

Memorization—A Valid Teaching Tool

By Pamela E. McKey

What forty-year-old American's mind is not inundated with childhood memories of past theme songs from situational comedies, prose from nursery rhymes and verse taught to them by their mothers or Sunday school teachers? Why can one easily quote nursery rhymes learned years ago yet cannot remember that which was newsworthy only a few weeks prior? These and other questions have been asked for years, the researchers seeking answers to how and why humans memorize. Several years back I conducted a study to investigate the memorization techniques used in many classical schools and to identify the benefits or weaknesses of these techniques. My goal was to determine if memorization in the forms of songs, chants, and recitations is an effective teaching tool.

History

The earliest mention of memory in ancient literature tells of Egyptians performing brain operations in an attempt to locate the human memory. Many ancient beliefs about memory were surprisingly accurate. The Chinese believed the center of memory was in the heart, thus our expression that we learned something "by heart." Even the great Greek scientist and philosopher, Aristotle, was concerned about and researched the nature of memory. Only in the last two centuries have researchers within the psychological and medical fields developed reliable theories on memory. A nineteenth-

century German scientist named Hermann Ebbinghaus¹ (1850-1909) was the first to address memory from a scientific point of view. He questioned how much we could remember, how fast we acquire it, and how long we can keep it. Many researchers since then have conducted psychological studies of memory but with disappointing conclusions. Empirical generalizations have been established, but for the

Why Not Teach "With The Grain?"

Why is this tremendous aptness all but ignored by modern educators and, in most cases, ostracized from the classrooms of public education? Rote memory and memorization techniques in general have been ridiculed and all but abandoned over the past four decades. Is it only chance that this coincides with the serious academic problems in American

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most part, they provide very little insight to inform practical use in the realm of education. Many studies have been conducted and innumerable hours of research have been invested to seek insight into memory. Most deal with the development of memory in the very young child or the loss of memory in the aged. Hardly any research has been conducted with young elementary aged children and the effects of repetition on their long-term memory, yet most books and articles on memory mention children's great ability to memorize. Parents are constantly amazed at the amount of information their young children retain and are able to recite.

schools? Working as the head of school and leading and promoting our memory period in a classical setting required answers to my many questions. Is memorization, in fact, a viable teaching tool for today's classroom? How much do children retain of the information gained in songs, chants, and recitations? Is this information transferred into children's long-term memories and readily retrievable? Is there a difference in male and female children's ability to retrieve information learned in a memory class? At what age or grade level is the implementation of a memory period most beneficial? I set out to answer these and other pertinent questions.

Theories

There are many theories as to how humans memorize. Memory is described as the mental faculties associated with storing past

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experiences and recalling them at will. Most research is concerned with two types of memory: short-term memory and long-term memory. Short-term memory is just as it appears, memories that last only a short period of time such as remembering what one ate for breakfast or wore to work the previous day. Experts disagree as to exactly how long short-term memory lasts. Some suggest only a couple of days while others ascribe a certain number of items. The number seven seems to be agreeable to most researchers as the number of items of information stored in short-term memory, thus our seven-digit phone numbers. All research agrees that short-term memory can become long-term memory. Scientists have termed short-term memory as “primary” and long-term memory as “secondary” memory. They found that when information in the primary memory is rehearsed, it is transferred into the secondary memory and stored. This occurs when memories are “filed” away in our brains and are available for retrieval. No one has been able to identify exactly when this occurs but for the sake of my study, I considered short-term memory as information retrievable from one to thirty days. After this length of time, memories retained were assumed to have been transferred into long-term memory. Long-term memory is thought to be infinite in capacity and the duration is seemingly an endless number of years but studies disagree on this point. Some people think long-term memory has to be emptied periodically to make room for more information. Others believe that people learn and remember new things all their lives. Some studies seem to show that memory can fade while others show that it is

only covered over by other related material and has the potential of retrieval. Some memory is defined as “potential recall” or the ability to retain or hold a memory. Retention is taking all the millions of bits of information learned daily and placing parts of it into long-term memory, making it possible to retrieve. Retrieval can be either voluntary or involuntary.

We Had A Good Start!

In the early 1800s the first public school opened in Baltimore. Concert or “simultaneous recitation” was practiced and remained in vogue throughout the 1800s. Recitation was described by an 1830s principal as “the life blood of the public school system.” This pedagogical approach involved all students of varying ages and advancements in recitation at the same time. Both recitation and memorization were viewed as primary tools of learning. One principal reported that “while stumbling along without fully understanding, a younger student mimicked older ones, and through repetitious recitation, gradually was able to count off upon his fingers, a thousand distinct principles, and facts, and rules, and definitions, that he had learned.” With the demise of school programs, such as this one in Baltimore, came the more traditional classroom and the subsequent demise of recitation and memorization as a teaching tool.

Less than one hundred years later, classical educator Douglas Wilson² reported in 1991 of the National Commission on Excellence in Education’s report that the schooling of the average student is barely adequate and that one out of every seven seventeen-year-olds in the United States is functionally illiterate. Wilson

also promoted memorization and recitation as an important tool of learning, especially during the grammar years. He pointed out that between the third and sixth grades children love to memorize since the accumulation of facts come easily to children of this age. When teaching facts and foreign languages to children, Dorothy Sayers³ recommended repetition and memorization at this elementary school age “when inflected speech seems no more astonishing than any other phenomenon in an astonishing world; and when the chanting of ‘amo, amas, amant’ is as ritually agreeable to the feelings as the chanting of ‘eeny, meeny, miney, mo’.” She identified the elementary stage as being the one in which learning by heart is easy, pleasurable, and even relished. At this age, children readily memorize, recite, chant, and simply enjoy the accumulation of facts.⁴

Research Supports

Research also shows that the working capacity of memory in children is much greater than in adults and also suggests that there is a limited amount of storage in the brain and that children, by reason of age, have more capacity for storing greater amounts of information than adults. Children evince this ability daily when they quote a conversation, recite verbatim a poem, or cite an extensive passage from a play. The saying “practice makes perfect” illustrates the accepted fact that repetition is crucial for learning. When Ebbinghaus carried out systematic experiments on learning and memory, he showed that the retention of information consistently improved as a function of the number of times that

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information had been studied. He also found that memory retention was greater when information was repeated in the same location and early in the morning. When these important facts are acknowledged, steps should be taken to initiate a return to recitation and memorization in the classroom.

Part of the classical methodology is to include a "memory class" in the regular school day. This class is usually designed for second through sixth graders and is conducted in a large common area such as a gymnasium or auditorium, according to the number of students. There is one leader, usually the principal or head master/mistress of the school. The class is held first thing every school morning for twenty minutes. The leader, with the use of an overhead projector, projects words of songs, chants, and any number of recitations onto a large wall or screen in full view of all the students. Taped music is used to accompany the songs. The leader leads the students in singing, chanting, or reciting. This is a fast-paced, energetic morning exercise that most students of this age enjoy. Leaders attempt to keep it interesting by applying hand motions or clapping rhythms to simple lists of facts. There may be competitions between male and female or grade levels.

The Survey

The students selected for this study were elementary school children that were between first and sixth grades and were being educated in classical schools. When testing student retention, the students were questioned on information learned from songs, chants, and recitations. Songs included any information set to

music. Chants were defined as information set to rhythm, usually involving a series of handclaps and foot stomping. Recitations were poems, verse, or other body of words such as the "Lord's Prayer" or Longfellow's "Paul Revere's Ride."

Eighty-nine students participated. Thirty were enrolled at Evangel Classical Christian School and fifty-nine were from Oak Mountain Classical School. Fifty-six percent (50) were male and forty-four percent (39) were female. Their ages ranged from 8-13 with the mean age of 10.5. The group included twenty-four 3rd graders, twenty-one 4th graders, nineteen 5th graders, fourteen 6th graders and eleven 7th graders. They were selected because they were all students that attended the twenty-minute memory class for a period of twenty weeks during the 2000-2001 school year. Achievement levels were not considered for this study, only participation.

A one-page questionnaire was designed and entitled "Memory Questions" and consisted of thirty questions. The first ten questions related to songs learned during the memory class. The second ten questioned their retention of chants and the final ten measured the retention of materials recited in the class. These categorical divisions were not indicated on the test, so students were not prompted in any fashion. The instrument was administered to all students on the same day. Students had no prior knowledge that a test would be given, therefore the students did no studying. The instrument was administered during the first week of the new school year and prior to the beginning of a new memory class. No review of previous information was given.

It is possible that some students may have experienced impromptu rehearsal during the summer months, but certainly, there was no formal or group recitation throughout the summer months. This provided a three-month period of time to pass between the time the previous school year's memory class was held and the test. This time lapse served to measure retention of information learned in the class. All correct information was believed to have been placed into the student's long-term memory at this point in time.

Results

Scores reveal that students retain a greater amount of information that is memorized in the form of songs. Seventy percent of the questions pertaining to songs were answered correctly. Fifty-six percent of the information learned by chants was retained and forty-one percent of material from recitations. The results showed that there is no substantial difference in childhood ability to memorize between male and female but there appears to be an increased ability for retention beginning in fourth grade and continuing through sixth grade, and a marked decline occurred with the advent of the seventh grade. This data supports Wilson's and Sayers's opinion that recitation is beneficial and enjoyable among elementary aged children but has a pointed decline as they near the junior high years. This data serves to inform parents and educators of the prime "window of opportunity" in which to employ these methods.

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The Scaffolding of Monuments...

is what the sentence is about. This sentence tells us that iron is *heavy*. So, *heavy* is the **predicate** because it is what the sentence tells us about iron. It is a **predicate adjective** (PA) because it tells a quality of the subject. *Is* is the **linking verb** because it joins the subject to the predicate.

Once the students understand simple sentences identifying the subject and the predicates (predicate verb, predicate nominative, predicate adjectives) plus the prepositional phrases, they are ready to handle complex sentences with clauses (relative clauses, adverbial clauses, noun clauses).

Diagramming

To learn the relationship of principal elements with the subordinate elements, we use the Reed and Kellogg method of diagramming.⁴ Its main goal is to visualize the relationship of subordinate elements to principal elements.

So why teach English grammar in this way? It reinforces Dorothy Sayers' view of the grammar stage (ages 9-11) as being focused on language. Children at this age possess a God-given ability to memorize large amounts of materials, which then become the scaffolding for building the dialectic (ages 12-14) and rhetoric (ages 14-16) stages that follow. The singing of grammar definitions and choral analysis provide the framework where further learning takes place.

At the close of our Open House, I related a story of a few years ago when my husband and I took our kids to Washington, D.C., to see the sites. I personally wanted to visit the Washington Monument. This marble sentinel lays claim to being the largest

masonry building in the world, and I couldn't wait to see it. Yet alas, the monument wore a shroud of scaffolding, which surrounded the grand masterpiece and obscured it. Though impressive, it wasn't what I desired to see.

I warned the audience of the danger of focusing on the scaffolding and missing its reason for being there. While visitors are often impressed by our students' ability to analyze sentences, I explained that its purpose is twofold: (1) to provide the structure to better understand their own language, and (2) to provide the wherewithal to construct monuments of thought through their writing and speaking. Each stage of learning reinforces and shapes the next. When these grammar years are successful, its lasting reward is our children's ability to communicate about God's world and His truth using His precious gift of language.

Note: For more information about the "Grammar School Grammar" music CD used at MHA contact Tammy Peters at htpeters@fuse.net or (513) 777-1167.

ENDNOTES

1. Thomas W. Harvey, *Harvey's Elementary Grammar and Composition* (New York: American Book Company, 1880), 21.
2. *Harvey*, 26.
3. Tammy Peters, *Grammar School Grammar*, 2004. (Music CD)
4. Alonzo Reed and Brainerd Kellogg, *Graded Lessons in English: An Elementary English Grammar* (New York: Effingham Maynard & Co., 1890).

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Conclusion

The data results show a very high percentage of retention (70%) from songs learned during the class as compared to only 40% from recitations. Students also retained 56% from chants. So where should parents and educators spend much of their time? Teach factual information in songs, chants, and jingles throughout the elementary years!

The survey revealed clearly that elementary aged students, especially during second through fifth grades, benefit from a memory class and retain much of the information presented. At ECCS we will continue our memory class and use these times, and research-proven methodologies to teach with the grain of our students.

(This article contains excerpts from Mrs. McKee's research. You may request a copy of the paper in its entirety, including graphs and other references, by e-mail at pammckee@aol.com.)

ENDNOTES

1. Hermann Ebbinghaus, *Memory: A Contribution to Experimental Psychology* (New York: Dover, 1964).
2. Douglas Wilson, *Recovering the Lost Tools of Learning: An Approach to Distinctively Christian Education* (Wheaton, IL: Crossway Books, 1991), 14.
3. Dorothy Sayers, "The Lost Tools of Learning" (Moscow, ID: Canon Press, 1990).
4. Wilson, 1991, 155.