

- Reduce distractions and inhibit interference from noise
- Employ the use of such strategies as rehearsing, chunking, visualizing, and identifying key concepts
- Improve metamemory to better understand personal strengths and weaknesses

See Appendix 1.2: Suggestions for Teachers for additional strategies.

## Memory and Learning

Memory is a critical component for academic success. Simply stated, learning requires memory so that learned information is available when required. However, memory plays an important role throughout the entire learning process. From sensing a stimulus and holding the information until it is recognized, to problem solving and making associations with a person's foundation of prior knowledge, efficient and effective learning is hinged on memory. A weak memory makes learning more challenging and less efficient.

Weaknesses in short-term memory, working memory, or long-term memory may cause a delay or failure to interpret and retain information efficiently. This can affect daily routines, academic performance, work performance, and social interactions. For example, getting ready and leaving the house in the morning, arriving at school, preparing for work, taking notes in lectures or in meetings, performing in classes, studying for tests, or socializing at a party may be challenging for a person with memory weaknesses.

Deficits in short-term memory may include the following:

- Inability to chunk information
- Inability to register information quickly enough
- Failure to make attention and memory work together

Deficits in working memory may include the following:

- Failure to remember information just read
- Inability to hold on to parts of a task or activity long enough to act on it or complete it
- Inability to bind information together (e.g., a person forgets the question while trying to generate an answer, or person fails to connect new information with prior knowledge)

Deficits in long-term memory may include the following:

- Inability to remember rules or patterns (e.g., spelling rules or rules of capitalization)
- Difficulty following procedures (e.g., following the rules of long division or tying shoes)
- Difficulty making associations and categorizing
- Inability to form paired associates, or two entities that are linked (e.g., a name and a face or a country and its capital)

For example, if working memory is impaired, fluent readers will have difficulty with comprehension. Working memory is the "cognitive stewpot" in which new information is mixed with prior knowledge to allow comprehension to occur. There may be a failure to make associations, linking new information to old. Readers may also find their temporary storage capacity to be so overloaded with new information entering the brain that they may not be able to also think about the material or link it to prior knowledge. Some individuals may have smaller working memory systems and not be able to contain the pieces of information they need for comprehension to occur (Levine, 2002). Others may forget content gleaned from the beginning of a paragraph by the time they get to the end (Baddeley, 1997).

Over the years, we have found that the following steps help support learning and memory:

1. Have the student's hearing and vision checked by a physician or an audiologist.
2. Eliminate or minimize distractions in order to promote attention and focus.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Listen closely as I read each word, sentence, or paragraph. Create a picture in your mind of the word, sentence, or paragraph. Then describe in detail what you are picturing.

### **Words**

1. shoe
2. apple
3. dog
4. girl
5. bus

### **Sentences**

1. Sam tied his shoe.
2. Callie ate an apple.
3. The dog jumped up.
4. The girl was happy.
5. The bus was yellow.

### **Paragraphs**

1. Sam ran outside to play with his friend Joe. On his way to Joe's house, Sam realized that one of his shoelaces wasn't tied. Sam stopped and tied his shoe.
2. Callie's mom returned from the grocery store with two large bags of groceries. Starving, Callie reached into one of the bags and pulled out an apple and ate it.
3. The large dog jumped in the air to fetch a Frisbee.
4. The girl who was eating the chocolate birthday cake smiled.
5. The big, yellow bus dropped the students off in front of the school.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Listen for and then identify the *wh*- word or words as I read each sentence aloud.

1. Listen and identify ***what*** and ***when***.

Ms. Cheng and her third-grade class *dressed up in costume and performed a dance* for the rest of the school *last Wednesday* to celebrate the Chinese New Year.

2. Listen and identify ***who*** and ***what***.

Over the summer, the *tenth-grade students were required to read two books*. Mia figured out that she would have to *read a total of 400 pages* between the two books to finish before the school year began. She only wanted to read on weekdays. Mia had 10 weeks to finish both books. She calculated that she had to *read eight pages per night*.

3. Listen and identify ***where*** and ***when***.

Mr. McGee escaped from his *yard* on *Saturday* while his owners were at the grocery store. The little dog had discovered a small hole near the fence and quickly got busy digging. Soon, the little hole was big enough for Mr. McGee to slip through. He took a walk to the *park* and then went to visit his friend Barley, who lived *next door*. When Mr. McGee got home and scratched at the door, his owners ran to let him in. First, he got lots of love, and then he got a good scolding. His owners filled in the hole under the fence right away. No more escapes for Mr. McGee!

4. Listen and identify ***who***, ***what***, and ***where***.

*Mrs. Johnson gave her class a group assignment* and asked the students to *create a newspaper*. The students were instructed to form groups of three and were given a month to complete the project. All work was to be done *in the classroom*. The newspaper needed to include school news, national news, sports updates, editorials, and comics.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Read each word aloud, and write the definition in the space provided. If you need help with the definition, use a dictionary, look the word up on the Internet, or ask someone for help. Then create a sentence or drawing to help you remember the word. The first one is done for you.

| Word    | Definition           | Sentence/Drawing                              |
|---------|----------------------|---|
| fierce  | very mean or violent | Even the FIERCE lion was scared by the storm. |
| vase    |                      |   |
| rare    |                      |   |
| reptile |                      |   |
| success |                      |   |