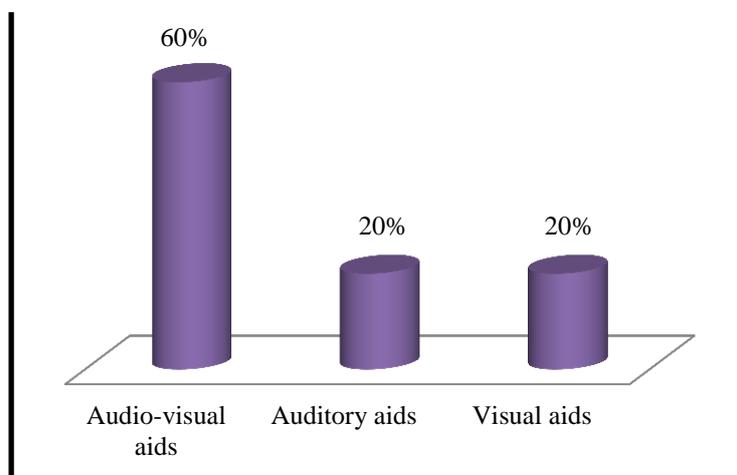
**Table 06 :** Students' responses about whether they use any memory enhancement tool before or not

Response	Participants	Percentage
Yes	20	80%
No	5	20%
<b>Total</b>	<b>25</b>	<b>100%</b>

The table shows that (20 out of 25) students faced some memory enhancement tools . Otherwise, only five students did not use any. So, the majority of the students have experienced with memory enhancement tools before.

If yes, describe please.

**Figure 5.1 :**Memory enhancement tools



The graph demonstrate different tools used by the students to enhance memory. The graph represents a high contribution with audio-visual visual tools with a percentage of 60% . In addition, 20%of students prefer to use auditory tools to enhance remembering. Lastly, 20% of students rely on visual tools so that they can enhance their memory very well.

### Section three:sleeping

**Item 01:** On average, how many hours of sleep do you get per day? Do you think are enough for you?

The question captures the student's perceptions about the hours spent on sleep. The suggested the following:

Based on the students' answers regarding the hours spent on sleep, the researcher understands that while individual sleep requirements can vary, most students typically need between 6 to 9 hours of sleep per day to feel rested and function optimally during the day. However, there can be situations where individuals may require more than 9 hours of sleep and this is not good unless some possible reasons. However, getting less than six hours sleep per day is insufficient in which one of the participants mentioned insomnia as a reason. According to the researcher' background insomnia is a sleep disorder characterized by having poor quality of sleep. It can affect people of all ages and can be temporary or chronic.

**Item2:**do you like to take naps during the day?

**Table 07:** Students' responses about whether they like to take naps during the day or not

<b>Response</b>	<b>Participants</b>	<b>Percentage</b>
Yes	24	96%
No	1	4%
<b>Total</b>	<b>25</b>	<b>100%</b>

The figure represents a high percentage(96%) means24 students who like to take during the day. Nevertheless, Other student prefer to not take naps. So napping is a preferred habit among students.

If yes . Why?.

So, Based on the students' answers regarding taking naps during the day, we can divide them into three categories.

First, some students like to rest and rejuvenation in which napping can provide a quick boost of rest and rejuvenation, especially when the student feel tired or fatigue. It gives the body a chance to rest, relax, and recover from physical exertion.

Second, napping is a good activity to improve alertness and cognitive functions ; in other word, napping can enhance alertness, concentration, and overall mental performance especially on memory. Napping, plays a critical role in memory consolidation. During sleep, the brain processes information, helping to solidify memories and improve learning. So it can enhance memory retention and improve recall of the learned information.

Third, one of the advantages of taking naps is improved Creativity. Napping can enhance creativity and problem-solving abilities. It allows the brain to make new connections and process information more effectively, leading to increased creative thinking.

However, finding time for naps can be challenging in a busy schedule. While napping can provide rest and rejuvenation, it's not always possible to fit it into a routine.

**Item 3:**Do you feel that lack of sleep affects your academic performance? If yes, how?

Students comments:

The students' justification highlight the effects of sleep lacking on their academic performance in which the researcher extract.. main themes. First, lack of sleep can negatively affect concentration, attention, alertness, and overall cognitive performance. It becomes harder to focus, learn new information, solve problems, and make decisions. Second , lack of sleep can impair the consolidation of memories, making it harder to retain and recall information effectively. Third, Sleep lacking can lead to increased irritability, mood swings, and emotional instability so that the students won't go and study. Forth, decreased productivity and performance can be a reason of insufficient sleep . It can lead to decreased productivity and performance in academic settings, as individuals may struggle to stay focused, retain information, and efficiently complete tasks. As a conclusion, It is important to prioritize healthy sleep habits and aim for the recommended amount of sleep each day,

which typically ranges from 6 to 9 hours . So, if any students are consistently experiencing sleep problems or excessive daytime sleepiness, it is advisable to consult a healthcare professional for guidance and support.

**Item 4:** Do you agree with this statement?

you remember things better after a good night's sleep.

And you remember things worse after a bad night's sleep.

**Table 08 :**Students' attitudes towards the effectiveness of Studying before sleep in comparison with sleeping in other times of the day

Response	Participants	Percentage
Agree	20	80%
Disagree	2	8%
Neutral	3	12%
<b>Total</b>	<b>25</b>	<b>100%</b>

The table represents (20 students of 25 students) agree with this statement. Other three students have no idea about what the statement explain. And, only two students disagree with the point .

#### **Section four: studying before sleeping**

- **Item 1:** Did you pulled an all-nighter to study for an exam? If so, did you feel that your memory or cognitive abilities were affected? Explain please.

According to the student's explanation, we noticed that most students do not prefer to stay all night to study for the exam. While all-nighters can provide some extra time for cramming or completing tasks, they can also have some negative effects on the person's overall well-being and cognitive performance. So, there are some of the negative consequences of pulling an all-nighter to study. First, lack of sleep can significantly impair cognitive function,

attention span, memory retention, and problem-solving abilities. It affects the ability to concentrate and retain information effectively, which may hinder performance during the exam. Second, Pulling an all-nighter can have adverse effects on the students' physical health. It can weaken the immune system, increase the risk of illnesses, and lead to general fatigue, headaches, and dizziness. Third, one of the negative consequences is long-term memory problems. Lack of sleep can interfere with the consolidation of memories, making it harder to retain information for the long term. Even if the student manage to perform adequately in the short term, he may struggle to recall the material later on. So, It is important to prioritize a healthy sleep schedule and maintain regular study habits to optimize performance and well-being during exams. Instead of relying on all-nighters, the student is recommended to practicing effective time management, taking breaks, and getting sufficient sleep to enhance overall learning experience.

**Item2:** Did you experimented with different study techniques before sleep? If yes describe your experience please.

The students asked to describe their experiences about using different study techniques before bed time. Their answers showed that most students used different study techniques before going to sleep, and allowed to extract.. main themes.

First, some students use visual techniques such as review and summarize. So, Before going to bed, they like to review the lesson studied earlier in the day, or summarize the key points, concepts, and main ideas in their own words. Second, before going to sleep, students like to use auditory techniques such as podcasts to learn some vocabularies or enhance a foreign language. Also, they like to listen to teachers 'recording so that they revise or memorize their lessons. Third , using audio-visual aids before sleeping can be beneficial for learning for

several reasons. Watching videos helps simplify complex concepts by presenting information in a visually appealing and auditory explanations to revise their lessons or learn foreign languages. In addition using audio-visual aids can be an effective technique to facilitate the process of memorizing. Students refers to use some recordings with visual techniques simultaneously so they can see and hear at the same time to help in memorizing many aspects easily. Meanwhile, as some students described, exposure to certain types of light, before sleeping may have an impact on sleep patterns and overall eye health, so to mitigate the potential negative effects of that light before sleep, the student is recommended either to minimize the use of electronic devices 30minutes maximum, or avoid bright screens and use papers. To conclude, It's important to note that individual differences exist, and what works for one person may not work as effectively for another . Additionally, experimenting with different techniques and observing how learning and memory respond can help identify the most effective approach for the students needs.

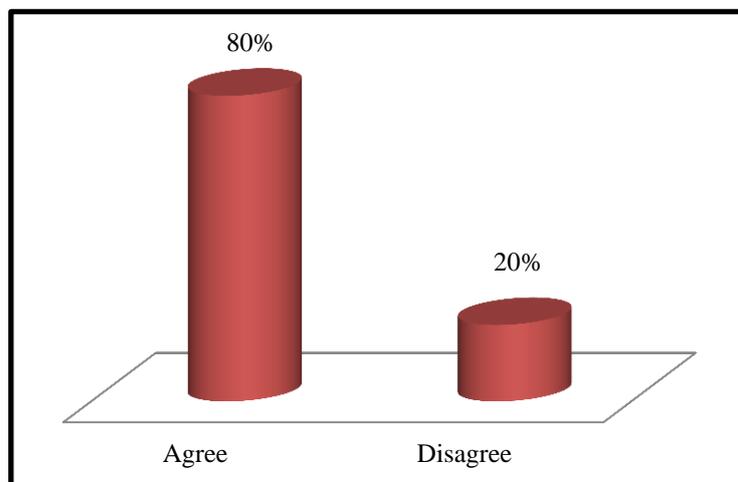
**Item 3:** Do you think that studying before sleep is more effective than studying at other times of the day?

**Table 09 :** Students' attitudes towards the effectiveness of Studying before sleep in comparison with sleeping in other times of the day

<b>Response</b>	<b>Participants</b>	<b>Percentage</b>
Agree	20	80%
Disagree	5	20%
Neutral	0	0%
<b>Total</b>	<b>25</b>	<b>100%</b>

The figure shows that the percentage 80% represents 20 students agree that studying before sleeping is more effective than studying at other times of the day. However, 5 students disagree with the statement. So, this results highlights the effectiveness of studying before sleeping .

**Item 4:** Do you think that studying before sleeping positively affects your memory?



**Figure 4.1:** Students' attitudes the effects of sleeping on their memory

This question aims to identify if this strategy affects memory in a good or a bad way. The figure shows that most students (80 students) believe that studying before sleeping positively affects memory. Furthermore, only five students disagree with the point.

## 7. Discussion of the findings

One data gathering tool was used to explore the role of studying before sleeping using audio-visual aids to improve first year EFL learners' memorization. . A semi-structured questionnaire highlighted the students' perceptions , impressions and experiences towards audio-visual aids, their memory , and the strategy of studying before sleeping. Additionally, the Findings obtained from this tool has contributed to answering the main research questions.

Question one: Do first year EFL learners give importance to audio-visual materials?

The results obtained from the first section revealed that learners were highly engaged, and motivated towards audio-visual aids despite some problems related to material and Internet.

Participants prefer audio-visual aids over auditory or visual aids alone, because the combination of audio and visual elements provides a multi-sensory learning experience, which can enhance comprehension and retention of information. They consider audio-visual aids to be a crucial tool in their field of study.

Also, they frequently utilize audio-visual aids in their academic field. These aids can include videos, presentations, animations, interactive software, and other multimedia resources. By incorporating both auditory and visual components, audio-visual aids help students engage with the material more effectively and make the learning process more enjoyable.

Consequently, based on the positive findings of the questionnaire, we can say that the researcher's objectives are reached. Similarly, students recognize the importance of audio-visual aids in their academic field. They appreciate the benefits of combining audio and visual elements for effective learning. As a result, audio-visual aids are commonly used by students as a valuable tool to support their studies.

Question Tow: Can audio-visual materials be an effective way to develop EFL learners' memory ability?

AVA is indeed considered an important tool for various fields of study. The integration of audio-visual aids has provided solutions to many academic problems. It has proven to be an effective method for enhancing learning and addressing challenges in education.

As depicted in the second section answers, memorization is a complex process, and students often find it difficult to remember large amounts of information.

According to the student's answers from section one and tow, Audio-visual aids was emerged as a student-centered strategy to assist with memorization and revision. By

combining auditory and visual inputs, students can listen and read simultaneously, reinforcing their understanding and memory of the subject matter.

The majority of students agree that audio-visual aids facilitate memorization. They recognize the value of integrating audio-visual techniques into their study routines to enhance their ability to remember important information. So the use of audio-visual tools has been shown to contribute significantly to memory enhancement .

### **Conclusion**

Based on the discussion and the results of the research technique, it appears that the questionnaire administered to first-year EFL learners has provided solid arguments and support for the research questions. The findings indicate that most EFL learners prioritize the use of audio-visual aids in their academic field as a means to enhance their memory. The results also highlight the importance of sleep for these learners and how studying before sleeping positively impacts their memory. This aligns with the understanding that sleep plays a crucial role in memory consolidation and retention. By studying before sleep, EFL learners are likely taking advantage of the brain's natural process of organizing and integrating information during the sleep cycle, thereby improving their memory of the studied material. These findings emphasize the value of incorporating audio-visual aids and considering the timing of study to optimize learning outcomes for EFL learners. By leveraging these techniques and recognizing the significance of sleep, students can enhance their memory and ultimately improve their academic performance in the field of English as a foreign language.

# **General conclusion**

## **General Conclusion**

The present study has investigated the impact of using audio-visual aids before sleeping on the students' memorization and recall among first year EFL students at Mohamed Kheider University of Biskra. It has focused on the description and the analysis of the use of audio-visuals by learners before going to sleep to help them consolidate items they have learned before. The investigation has relied on the traditional complex research model which consists in a General Introduction, three chapters and a General Conclusion.

Memorization is a fundamental part of learning. Many researchers argue that the use of audio-visuals facilitate learning and storage of needed items. In addition audio-visuals are good techniques and suitable aids to gain any information easily and prevent learners from forgetting. It takes an important role in education.

Studying before going to sleep involves participating in academic or learning tasks just before bedtime. This strategy leverages the brain's inherent processes during sleep to improve the consolidation and retention of memories for better recall. To be more precise, utilizing audio-visual aids before sleep can greatly facilitate and enhance the students' memorization, leading to improved recall ability. Also, we have hypothesized that the use of audio-visual techniques facilitates and improves the memorization and recall of information. Indeed, the results gathered from the research tool: a questionnaire, answered our research questions.

Our investigation has been carried out using 25 students as a sample to our study. A questionnaires that were distributed and answered by first year EFL learners of Mohamed Kheider University of Biskra. To collect and analyze the data, we have adopted a quantitative approach in which the questionnaire data were analyzed statistically through the Excel, which generated bar charts and frequency tables.

It is hoped that this research will inspire learners to give more attention to the use of audio-visual aids and their impact on memorization in English language acquisition. Furthermore, it is our aspiration that this modest research serves as a stepping stone for further exploration in this field, paving the way for future investigations aimed at improving memorization and recall of information. Replicating this study using alternative methodological approaches, such as experimental designs or interviews, could provide deeper insights into the effectiveness of memorization techniques utilizing audio-visual resources. Additionally, exploring other techniques that focus solely on auditory or visual aids for memorization could expand our understanding of their potential benefits.

### **Limitations of the Study**

The researcher has experienced some challenges and obstacles in conducting this research process. The need for multiple data collection tools is a valid consideration to ensure a comprehensive understanding of the topic. However, due to time constraints, it was not feasible to incorporate additional tools beyond the questionnaire. The researcher also faced difficulties regarding the online submission of the questionnaire. Insufficient internet quality may have caused delays in receiving all the responses, requiring the researcher to wait for extended periods. These technical issues impact the efficiency and timely completion of data collection.

## **Recommendations**

### **Recommendations for learners**

- Students need to create a dedicated study routine, set aside a specific time before sleep for studying using audio-visual aids to help train their brain to associate that time with focused learning.
- Learners should choose high-quality audio-visual resources. They need to select educational materials that are relevant to their learning goals and of high quality by looking for reputable sources, such as interactive videos that provide accurate and engaging content.
- Students Do not have passively watch or listen to the audio-visual aids. They need to take notes, pause and reflect on the information, and actively engage with the content. This active involvement helps improve understanding and memory retention.
- Learners have to review and summarize before sleep, so they review the key points and summarize the information they have learned by Using teachers' recordings and view papers to helps reinforce memory and solidify the connections between different concepts.
- Students have to minimize exposure to bright lights or electronic devices that emit blue light, as it can interfere with sleep quality and affect memory consolidation.
- Finally, students must practice good sleep hygiene and establish a consistent sleep schedule and prioritize sufficient sleep aim for 6 to 9 hours of sleep per night to support optimal cognitive function and memory consolidation

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# Appendix

## Appendix A: Students' Questionnaire

### A Questionnaire for first year EFL learners about:

### The Role of Studying Before Sleeping Using Audio-visual Aids to Improve Students Memorization and Recall

Dear first year EFL students

You are kindly invited to take these quick test regarding the effect of studying before sleeping using audio-visual aids to develop memory consolidation. this test will not take a lot from your precious time as they require only choosing the best statement that exactly describes you with a brief explanation when needed.

Your contribution is highly appreciated .  
thank you very much

**Researcher's name:**

Asma MOURZAGH

**Supervised by:**

Mr. CHENINI Abdelhak

2022/2023

### Section One: Audio-visual Aids

**Item 1.** What type of audio-visual aids you prefer?

- Auditory aids    Visual aids    Audio-visual aids

**Item 2.** : How often do you use audio-visual aids?

- Use AVA few times in a weak
- Use AVA every day
- Used this tool once a week
- Rarely or never used AVA

**Item 3.** For what purpose you have used audio-visual aids in your field of study?

.....

**Item 4.** : Did you have difficulty using audio-visual aids?

- Yes
- No

If yes, describe .

- Lack of internet
- Lack of materials
- Difficulties in using some materials

**Item 5.** In your opinion, how important are audio-visual aids for learning in your field of study?

Important                       Not important

**Item 6.** Audio-visual aids enhance the student ability to memorize easily.

Agree

Disagree

### **Section Two: Memory**

**Item.1** How would you rate your overall memory ability?

Good

Average

Poor

**Item.2** What are some strategies you use to remember important information?

Use audio-visual technics

Write things down.

Repeat Information Out Loud

**Item 3.** Are there any particular memory challenges that you find difficult to remember in your courses?

Yes

No

**Item 4.** What are some factors that you think can help improve memory ability?

Practice and Repetition

Sleep and rest

Eating healthy diet

All of them this

**Item 5.** Did you use any memory enhancement tool before?

Yes

No

If yes, describe

Auditory aids

Visual aids

Audio-visual aids

**Section Three:** Sleeping

**Item 4.** On average, how many hours of sleep do you get per day? Do you think are enough for you?

.....

**Item 2.** Do you like to take naps during the day?

Yes

No

If yes, describe.

.....

**Item 3.** Do you feel that lack of sleep affects your academic performance? If yes, how?

.....

**Item 4.** Sleep plays a positive role in memory consolidation?

Agree

Disagree

Neutral

**Section Four:** Studying Before Sleeping

Did you pulled an all-nighter to study for an exam? If so, did you feel that your memory or cognitive abilities were affected? Explain please.

.....

**Item 2.** Did you experiment with different study techniques before sleep? If yes describe your experience please.

.....

**Item 3.** Studying before sleep is more effective than studying at other times of the day?

Agree

Disagree

Neutral

**Item 4:** Studying before sleeping affects your memory consolidation?

Agree

Disagree

**الملخص:**

الذاكرة هي أساس الدماغ الذي يتم من خلاله تشفير البيانات وتخزينها واسترجاعها عند الحاجة. من ناحية أخرى ، فإن فقدان الذاكرة هو عدم القدرة على استرداد المعلومات التي كانت موجودة من قبل. إنها حالة متعلمي اللغة الإنجليزية كلغة أجنبية في جامعة محمد خيدر بسكرة حيث يواجهون عقبات في الحفظ والاستدعاء. حاولت الدراسة الحالية استكشاف دور الوسائل السمعية والبصرية كاستراتيجية مستخدمة قبل النوم والتي يمكن أن تعالج تحديات الطلاب في الحفظ واسترجاع دروسهم بالإضافة إلى تحسين دوافعهم. لهذا الغرض ، تم اعتماد نهج الطريقة الكمية لجمع البيانات لتقييم فعاليتها ومعرفة تصورات الطلاب تجاه هذه الاستراتيجية. للإجابة على أسئلة البحث ، تم استخدام أداة واحدة لجمع البيانات وهي استبيان مع متعلمي اللغة الإنجليزية كلغة أجنبية في السنة الأولى مع عينة من 25 طالباً كمتطوعين في جامعة محمد خير بسكرة. وكشف تحليل البيانات التي تم الحصول عليها أن تنفيذ الوسائل السمعية والبصرية قبل النوم كاستراتيجية تتمحور حول الطالب كان له أثر إيجابي على ذاكرة الطلاب في الحفظ بشكل فعال. كما أظهروا الاهتمام والاستعداد والرضا في استخدام هذه الاستراتيجية. في الختام ، يوصى الطلاب بدمج المواد السمعية والبصرية كاستراتيجية تفاعل جديدة.