

## CHAPTER II

### LITERATUR REVIEW

This chapter is divided into two major parts presenting a discussion about theoretical studies and previous studies. Theoretical studies comprise related theorists in this study while previous studies discuss the implementation of that related theorist in prior studies.

#### 2.1 Memory strategies

Attention to student-centred instruction and the students themselves, learning strategies quickly became important Nyikos & Oxford (1993). Strategy is a method that students use to achieve meaningful learning. Strategy can be described as a mental procedure used to promote learning and can sometimes be observed as an overt activity Chamot & El-Dinary (1999). Then Oxford (1990) defines learning strategies as "operations used by students to assist the acquisition, storage, retrieval, and use of information". Some aids used for remembering, such as reminder notes, are external, while others, such as mental exercises, are internal. In general, internal aids are preferred Harris (1984), but internal aids are used when a person cannot rely on external cues or when external assistance is undesirable or inconvenient (Intons-Peterson & Fournier, 1986). Repeated writing has proven to be one of the most popular memory aids among Japanese subjects Kusumi (1992).

Oxford (1990: 14) defines learning strategies as steps taken by the learner to facilitate the acquisition, retrieval, or use of information. Actions or techniques that students intentionally use to progress in learning language skills and linguistic content. Oxford (1990) divides learning strategies into direct and indirect strategies. The direct strategy is “behavior that directly involves the target language”. And directly add language is learning. In general, he classified learning strategies into memory, cognitive, compensatory, metacognitive, affective, and social strategies. One of the learning strategies that is often used is memory strategy. Memory strategy deals with storing new information in memory for later retrieval and use.

Memory strategies are mental activities designed to improve coding and retrieval, and refer to one of the broadest useful questions to improve on what has been learned. These strategies range from external assistance such as note-taking, use of a daily agenda to internal memory strategies such as chunking, visualization and have been found to aid in the formation of long-term memory Carney (2011). Memory development strategies were suggested to be more transitional than slower than Schneider and Schneider (2004) with progression from no benefit memory strategy to use of these strategies occurring more rapidly for most children Schneider (2009). In this study, children's self-reported memory strategies in reading and producing novel texts were explored, and their relationship to working memory capacity was studied. The effectiveness of memory strategies was evident from the age of 7 years, and the use of effective

memory strategies and performance in memorizing texts increased significantly between the ages of seven and ten Schneider (2009).

The memory strategy of encoding and storing information requires a high level of mental resources. One of the ways in which teachers and parents facilitate cognitive development is by fostering the development of children's understanding of and application of memory strategies. Awareness of their strategies supports children benefiting from instruction, which in turn transfers strategies to longer lasting exercises. linking text, words or sentences requires a child to first record traces such as speech and through the process of practicing storing information in the long term Baddeley (2010) remembering words or sentences in the correct order and processing the meaning of the word or sentence the task requires both the executive function of working memory and the phonological loop responsible for the storage of material based on Gathercole and Pickering (2001).

Memory strategy is known as an effective strategy to acquire and learn the intended vocabulary. New information processing procedure memory strategies in context learning. Oxford (1990) proved that the mind can store up to trillions of bits of information, but only part of that potential can be used except for the help of the learner's memory strategy. The memory strategy consists of four subsets, which are creating mental associations, applying images and sounds, reviewing well, and using actions. Moreover, Pressley, Levin and Miller (1981) show that learners using the keyword method to memorize vocabulary items in first and second languages tend to achieve better results for contextual language learning.

There are various approaches and actions organized into each subset to promote effective learning for language learners.

Memory use this strategy is classified as instilled in the early process of language learning. This memory strategy is an effective tool for learning and remembering vocabulary items for the long term. Language learning in school involves memory strategies for storing or memorizing different languages information in the context of learning. Learning elements such as elaboration, mental imagery, mnemonics, organization and practice pretend to be important features of storage and remember information for the long term. According to Ornstein et al. (2009) asked that teachers vary in how they can use memory-related language to encourage students to remember information effectively. This memory strategy is the best known and recommended strategy for better classroom learning to acquire and learn language with purpose.

Students need the ability to remember when they see or hear words. This includes teaching a writing system that starts with teaching decoding strategies to read new words, students practice using these skills to read and spell words. Exercises may involve asking students to decode and pronounce foreign words aloud during independent reading of the text Rosenthal & Ehri, (2011). Connections to be formed for certain words by grouping pronunciations into phonemes and matching them with changing letters in successive words. Practice may involve repeating sets of multi-syllable words by grouping them into their grapho-syllable units Bhattacharya & Ehri (2004). Spatial working memory supports conceptual and verbal content planning working memory supports the

translation of this content into sentences Kellogg (1996). Individuals use different memory strategies to remember. Memory strategies help student to store and retrieve information meaning that when they learn they're able to store the information and they're also able to retrieve it for later. There are four parts of memory strategies. According to Oxford (1990: 38) memory strategy is mental strength to remember something. In addition, according to Henriquez et al, all (2017:211) memory strategies are effective data storage techniques. When people use memory strategies they will relate newly acquired information to information they already have. In memory strategy, people can memorize something by creating mental connections, applying images and sounds, reviewing well, and also employing actions.

By Oxford (1990) theory, the researcher found four types of memory strategy, namely: creating mental linkages, applying images and sounds, reviewing well, and employing actions.

### **2.1.1 Creating mental linkages**

This is the most basic and basic strategy of more complex memory strategies. There are three types of strategies related to creating mental links, namely grouping, associating/elaborating, and putting new words into context. Clustering involves classifying or reclassifying what is heard into meaningful groups. Associating/elaborating is a strategy that can encourage students to associate information from the text with familiar concepts in memory. Then,

putting new words into context is a strategy to put new words or phrases that have been heard into meaningful context Oxford (1990).

The first strategy for creating mental connections is grouping. Students can apply grouping strategies in learning something. This makes it possible to classify or reclassify what is heard or learned into meaningful groups, resulting in the number of unrelated elements. Sometimes it involves a group. For example: If they listen to computers, they can write down important words like computer science, screen, keyboard, central processing unit instead of grouping these words. From which they can categorize the words they hear grammatically and label these categories into pronouns, adjectives, adverbs. Groups can be based on word types for example all nouns or verbs, topics for example, words about weather, practical functions for example, terms for things that make cars work, linguistic functions such as apologies, requests, requests, similarities for example, warm hot, warm, tropical, difference or opposition for example, friendly/ unfriendly, the way someone feels something for example, likes, dislikes, and quick. The power of this strategy is enhanced by labeling groups, using acronyms to remember groups or using different colors to represent different groups.

The second strategy for creating mental connections is to associate or elaborate. This strategy implies associating new information with familiar concepts in memory. It is possible to strengthen understanding, as well as make information easier to remember. For example, students listen to the word “billboard”. He associates them with a previously learned word, board, used for

display, thereby better understanding and remembering billboards. These associations can be simple or complex, ordinary or odd, but they must be meaningful to students. Associations can be between two things, like bread and butter, or they can be in the form of multi-part "development" like a schoolbook-paper-trees-country-land. They can also be part of a network, like a semantic map.

The last strategy for creating mental connections is to put new words into context. When students listen to a text, they can apply this strategy by placing a new word or expression that has been heard into a meaningful context as a way of remembering it. For example, a student listens to the name Great Lakes in the United States and wants to remember it. He uses the abbreviation "home" (short for Huron, Ontario, Michigan, Erie, and Superior) and places it in the context of the spoken sentence, "my house on the Great Lake". This strategy is not the same as intelligent guessing, a set of compensatory strategies that involve using clues that may include context to guess their meaning.

### **2.1.2 Applying images and sound**

Humans naturally apply images and sounds to certain feelings, words, and experiences to create connections with memories. Think of the feelings that can overwhelm when you see an old picture, or hear a certain song that a mother sings to her child. When students relate new information to meaningful information, they create maps or word webs based on meaning; choose keywords with auditory or visual links and remember the information by sound, its memory can be

activated and strengthened. Teaching students to use these tools is invaluable. It can be done in a number of ways. This strategy is divided into four types, namely using images, semantic mapping, using keywords, and representing voices in storage.

**Using Imagery** Using imagery is a strategy to remember information from listening to text by creating mental images. Connecting new language information with concepts in memory through meaningful visual images, either in the mind or in actual images. An image can be a picture of an object, a set of locations for remembering a sequence of words or expressions, or a mental representation of the letters of a word. This strategy can be used to remember abstract words by associating them with visual symbols or pictures of concrete objects.

**Semantic mapping** is a strategy that can be applied in listening by putting together concepts and relationships on paper to create a semantic map, a diagram in which key concepts are highlighted and linked to related concepts via arrows or lines. Related to this strategy, Saeid (2003) defines a semantic map as a concept map definition that reflects the idea that students need to have a common understanding of the definition and how it works before they can give meaning to a word on their own. **Semantic Mapping** Creates an arrangement of words into pictures, which have key concepts in the middle or at the top and related words and concepts that are linked to key concepts through lines or arrows. This strategy



involves meaningful imagery, grouping, and associations; it visually shows how certain groups of words relate to each other.

Using keywords is a strategy in listening where students can combine sounds and images to remember information from listening to texts. Remember new words using auditory and visual links. The first step is to identify a familiar word in your own language that sounds like a new word. For example, to learn the new French word potage (soup), English speakers associate it with pot and then describe a pot full of potage. To use keywords to remember something abstract, like a name, associate it with an image of something concrete that sounds like a new word. For example, Minnesota can be remembered with pictures of mini sodas.

Representing sounds in memory is a strategy that can help students to remember what they are listening to by making representations of sounds auditory rather than visual. Applying images and sounds-vocabulary can be observed or learned consciously or unconsciously with visual and sound sources. Strategies of using relevant images or visual coding, meaningful mapping of new concepts, linking keywords to auditory effects, and combining rhyming words help improve vocabulary retention.

Students as objective often understand recorded sound and photographic images, because they truly represent the physical world in a way that is beyond interpretation and the writing environment further encourages the use of these modalities as elements of persuasive text, it becomes important for instructors to help students understand their way as a language with great variability in the way

they are assigned and interpreted. Interestingly, Hunicke, LeBlanc, and Zubeck (2004) state that engagement with entertainment, such as music or film, is unpredictable and unstructured in this way, but although music learning allows freedom, initially there are distinct developments that resemble 'rules of the game'. It is through the establishment and understanding of these rules that one can then navigate them to experiment and have fun. Musical mechanics are presented through related metaphors, using everyday images. For example drawing on daily tasks where physical position and muscle use are similar. Imagery is used to engage with the mind's eye to project a goal before any physical movement is attempted, enabling people to be prepared successfully for their first engagement.

### **2.1.3 Reviewing Well**

Reviewing well strategy is especially useful for remembering new material in the language target. It entails reviewing at different intervals, the intervals at first close together and then increasingly far apart. This strategy can help students to review the information from listening to the text. This is a structured review, which is especially useful for remembering new material. Expert writers have and use a variety of strategies for planning and reviewing (Hayes & Flower, 1980). Planning starts at the sentence level, setting goals, and organizing ideas for a well-written product. Reviewing includes editing and revising and directing the author to make changes in the written text. Effective revision expands and rearranges meaning and requires more than correcting spelling or grammatical errors Fitzgerald (1987). Revising strategy is positively correlated with students'

writing achievement indicating that the more often students use the strategy, the higher the score that will be obtained in the writing test.

Review at carefully spaced intervals, at first close together and then further apart. This strategy might begin, for example, with a review 10 minutes after the initial lesson, then 20 minutes later, an hour or two later, a day later, 2 days later, a week later, and so on. This is sometimes called "spiraling", because the learner keeps looping back to what was learned at the same time he or she is learning new information. The goal is "overlearning" that is, becoming so familiar with the information that it becomes natural and automatic.

Reviewing is the act of evaluating either what has been planned or written. Reading and editing are strategies during review. In this strategy, the writer checks any content written with the aim of correcting anything that would hinder the text from fulfilling the purpose. It consists of correcting grammatical errors and changing the content of the writing. Hayes and Flower (1980) postulate that when the evaluation of a plan or text is unsatisfactory, review generally results in revision. Reviewing occurs consciously when the author is set to evaluate a written text. It also happens when the writer feels an error or an illogical aspect during the act of translating. This is not an impulsive activity but rather one in which the author decides to devote time to the systematic verification of the text Hayes (1996).

#### 2.1.4 Employing Actions

Using physical responses or sensations and using mechanical techniques are two strategies in using the action strategy. This strategy includes two kinds, namely using physical responses or sensations and using mechanical techniques. Strategies that use physical responses or sensations can be applied to remember texts. Students can act out what they are doing, or associate physical sensations with certain words found in the listening text. Students also need to talk to each other, share ideas, feel expressions and thoughts, and they need to understand each other. People can communicate their ideas well with others Argawati ( 2014 p. 76). In addition, they can apply the strategy of using mechanical techniques to remember what they have heard. They can use flash cards, with the new word written on one side and the definition written on the other.

According to Zaid (2016) by taking action and being actively involved in making positive changes in the classroom, they develop teachers' self-identity and foster a sense of belonging to the school community which will easily facilitate integration when they are posted in school. Action research is considered an empowerment strategy where the process that researchers go through and evaluate actions in addressing an issue will form a sense of ownership and authority. Meerah and Osman (2013) being critical in this sense does not at all mean negative views and forgetting from our practice. It leans towards an attitude of curiosity in which the teacher questions and identifies areas for improvement to develop new ideas and alternatives.

This broad strategy can employ a number of techniques, all of which create meaningful sound-based associations between new material and known material. This grouping language into meaningful units, associating new information with memorized concepts, or placing new words and language into sentences, conversations, or stories are all types of memory strategies that create links. The key to creating a mental connection between new and old information, is that old information must be personally meaningful to the individual. Applying images and sound vocabulary can be observed or learned consciously or unconsciously with visual and sound sources. Strategies of using relevant images or visual coding, meaningful mapping of new concepts, linking keywords to auditory effects, and combining rhythmic words help increase vocabulary. Kellogg (1996) claims that verbal working memory is required for linguistic coding of sentences and visual working memory is required for planning image-based conceptual content. Reviewing well if any learning goal becomes stored in long-term memory, it requires systematic review. The review is carried out after the lead periodically for word familiarity and usage of the same .occurs automatically. Employing action provides a kinesthetic language learning mode to improve vocabulary mastery. Involvement of meaningful actions such as physical responses that trigger the senses and using mechanical techniques with cards, letters, words, etc. Saeed Mojarradi (2014) according in his article entitled “The effects of using flashcards on ESL students’ ability to learn vocabulary”, he discovered the use of flashcards came on ESL students’ ability to learn vocabulary. Additionally, a study carried out by Baleghizadeh and Ashoori (2011)

also stated that there was no significant impact in the use of flashcards towards increase performance of learning strategy.

Weinstein and Mayer (1986) argue that the purpose of learning strategies may be to influence the way the learner "selects, acquires, organizes, integrates" new information or to influence the learner's motivational or affective state. While memory is used to remember something. Without concrete memory strategies, student English learners can be overwhelmed with the amount of information they have to remember, classify, manipulate, and generate.

## **2.2 Role Of Memory Strategies**

### **2.2.1 Knowing what to know**

Students often try to remember all the lessons. Students should be able to figure out what priorities they want to know and memorize. Memorizing and applying different Memory Strategies. Memorization can be considered as a lower order of learning which will not help the learner much. It is easily erased from memory and there is little application of that knowledge and no deeper analysis. When the learning process is complete, understanding involves cognitive skills, then it is stable and very necessary. In this process, the internalization of information is conscious and analytical for the learner. The current competitive education scenario is very important not to memorize through rote which can become unnecessary and can be done with a computer or the Internet. Whereas, there is a greater need found for learning based on understanding, analyzing and personalizing new information.

This understanding and learning expands the thinking of learners and brings about change in them. Memorization through rote learning adapted in traditional methods of teaching and learning can be replaced by cognitive-based memory training strategies "to make learning easier, more effective, and more self-directed and more transferable to new situations" Oxford (1990 p.8). Learning to memorize inhibits student interest and makes learning monotonous. While memory strategy training proved to be more interesting and effective in teaching and learning. Here are some strategies to help memorize:

- Think about concepts rather than facts: Over time, you have to remember hard, cold facts like a list of math equations or a list of vocabulary words in English class. However, most of the time, the instructor will be more concerned that students learn about key concepts in the subject i.e., how photosynthesis works, how to write a thesis statement, etc.
- Look for key terms: Text books will often put key terms in bold or italics. These terms and their definitions are usually important and can help remember larger concepts.

Carilah istilah-istilah kunci: Buku teks sering kali menempatkan istilah-istilah kunci dalam huruf tebal atau miring. In key terms means the portion of a cover Page that includes the key legal details and definitions for this Agreement that are not defined in the Standard Terms. The key terms may include details about covered claims, set the governing Law, or contain other details about this agreement. A complex sentence with "key term" contains at least one independent clause and at least one dependent clause.

Dependent clauses can refer to the subject (who, which) the sequence/time (since,while), or the causal elements (because,if) of the independent clause.

- Use summaries: Summaries are a good way to check and see if students understand the main elements of the reading. If no summaries are available, try to write your own. Students will learn more by writing about what they read. When writing a summary can set a background or offer an overview of a topic. You want to draw on knowledge from multiple sources on a topic. Academic summaries of other people's ideas, in the context of research essays, help to support and develop ideas. They can summarize someone's ideas because they support your own, or because they differ from yours and make it possible to introduce the ideas you want. denied. Someone else's theory can provide a framework for analysis so as to summarize the theory before starting an argument. Summary can act as a springboard for launching ideas.

### **2.2.2 Short-Term and Long-Term Memory**

Short-term memory is the capacity to store small amounts of information in the mind and make it available for a short period of time. It is also known as primary or active memory. Short-term memory is critical to daily functioning, which is why experiencing short-term memory loss can be frustrating and even debilitating. Short term memory is very short. When short-term memory is not actively trained or maintained, it lasts only a few seconds. Short-term memory is limited. It is usually recommended that short-term memory can only store seven



items at a time, plus or minus two. The Brown-Peterson technique, a research technique carried out by Lloyd Peterson, Margaret Intons-Peterson (1959) demonstrated that our capacity to store information in the temporary storage area is very limited and vulnerable to the rapid fading of information, if we don't have the opportunity to rehearse the information. It means this storage process lasts for a short period of time.

Sometimes students will feel confident in understanding the material they have just learned. weeks later before the exam, they found that they could only remember what they had learned over the past few days. The previous matter had disappeared from their minds. A possible reason is that they don't review the material consistently and regularly, and what they learn initially never makes it to long-term memory. Here are some strategies for transferring short-term memory to long-term memory:

- Start reviewing new material immediately: Remember that people typically forget a significant amount of new information not too long after learning it. Reviewing notes immediately after gives the opportunity to add material, make connections, ask questions, and rearrange anything that doesn't make sense. Reviewing notes is as important as taking notes. When writing the ability to store information increases. And retention is doubled when you read and rewrite what has been written. After class review is perhaps the most important aspect of learning, and is often overlooked. If you take the time to synthesize

material each day with the rest of the course, it will be easier to study for the final exam.

- Study frequently for shorter periods of time: Once information becomes a part of long-term memory, you're more likely to remember it. If you want to improve the odds of recalling course material by the time of an exam. Once information becomes a part of long-term memory, you're more likely to remember it. If you want to improve the odds of recalling course material by the time of an exam or a in future class, try reviewing it a little bit every day. Building up knowledge and recall this way can also help you avoid needing to "cram" and feeling overwhelmed by everything may have forgotten.
- Use repetition: This strategy is linked to studying material frequently for shorter periods of time. Mastery of something comes with repeated practice. Repetition is a preferred tool among orators because it can help to get to a point and speech is easier to follow. It also adds to the power of persuasion research shows that a word can tell its truth. Writers and speakers also use the heart to give the word rhythm. When a writer uses, they place multiple iterations of a word or phrase in close proximity to one another. In other words, a word or phrase is repeated to give and emphasize, a deeper meaning in the text. retain provides the practice children need to master new skills. Repetition helps increase speed, boosts confidence and strengthens connections in the brain that help children learn.

Long-term memory is the process of storing information for a long period of time. If we can remember a thing or event that happened more than just a few moments ago whether it happened a few hours ago or decades before, then it is long term memory. Long term memory is often outside the conscious mind. This information is largely out of our consciousness, but can be recalled into working memory for use when needed (recall). Simple example is that it is easier for us to remember important events such as a wedding day or the birth of a child with much greater clarity and detail. This is due to how often we access these memories. Because frequently accessed memories will become much stronger and easier to remember. Accessing these memories over and over again strengthens the neural network in which information is encoded, leading to easier recall of information. On the other hand, memories that are not often recalled can sometimes weaken or even be lost or replaced by other information.

Long-term memory refers to the retention of information over an extended period. This type of memory tends to be stable and can last a long time often years. Long term memory can be further divided into two distinct types: explicit (conscious) and implicit (unconscious) memory. Explicit memory, also known as declarative memory, includes all memories available in consciousness. Explicit memory can be further subdivided into episodic memory (specific events) and semantic memory (knowledge of the world). Implicit memory is memory that is largely unconscious. This type of memory includes procedural memory, which involves remembering body movements and how to use objects in the environment. How to drive a car or use a computer are examples of procedural

memory. Long-term memory is often outside the conscious mind. This information is largely out of our consciousness but can be recalled into working memory for use when needed.

Long term memory keeps all important events alive. It allows you to retain the meaning of words and the physical skills you have learned. There are several process steps involved in building a long term. Psychologists distinguish between three necessary stages in the process of learning and memory: encoding, storage, and retrieval Melton (1963).

#### **a. Encoding**

Encoding refers to the initial experience in understanding and learning information. Psychologists often study memory by having participants study lists of pictures or words. Walking across campus, for example, you encounter countless sights and sounds friends passing by, people playing Frisbees, music in the air. The physical and mental environment is too rich to encode all the events around you or the internal thoughts you have in response to them. So, the first important coding principle is to selectively attend to some events in our environment and ignore others. The second point about coding is that productivity always encodes the events in our lives attending the world, trying to make sense of it. Right after a casual stroll through campus would be able to remember events quite well if asked. Psychologists have long pointed to the peculiarity of having an event that is very different from the background of similar events as the key to remembering the events of Hunt (2003).

The coding process is selective, and in complex situations, relatively few of the many details may be noticed and coded. The coding process always involves recoding that is, taking information from the form it is sent to us and then transforming it in such a way that we can understand it. For example, you can try to remember the colors of the rainbow by using the acronym ROY G BIV (red, orange, yellow, green, blue, indigo, purple). The process of re-coding a color into a name can help us remember it. However, recoding can also lead to errors when accidentally add information during encoding, and then remember the new material as if it were part of the actual experience.

#### **b. Storage**

Any brain-altering experience may seem like a bold, even odd, claim at first, but it's true. Encodes each experience in the structure of the nervous system, creates a new impression in the process and each impression involves changes in the brain. Psychologists (neurobiologists) say that memorable experiences or engrams are synonymous terms. Memories have to be stored somewhere in the brain, so to do that the brain changes itself and its neural network. Just as it might write itself a note to remind you of something, the brain writes a trail, changing its own physical composition to do so. The basic idea is that events create an engram through a process of consolidation, the neural changes that occur after learning to create traces of an experience. Although neurobiologists are concerned with the neural processes that change when memories are made, for psychologists, the term memory simply refers to the physical changes in the nervous system that represent experiences.

### **c. Retrieval**

Endel Tulving (1991, p. 91) argues that “a key process in memory is retrieval. If the information is encoded and stored but cannot be retrieved, it will be useless. As discussed earlier in this module, we encode and store thousands of daily conversations, sights, and sounds events, creating memory trails. However, later we only access a small part of what we have taken. Most of our memories will never be used in the sense of being reminded, consciously. This fact seems so obvious that we seldom reflect on it.

Psychologists distinguish information that is available in memory from that which is accessible by Tulving & Pearlstone (1966). Available information is information stored in memory but precisely how much and what kind is stored cannot be known. That is, all we can know is what information we can retrieve accessible information. The assumption is that accessible information represents only a small part of the information available in the brain. Most of us have had the experience of trying to remember some fact or event, giving up, and then suddenly another time, even after we stopped trying to remember it. Similarly, all know the experience of failing to remember facts, but then, if given several choices as in a multiple choice test, we can easily recognize them.

#### **2.2.3 Strengthening Memory**

Suggesting that undergoing a reinforced experience (retraining) renders memory labile and leads to memory reinforcement Lee (2008), the function of reconsolidation-induced retrieval remains to be established. As an integral step in memory strengthening, greater emphasis should be placed on the destabilizing

mechanisms that are just beginning to be described including in the memory destabilization process. Some people have stronger memories than others, but memorizing new information takes work for anyone.

- Incorporate visuals

Visual aids like note cards, concept maps, and highlighted text are ways to make information stand out. Because the writing is shorter and more concise, students have the advantage of making the information to be memorized appear more manageable and less intimidating. Graphs, charts, tables, photos, or diagrams include visual elements that grab the reader's attention and help understand complex ideas more fully, such as trends in data and more. Although visuals help reduce the amount of explanation in written text, visuals do not replace written text in the presentation of a concept. Instead, they clarify, illustrate, and augment written text. There are also other static or moving visual media that can be included as a source of thought. This can include maps, videos, interactive visualizations, web pages, social media posts, diagrams, graphics, illustrations, and pages from comics and graphic novels. Visual communication results in better information retention. From a scientific perspective, it was found that using relevant visuals helps the audience remember information more effectively. Most teachers also understand the power of visual aids in helping students understand content. Teachers appreciate the support that visuals provide for classroom instruction, because they encourage students to make associations between pieces of information, absorb chunks of course content quickly, and serve as memory aids.

- Create mnemonics

Memory devices known as mnemonics can help students retain information while only needing to remember unique phrases or letter patterns that stand out. Using mnemonic memory strategies can give you that boost in your memory that we all need, and it can improve your efficiency in learning as well. A mnemonic is an instructional strategy designed to help students improve memory of important information. This technique connects new learning with prior knowledge through the use of visual and acoustic cues. The basic type of mnemonic strategy relies on the use of keywords, rhyming words, or acronyms. Mnemonics are words, short poems, or sentences intended to help remember things like scientific rules or spelling rules.

Mnemonics are a cheat code for those who have trouble memorizing certain complex subjects, lists, or concepts. They make it possible to use easier-to-remember phrases that tie the concept we want to memorize to mind. allows to learn quickly and successfully, and remember key concepts in a variety of subjects including English. The mind tends to remember information that we can relate to naturally. Mnemonics have been shown to function as memory-forming tools for a variety of tasks. They help doctors, scientists, geologists, artists, and students. If you're having trouble remembering something, consider making yourself a mnemonic. Mnemonic is often used in education in the early stages of knowledge acquisition. They may act as early as this stage as a scaffold for the more permanent schematic knowledge that develops as education progresses Bellezza (1996).



- Get quality sleep

Brain needs to rest after exercise and receive all sorts of new information during the day. Students should aim for six to eight hours each night. A good night's rest can help you remember more and feel ready to study the next day. Get quality sleep your brain needs to rest after exercise and receive all sorts of new information in one day. Students should aim for six to eight hours each night. Students have a lot of brain activity, and, just like being tired after a long workout, your brain needs to rest after a workout and receive all sorts of new information during the day. Plus, while you sleep, your brain is still working. During sleep the brain organizes and consolidates information for long-term storage Abel & Bäuml (2013). A good night's rest can help you remember more and feel ready to study the next day. A good night's sleep directly affects your mental and physical health. Fail and it can take a toll on your energy, productivity, emotional balance, and even your weight during the day. Yet many of us regularly roll over at night, struggling to get the sleep we ordered. In contrast to our calm physical state, the brain is very active during sleep, performing many important functions. Sleep is essential for every process in the body, affecting our physical and mental functioning the next day, our ability to fight disease and develop immunity, as well as metabolism and chronic disease risk.

- Connect new information to old information

Take stock of information that has been stored in long-term memory and use it as a basis for learning new information. It's easier to remember new information if you can relate it to old information or to a familiar frame of

reference. When they hear a new term, they will have at least one initial exposure to it. When recalling seeing a word on the page they were previewing, even if they didn't remember any details or understand its meaning, simply hearing a somewhat familiar term or procedure would increase activation in their cerebral cortex. In class before class if you write and say a new term, important concept, or key theme to be taught that day in math, the student's related and relational memory connected to the new information will be "on-line" and ready to be taken to the hippocampus for consolidation. With the new information they encountered in class that day.

When helping students understand the terms and concepts discussed throughout the lesson, they can devote more working memory to processing and analyzing ideas, making connections, and actively processing new information and less working memory is needed to simply decode new terms. Similarly, when learning is reviewed with authentic incorporation in new learning, the storage circuit is reactivated. For example, every time a long division problem is done correctly, there are subtraction and multiplication exercises. When learning is examined through follow-up lessons using open discussion, students are encouraged to seek different approaches to solving problems and to verbalize and communicate with classmates.

This provides an opportunity for more student engagement. When classmates add new approaches to problem solving, other students expand established and stored memory patterns and categories to incorporate new insights.

### **2.3 Factors that Influence the Use of Memory Strategies**

Several factors influence the use of memory strategies. Many researchers who have conducted studies have shown that an individual's personal knowledge base, or their background information on a particular topic, influences the use of strategies Schneider, Korkel, & Weiner (1989). The more people know, the easier it is to encode and retrieve information. As people develop students' knowledge, there is more content they are familiar with, which may provide more nodes for connecting information. An important study conducted by Chi (1978) compared children's chess masters and adult chess novice memory for numbers and chessboard configurations. The findings show that although adults outperformed children on digit memory, children actually outperformed adults in memory for configuration boards. It has been done this research that there are two types of capacity for memory, actual capacity, which does not change and functional capacity, which depends on what is remembered. It was concluded that children, because of expertise, using chunking strategies, were facilitated by pattern recognition which led to better remembering.

Metamemory can be defined as the knowledge that a person has about the functions and contents of student memory. A study conducted in 1975, how many young children are aware of their memories Kreutzer, Leonard, & Flavell (1975). Students are also aware that it is easier to re-learn material after forgetting it. And students also found that information recall is influenced by learning time, the

nature of the information, and how many items need to be retrieved (see Schneider & Pressley, 1997 for an alternative view). Finally, they realized that the external memory strategy was useful in retrieving information.

Motivation is an important factor in determining whether students use memory strategies or not. Vander Stoep, Pintrich, and Fagerlin (1996) studied motivation, knowledge, and self-regulation differences in students in three disciplines: English, Psychology, and Biology. General findings from this study include that students with "high adaptive motivational and efficacy beliefs and task value beliefs" reported more use of cognitive and metacognitive strategies. They also show that, "high-level personal attributes of domain-specific knowledge, adaptive motivational beliefs, and use of self-regulatory strategies" describe achievement for social and natural science courses.

Individual differences in psychological and cognitive attributes also influence the use of memory strategies. Several studies have found that differences in intelligence, learning disability, and knowledge base affect how well students can use memory strategies.

The automation of memory strategies is one of the more difficult challenges. Could say that one of the reasons students do not automatically use memory strategies is that it takes time to learn how to use them. Automation is the focus of a study conducted by Payne and Wenger (1996). They stated that along with using memory. Review some of the conditions that affect learning, noting the type of explicit learning we engage in when trying to learn something. Jenkins

(1979) classifies experiments on learning and memory into four groups of learner factors, coding activity.

One important variable that is well studied is working memory capacity. Working memory describes the form of memory we use to temporarily store information. Working memory is used, for example, to keep track of where we are in the process of a complex mathematical problem, and what the relevant results were from previous steps in that problem. Higher scores on measures of working memory are predictive of better reasoning skills Kyllonen & Christal (1990), reading comprehension Daneman & Carpenter(1980), and better attention control Kane, Conway, Hambrick, & Engle, (2008) Anxiety can also affect the quality of learning. For example, people with English anxiety have a smaller capacity to recall math-related information in working memory, such as the results of carrying numbers in arithmetic Ashcraft & Kirk (2001). Having students write about their specific anxieties seems to reduce test-related worries and improve performance on math tests Ramirez & Beilock (2011).

Students freely allocated their time to study the word lists who remembered the words better than the group that had no control over their own study time, although the gains were relatively small and limited to some students who chose to spend more time on the material at hand more difficult (Tullis & Benjamin (2011) In addition, students who had the opportunity to review material selected for study more frequently than other groups were asked to review material they did not choose to study again Kornell & Metcalfe (2006). However, these gains were also relatively modest Kimball, Smith, & Muntean (2012) and

were not seen in a group of older learners Tullis & Benjamin (2012). Overall, all the evidence supports effectively that learning self-control can be, but only when the learner has a good idea of what an effective learning strategy.

The factor that seems to have a big influence and students don't always seem to understand is the effect of learning repetition scheduling. If studying for a final exam next week and plan to spend a total of five hours. Increasing the distance between successive presentations seems to benefit further learning Landauer & Bjork (1978). Another factor that needs to be discussed is the role of testing. Educators and students often think of tests as a way of assessing knowledge, and this is indeed an important use of tests. But the test itself affects memory, because retrieval is one of the most powerful ways to enhance learning Roediger & Butler (2013). Self-testing is an underused and powerful way to make learning more durable.

#### **2.4 Memory Strategies in EFL Writing**

Writing is a productive skill, where one actually has to produce the language itself through written texts Harmer (2007). Some people consider writing as a fun activity where they can express ideas, thoughts and feelings to various media using the knowledge they have learned. This is in line with as quoted in Brown (2007) that "writing is a transaction with words where you free yourself from what you think, feel, and see." This means that the writer can enjoy himself, has an extraordinary imagination, and can put their thoughts into words freely. By writing someone can express their feelings through writing.

Writing complex cognitive activities required by a number of processes and strategies. A series of writing processes that began with the pioneering work of Emig (1971), who conducted the first study observing children's schools as they were written. Prior to writing there was planning that included three strategies, including idea generation, organization, and organization. According to the Hayes and Flower model, generating ideas consists of retrieving relevant information from the task environment and long-term memory, which is a storehouse of knowledge about discourses and topics. By writing people can transfer their ideas into writing. Kroll (1990) states that writing is a complex, recursive, and creative process or behavior that is similar in outline to first and second language writers. With Asmuti (2002) said by mastering writing skills, writers can elaborate their ideas in a systematic setting. Before writing, the writer needs the ideas of the writer to be understood by the reader. The author must use the correct language, so that the reader can understand the author's ideas. Writing is also a cognitive process because of the writing process by the task environment and the writer's long-term storage. Writing is a long term activity. In writing an argumentative essay there are three outlines used in writing including introduction, body, and conclusion. The writer should organize the essay that is written so that the readers have the same opinion for the essay and understand what the writer is saying.

Writing is a challenging subject that requires effort and skill. During the learning process, English as a foreign language and English as a second language (EFL) face many obstacles, such as learning how to do the writing mechanism.

Writing requires skills because writing is something that is complex and sometimes difficult to teach, not only having to master grammar and rhetoric but also having to master the concepts and elements that determine it, must also pay attention to the use of vocabulary, sentence organization, language use, use of punctuation, and content of the paragraph Heaton (1991: 135).

Writing that is several paragraphs long, not just one or two paragraphs is usually called an essay. Essay writing is a written work, usually from a writer's personal point of view. Essay writing is an important skill for every student, and the ability to produce clear, well-argued essays. According to harmer (1991:48) in learning writing Several things must be considered, for example, the arrangement of sentences into paragraphs, how paragraphs are combined, and grouping of ideas so that they become coherent writing. Because when writing essays students are guided not only students must not only understand and understand a topic, but go further and communicate what they know in a formal and orderly statement framework.

In the process of learning to write, there are several aspects that must be understood to produce good writing. According to Jacob (2004: 90) there are 5 aspects in writing.

- Content, the content of a paragraph must develop the main idea this element relates to the author's knowledge in writing including substance, thesis sentence development, and relevance in presenting the topic. Good writers stay on topic by ensuring that each supporting sentence relates to



the topic sentence Cengage Learning (2017, p.53). All sentences clearly relate to the main idea of the paragraph and support the topic sentence.

- Organization (organization in writing), writing is not convoluted and directly explains the essence of the problem. The transfer of discussion from one issue to another took place smoothly without creating gaps. Each sentence can support the main idea of the paragraph. Every time you add a new sentence, the sentence still supports the previous sentence.
- Grammar (accurate use of language), writing in sentences must be grammatically correct. Grammar is also important in writing because it will give meaning when writing is not in accordance with the rules, it may change the meaning of what has been read or in other words what is conveyed in writing cannot be understood or misunderstood. Grammar and syntax components are usually judged from the accuracy of sentence structures such as subject-verb agreement, tenses, word order.
- Vocabulary, the selection of vocabulary must be in accordance with the contents of the paragraph. Consideration in choosing the right words to express ideas with efforts to form beautiful and commensurate sentences.
- Mechanic, in writing must pay attention to spelling. Sometimes when writing Often it is difficult to distinguish between statements or questions because the difference is only small things but gives a big impact.

Oxford (1990) defines that strategy is a learning technique, behavior, problem solving or learning skill that makes learning more effective and efficient. Oxford (1990) divides language learning strategies into two main categories,

namely direct and indirect strategies. Direct strategies are strategies that are used directly in dealing with language and require mental processing of language Oxford (1990, p.37). Having a lack of vocabulary makes it take a long time to write because if you have a lot of vocabulary it will be easier to write. According to Nunan (2001) think that writing is not only a kind of behavioral hand but also a kind of intelligence. Students develop their thinking skills gradually. Thus they think that writing is a complex process as Ghaith (2002) states that writing is a complex process that allows writers to explore thoughts and ideas, and make them visible and concrete. Flowers & Hayes (1981) also view writing as a complex of cognitive skills, including decision making and problem solving activities. In the quote Alnufaie (2015, p.408) also considers “writing as creative as” the process by which writers discover and reformulate their ideas as they try to approximate meaning.” At the micro level, students practice certain written forms at the word or sentence level, while at the macro level, the emphasis is on content and organization.

Writing in English is a good context for studying the relationship between self-regulation and learning approaches because specific approaches and strategies in learning are made clear by Kellogg, & Raulerson, 2007. In writing contexts, writing strategies may be

Including free writing strategies, planning, generating ideas, finding meaning, group or pair work, considering audience, goals, and context of writing revision, drafting, and proofreading (Alnufaie, & Grenfell, 2012). Torrance, Thomas, & Robinson (2000, p. 182) also describes a writing strategy as "a

sequence in which a writer is involved in planning, writing, revising and other related writing. Direct learning strategies in the writing process (Oxford, 1990). Convinced us that everyone needs to use a strategy in writing. So, in this research, the researcher wants to investigate learning strategies used by students that they are think of the most useful and beneficial for them write English text to help them frustrated in writing English. That purposeful sampling involves selecting key participants knowledge or information related to the goal studies. They are students from the same class who have an interest in English.

### **2.3 Previous Study**

Of course, every year researchers need to always see and find feedback from previous research. This is necessary to find new or good ways of developing the language. In this study, the researcher looked at previous studies in different years, in different cases and in different areas but still in the same group regarding the application of memory strategies.

In a previous study researched by Yulianti, D. B. (2018) about learning strategies applied by the students in writing English text. In this case, students can choose and apply learning strategies based on instructional variables such as differences, types of domains, teaching methods, amount of time, learning technology, types of feedback, level of mastery, measurement methods etc. However, this study discusses learning strategies in general when writing essays so that when writing students have difficulty choosing the strategies to be used

In the research that Elfi (2016) in his research discussed about scrutinizing students' listening strategies to create mental relationships. This study focuses

more on the memory strategy used by students in Listening Comprehension II, and the attitude of students in applying memory strategies in listening. Meanwhile, in this study, the researcher intends to find out which students create mental linking strategies used by students and how they apply them in listening. understanding with this research, researchers can find out the mental linkages strategy. It can be assumed that this strategy is considered solving students' problems in listening comprehension to understanding spoken text.

Previous research on memories strategies was conducted by Oriade Oluwaseun<sup>1</sup>, Famaye Tolulope, Bello Lukuman, Esobi Collins Ikechukwu (2020) in Nigeria. In their study, they showed that learning to use long-lasting memory strategies could make a difference in helping students retain and remember usable content. In problem solving, creating something, and think critically.

This study focuses on the application of memory strategies when students write. In this study, all components of memory strategies were used, although from the results of the study, it was found that when writing essays, students were more dominant in using strategies for creating mental linkages. Previous research focused more on learning strategies applied by the students in writing English text, on the memory strategy used by students in Listening Comprehension II, and the attitude of students in applying memory strategies in listening and Previous research on memories strategies was conducted while research I see the application of memory strategies using all types when writing essays.