The Rhetorical Canon of Memory and the Assistive Use of Mnemonics

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By

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Abstract

People often imagine at some point in their existence what it would be like to have a photographic memory. However, this mental aptitude is a misnomer, and extremely rare in humankind. What we possess from our Creator is a photographic mind. Our memory recall is based on the recognition of visual pictures that appear in our mind. The early communication theorists illustrated this recognition and described it in the fourth canon of rhetoric. Because of the advancements in information technology, memory no longer holds the significance it once did. Numerous academic texts refer to memory as the lost art of rhetoric and this is substantiated by the little attention memory receives in communication studies. Yet, modern day audiences often agree, public speeches are potentially more impressive and captivating when an extemporaneous speaker relies less on the written word and more on memory. Technological gadgetry has decreased the need for memory recall and increased memory insecurities. This study revisits memory as a significant rhetorical topic and tests a mnemonic technique that, if implemented, could increase recall and enhance rhetorical skills admired by the foundational orators. Using quantitative assessment, this study measures the impact of a pictographic coding system on student memorization of an assigned text at a large university in Virginia.

This Thesis Project is Dedicated to My Wife:

Kimberly S. Bobby

- Who Supported Me and My Daughters in Every Way, Shape, and Form –

and to My Mother

MaryLee Bobby

- Who Prayed Me Through It -

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I find it ironic that I write this Acknowledgement at the closing moments of accomplishing a thesis. To know me is to know that I despise writing. Long and painstaking papers and tests demanding good recall were the very reason I never considered going to graduate school during the first half century of my life. If a graduate degree had been on the horizon in my lifetime, it would certainly include a degree with a non-thesis option. I do not lack the ability to write well; it is merely my high expectation and perfectionist temperament that

discourages the process. My analytical mind rarely seems to flow any faster than a tortoise when having to put anything in writing. It takes an inordinate amount of time for me to respond to an email much less write a thesis. Yet, when no other option was available, I was stretched beyond my comfort zone by my heavenly Father and Creator. It is to His Son's credit, Jesus Christ, that I accomplish any task of any value. It was the power of the Bible, specifically 1 Corinthians 2:9, that kept me persevering; the Spirit in my mind reminding me to keep on keeping on; to not attempt to justify but to just complete the task set before me while sacrificing all the things I love. I may never know what specific purpose this challenging experience will lead me to, but there is little doubt I was at this university during a pre-appointed time for a pre-appointed purpose. To God be the glory!

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Chapter One

Introduction

The classical rhetorical theory, as discussed in numerous texts over the ages, originally lists five canons of rhetoric. The fourth canon, categorized as memory, is the canon that receives the least attention and significance in communication studies today. Perhaps its diminished status is attributable to the emergence of information technologies, yet whatever its cause, the debate still lingers as to the value of canonical memory in public speaking and the techniques used to aid memory.

In 1876, Richard Jebb introduced the first major English-language critique of classical rhetoric with his *Attic Orators from Antiphon to Isaeos*. According to Richard Enos (2006) "Jebb's intent was to provide a comprehensive account of the masterpieces of oratory in ancient Greece" (p. 361). In his work, Jebb evaluated classical rhetoric by its own canons: invention, arrangement, style, memory, and delivery. So dominant were the methods of classical rhetorical criticism for evaluating speeches that they evolved into an Aristotelian modeled criticism, or a method of criticism that stressed speaker, speech, and audience. For most of the twentieth century, these methods "prescriptively directed not only our evaluation of classical rhetoric but also virtually all manifestations of public address" (Enos, p. 362) according to Lester Thonssen, A. Craig Baird, and Waldo W. Braden's *Speech Criticism*" (1970).

Other Twentieth-century rhetorical critics such as Edwin Black questioned the presumptions of Neo-Aristotelian criticism and suggested alternative methods of rhetorical criticism using Ciceronian rhetoric of civic discourse. It was during the popularity of this mentality in the Twentieth-century that oral and written contemporary communication split among academics. Today, more emphasis is being placed on the written word than on oral

rhetoric (Enos, 2006). Rhetorical critics continue to look for diversity among classic canons and basically avoid discussion on memory as having any significance to rhetorical practices (Corbett, 1990). This casualty is being justified by the onslaught of technological advances, namely microprocessors that continue to store, retrieve, and amazingly display information instantaneously.

Today, a remnant of the original canon of memory still stands in the use of mnemonics. Although these systematic techniques have also taken a backseat in communication studies and public speaking, their practicality and proven use is beneficial to anyone seeking or requiring memory recall.

Purpose Statement

The intent of this sequential mixed methods thesis is to understand the original significance of the fourth rhetorical canon of memory; to understand its eventual decline to insignificance in present day rhetoric, to determine whether the assistive use of mnemonics can encourage its revival. The first portion of this study will begin with an exploration of memory as one of the five recognized treatises of the classic rhetorical theory established and refined by Aristotle, Cicero and Quintilian. The use of mnemonics to aid in rhetorical memory is as old as the rhetorical theory itself. Thus, this exploration will discuss mnemonics relative to a similar timeline. Included will be a rationale as to why memory is now considered the "lost canon" of rhetoric and what rhetorical benefits have been lost as a result of its demise. The second portion of this study will quantitatively determine the practicality of mnemonics in an effort to revitalize the benefits of rhetorical memory. A seminar will be conducted at a large Virginia university to train volunteer participants in a specific mnemonic technique using Bible verses and a mental filing system of icons. Findings from this quantitative phase of empirical data will determine

whether or not this particular mnemonic improves memory recall; systematically reduces the intimidation of rhetorical memory use; and/or enhances rhetorical effectiveness.

The following literature review in Chapter 2 apprises readers of the history regarding the classical rhetorical theory which has served as the backbone of rhetorical understanding and education for centuries. The literature review indicates that modern times have diminished the encouragement of memory in the practice of rhetoric. Some critics deem this demise unfortunate. To assist in memory recall and to encourage its resurrection from a lost art in rhetoric, mnemonics can be used. A mnemonic technique, or any learning technique that aids information retention, is an attempt to lessen the natural intimidation of using memory in public speaking and to effectively increase audience immediacy. Maximum speech and memory effectiveness necessitates the revitalization of the fourth canon of memory and mnemonics augments the corridor of achievement.

The Methodology in Chapter 3 provides details about the mixed methods approach to the overall strategy of this thesis. In light of this study, there are methods available to increase our memory and speech effectiveness. This thesis proposes there can be a significant difference in memory recall and speech effectiveness between students who have received mnemonic training and students who have not received mnemonic training. The results in Chapter 4 will display the research questions, hypotheses and will display an answer to the study as established by the methodology. Finally, Chapter 5 will discuss the outcome of the study in light of the limitations and suggest ways to improve the conduction of the study should it be researched in the future.

Chapter Two

Literature Review

The intent of this literature review is to study the original significance of the fourth

rhetorical canon of memory, its eventual decline to insignificance in present day rhetoric, and the

assistive use of mnemonics to encourage its revival. The literature review will begin with a

qualitative exploration of memory as one of the five recognized treatises of the classic rhetorical

theory established and refined by Aristotle, Cicero and Quintilian. Included will be a rationale as

to why memory is now considered the "lost canon" of rhetoric and what, if any, rhetorical

benefits have been lost as a result of its demise.

Memory recall is a cognitive challenge for the vast majority of individuals today. Based

on this premise and technological advances, memory is no longer considered and important

canon of rhetoric. Yet, in the days of old, rhetoric was a prized art. Practiced and accomplished

rhetoricians were held in high esteem and their philosophies given added attention and

consideration. The opportunity and ability to speak in the large amphitheatres was reserved for

the best orators. One can imagine from reading the historical texts of foundational philosophers

and religious leaders the anticipation, privilege, and value of public speaking in this day. It is in

this environment that Aristotle, Cicero, Quintilian, (Thonssen, Baird & Braden, 1970)

contemplated, analyzed, and documented the elements of effective rhetoric.

There are three foundational influencers and/or texts in history that are credited with

generating the classical rhetoric theory specific to the five canons. Aristotle (384-322 BC) is

considered the originator of the classical theoretical movement. Therefore, no discussion on the

origins of rhetoric would be complete without the mention of his three books, titled *Rhetoric*

(Cooper, 1960). In addition to others, Roland Barthes agrees that rhetoric and all of its didactic

elements are fundamentally Aristotelian. In these books Aristotle derives three main activities of the orator: invention, disposition, and style. Two additional canons were added to the classical theory by the original Roman handbooks of Cicero and Quintilian: memory, and delivery (Richards, 2008). However, no one is certain as to who was the first rhetorician was to add memory to the classical rhetoric theory. Friedrich Solmsen (1998) in his essay titled "The Aristotelian Tradition in Ancient Rhetoric" presupposes the addition "could have been made between Theophrastus," Aristotle's faithful pupil, "and those authors from whom Cicero and the *Rhetoric for Herennius* borrow the structure of the arts" (p. 222). The significance here is the relationship and commonality between the orators of that day.

Due to wars and power shifts that occurred during the last centuries BC, civilization eventually became defined less by Athens and more by Rome (Smith, 2003). As a result many leading Greek teachers relocated to Rome and continued the same rhetorical methods already established (Herrick, 2005). This fact is justified by both foundational Roman rhetorical treatises known as *On Invention* and *Rhetoric for Herennius*.

Cicero (106-43 B.C.) "was the greatest Roman orator and the most important Latin writer on rhetoric" (p. 101) according to George Kennedy (1999). *On Invention* (early 80s BC) was written by Cicero when he was young. Kennedy's interpretation of the text suggests Cicero was intentional in leading readers to believe the rhetorical concepts were original to him. However, the text basically explains the system of technical rhetoric Cicero had studied in his teens. Perhaps he penned the text primarily for himself as a way of reviewing studied theories. At this time, Cicero appeared to have had no direct knowledge of Aristotle's *Rhetoric*. Cicero, however, mentions that Aristotle did much to "improve and adorn the art" (p. 102) of rhetoric toward the view that the function of the orator is concerned with three kinds of subjects: epideictic,

deliberative, and judicial. *On Invention* "emphasize[s] judicial arguments, thus expressing a preference for the sophistic tradition over the legislatively focused Aristotelian tradition" (Herrick, 2005, p. 97). More significant to this study, we find Cicero advancing "what is probably his best remembered contribution to the history of rhetoric" (p. 97), his five canons of rhetoric. Cicero admits, however, that these subsets are not new with him (Richards, 2008).

In a later work titled *De Oratore*, or *The Orator*, Cicero discusses the "duties of the orator" (Kennedy, 1999, p. 114). Kennedy states the book "is an eloquent statement of the ideal of the citizen-orator that dominated the culture of the Greco-Roman world… *The Orator* was the first book printed in Italy (1465)… and it remains a major work in the history of rhetoric" (p. 115) today.

Rhetoric for Herennius is also a foundational text for rhetoric. However, the author of this important text is still debated. Craig Smith suggests *Rhetoric for Herennius* was most likely written by Cornificius, an older contemporary of Cicero (Smith, 2003), however, many rhetorical historians do not acknowledge this author but do contribute the content to Cicero's influence. *Rhetoric for Herennius'* discussion of invention has many similarities to Cicero's *On Invention*, and could represent the teachings of the same school or teacher. Historians tell us it was written a few years after *On Invention*. Regardless, through the Middle Ages and until the late fifteenth century the treatise was considered a work by Cicero and often referred to as the *Rhetorica Secunda*, or translated in English, Rhetoric Success (Kennedy, 1999). One of the significant changes that *Rhetoric for Herennius* "makes is to convert the Greek notion of epideictic speaking into demonstrative speaking" (Smith, 2003, p. 119). This text is also the first to clearly divide the rhetorical theory into the five canons of rhetoric and contribute to the development of

rhetorical memory through techniques such as parallel structure and mnemonic devices (Smith, 2003).

Quintilian (ca. 39-96 AD) practiced rhetoric as an orator in the Roman courts around AD 71. He was later appointed official chair of rhetoric paid for by the emperor Vespasian, the first appointment of this type in history. Quintilian was considered, "an eminently sensible man and a very good educator" and "the dominating teacher of rhetoric in Rome in the first century" (Yates, 1966, p. 21). Upon retirement he spent two years researching and revising his lectures and produced the most extensive rhetorical treatise to survive antiquity. This twelve book set is titled *Institutio Oratoria*, or *Education of the Orator*, and is primarily a treatise on technical rhetoric still considered the earliest and most complete educational handbook establishing the standard theory of the five canons (Kennedy, 1999).

So, considering its origins, what is the definition and understanding of memory from these foundational rhetoricians? Cicero's definition of memory "is a firm grasp in the mind of subjects and words" (Kennedy, 1999, p. 102). Quintilian claimed that "memory is a gift of nature that is improved with practice, and it is quite useful, not only for making ones' speeches appear spontaneous, but for remembering the argument of one's opponents" (Smith, 2003, p. 135).

Memory, therefore, is a distinct canonical art, the beginnings of which are anecdotally documented by Aristotle, Cicero, and Quintilian. Aristotle was a successor of Plato "who sets the stage for both the language and the problems of memory and recollection" (Lang, 2011, p. 184). Quintilian recounts the tale of Simonides, as previously mentioned in Cicero's text, who in 477 B.C. remembered all of the guests at a tragic banquet accident. Simonides apparently is the only surviving eyewitness whereby all other banquet guests were killed from a collapsing roof.

Simonides recalls where each guest sat and was able to identify each of the crushed bodies for proper burial. Cicero claimed that Simonides used his natural skill to make the discovery "that order is what most brings light to our memory" (Richards, 2008, p. 52). This ancient example presents an orderly account of mnemonic techniques, thus providing the basis for the art of memory's future development (Parshall, 1999). "After Simonides, many poets and rhetoricians began to use locations as a way of remembering arguments and story lines. Thus, loci (locus) or commonplaces became part of the rhetorical and poetic lexicon" (Smith, 2003, p. 135). In *Education of the Orator's* book 11, Quintilian discusses memory and recommends composing a speech in such a manner that each component is associated with a part of one's home (Kennedy, 1999). In this way, remembering a speech is as easy as walking through a house. "Everything of note therein is carefully committed to the memory, in order that the thought may be enabled to run through all the details without hindrance" (Smith, 2003, p. 135).

This theoretical idea is expressed further in the following paragraphs. According to Jennifer Richards (2008), *Rhetoric for Herennius* provides the most detailed original account of memory training available to us. "The orator who wants to train his memory must create a background for storing images; this enables the orderly retrieval of the images which are used to mark the objects or words to be remembered. These images should be vivid and remarkable to aid memory" (p. 53). Richards appropriately highlights the importance that mundane memory is not what is explained by Cicero. On the contrary, Cicero's text is as follows:

> … ordinary things easily slip from the memory while the striking and novel stay longer in the mind. A sunrise, the sun's course, a sunset, are marvelous to no one because they occur daily. But solar eclipses are a source of wonder because they occur seldom… Thus nature shows that she is not aroused by the common, but is

> moved by a new or striking occurrence… For in invention nature is never last,
>
> education never first. (Richards, 2008, p. 53)

Therefore, the basis of canonical memory is "embedded in our nature, that is to say, inherent rather than a consequence of artifice. When we contrive a means of recollection by artificial means we are in fact drawing on an innate capacity that can be cultivated and controlled in the service of a particular task" (Parshall, 1999, p. 456). In the following example, Cicero illustrates his point by using vivid symbolic meaning pertinent to his day:

> Often we encompass the record of an entire matter by one notation, a single
>
> image. For example, the prosecutor has said that the defendant killed a man by
>
> poison, has charged that the motive for the crime was an inheritance, and declared
>
> that there are many witnesses and accessories to this act… We shall picture the
>
> man in question lying ill in bed… And we shall place the defendant at the
>
> bedside, holding in his right hand a cup, and in his left tablets, and on the fourth
>
> finger a ram's testicles. (Parshall, 1999, p. 456)

"This last image is especially opaque, but to a Roman orator it vividly represents" (Richards, 2008, p. 52) the presence of the witnesses. Today's politically correct society might view the inclusion of a ram's testicles inappropriate. However, the word *testiculi* has meaning pertaining to witnesses, and the coin purses were commonly made from the scrotum of a ram, thus making reference to the motive of inheritance (Parshall, 1999).

So for centuries, rhetorical texts have held that an effective memory was by definition a visual one. Similar to the foundational rhetorical texts of Cicero on which this theory appears to depend, and the later text by Quintilian, the idea presented was intended to train individuals in the art of rhetoric. An essential part of classical rhetorical training was a method for disciplining

one's "natural memory" through a systematic means, or what is commonly called mnemonics today. This eventually was understood to be "artificial memory" (Parshall, 1999, p. 456). Although similar in concept to other classical expositions on memory, it was the so called anonymously authored *Rhetoric for Herennius* that expanded the theory of artificial memory most fully (Richards, 2008). Again the original text sheds the best light on the theory:

> We ought, then, to set up images of a kind that can adhere longest in the memory. And we shall do so if we establish likenesses as striking as possible; if we set up images that are not many or vague, but active; if we assign to them exceptional beauty or singular ugliness; if we ornament some of them, as with crowns or purple cloaks, so that the likeness may be more distinct to us; or if we somehow disfigure them, as by introducing one stained with blood or soiled with mud or smeared with red paint, so that its form is more striking, or by assigning certain comic effects to our images, for that too, will ensure our remembering them more readily. The things we easily remember when they are real we likewise remember without difficulty when they are figments, if they have been carefully delineated. (Parshall,1999, p. 457)

Perceptively interpreting the author's purpose regarding artificial memory - as opposed to natural memory - alluded to in the above text is "considerably more complex" according to Peter Parshall (1999, p. 457). More so than a purely mnemonic application of judicial defense, a list of characteristics suggest adding a distinct attribute to enhance a memorable image, thus increasing the chance of recall.

Basically what the text *Rhetoric for Herennius* describes is a mnemonic, or a technique for recalling things or ideas by attaching them to imagined images, or pictures in the mind. In

order to make use of the technique the student is asked to visualize a familiar environment; for example a building or a complex of spaces or items. One then proceeds through a sequence of ideas, points, or judicial arguments that require recall. Each point is committed to memory, in order, by assigning an associated image within that familiar environment. Exaggerating the images can increase the effectiveness of this memory technique . Practically, the instruction illustrated it to provide a "kind of imaginary theatre with images" (Parshall, 1999, p. 456). These images could be objects, pictures, or places such that recalling the points in a speech move through this mental environment recalling each point in turn. This concept is basically a gallery tour that assists the progression of our ideas in order. Although there are variations in this technique that have been introduced over centuries of use, the basic method has remained the same (Parshall, 1999).

Therefore, the memory part of rhetoric, as Cicero and others describe it, are "clearly pedagogical devices to suggest to a student the stages in the preparation of a speech" (Kennedy, 1999, p. 102). This device is also termed mnemonics and "No treatise on memory would be complete without an explanation on mnemonics" (Logan, 1955, p. 83). The word mnemonics comes from Mnemosyne, the Greek goddess of memory, which may shed light as to the added importance of memory in ancient times (Smith, 2003).

The canon of memory and its practice of mnemonics did receive notoriety by the Sophists which were common in Aristotle's day (Corbett, 1990). The Sophists were skilled and studied orators who used teaching methods to help students analyze judicial cases. Their objective was to have students "think on their feet, to ask probing questions, to speak eloquently, and to pose counterarguments to an opponent's case" (Herrick, 2005, p. 37). As an example of their accomplished skill Sophist's would perform admirable feats of memory that left their audiences

in awe. The orator's memory was trained mostly through practice, similar to methods

professional actors use today. However, Sophist schools of rhetoric did suggest various

mnemonic techniques that facilitated speech memorization. The seminars commonly advertised

today, that suggest improved retentive memories, is a "modern manifestation of this division of

rhetoric" (Corbett, 1990, p. 27).

However, the fourth canon of memory in Cicero's theme is less likely to fit with modern

ideas in comparison to other canons (Herrick, 2005). There is no doubt based on this research,

memory was by far the canon that received the least amount of attention. Edward Corbett, in his

book *Classical Rhetoric for the Modern Student*, has this to say about the matter:

> The reason for the neglect of this aspect of rhetoric is probably that not much can
>
> be said, in a theoretical way, about the process of memorizing; and after rhetoric
>
> came to be concerned mainly with written discourse, there was no further need to
>
> deal with memorizing. (Corbett, 1990, p. 27)

Corbett leaves no doubt regarding his opinion on the importance of memory stating, "There will

be no consideration in this book of this aspect of rhetoric" (p. 27). This is quite a defining

statement considering this is a well known, six-hundred page volume commonly used as a

college textbook.

We are given several additional clues through history that indicate memory's waning

significance. Thomas Frentz (2006) states,

> As conventional wisdom would have it, the traditional canon of memory is no
>
> longer an essential concept in rhetoric, having lapsed into little more than a trace
>
> of historical significance. Whereas memory was once the only way to recall
>
> speech materials, it was all but forgotten near the end of the classical period when,

as Roland Barthes put it, "the dominant medium of rhetoric changed from speech to writing. (p. 243)

In other words, as writing replaced the prevalence of speeches the need to practice memory recall was pushed into "obsolescence" (Frentz, 2006, p. 243).

Modern day writers appear to subtly desensitize rhetorical memory perhaps because of computers and its storage of impersonal information (Francoz, 1999). Therefore, the importance of memory has gradually faded with the capability of technology and no longer holds the magical significance held by our ancestry (Turkington, 2003). Victoria Nelson (1998) has a similar view as stated in her article "The Art of Memory."

For some time now humans have been artificially propping up (and simultaneously weakening) their natural capacity to remember. This task has been accomplished by a succession of gizmos-the hardware of memory, as it were: the alphabet, the printing press, the computer-whose net effect has been to separate and externalize the memory function from its human host." (p. 3)

The advent of the computer, and its ever increasing memory capacity, appears to have sealed the fate of any significance memory once shared with the foundational canons of rhetoric (Frentz, 2006).

Years of speech criticism has ensued to this day regarding the five specific canons. However, as many have surmised, one in particular has been lost (Enos, 2006; Grego, 1989; Kennedy 1999; Miller, 2005; Smith, 2003). In the centuries since the canons were created, memory has been pushed aside in favor of the other four (Lacey, 2011). Gradually the importance of memory has faded in modern times, perhaps as a result of complacency and the increased capability of technology (Turkington, 2003) and modern media. This is unfortunate, as

academia at large no longer practices the ancient art of memory in the modern classroom.

Society as well does not encourage classical rhetoric unless it is in a theatrical setting. Students

are not encouraged to understand how memorization might help them in speaking assignments

and to help them identify the most effective structural elements, language choices, and

arguments in the passages they present (Miller, 2005). The results are often speeches with no

emotion or attraction to captivate attention and persuade the audience (Arnoff, 2011). There is

little discussion on the functional aspects of rhetoric and the importance of emotion and style

which consequently will lead to the importance of memorizing speeches (Thonssen et al., 1970).

"To look carefully at what people say and how they say it is to take the human enterprise

seriously" (Hart, 1997, p. 36).

Although many communication authors consider the traditional history of canonical

memory to depict merely techniques for the purpose of mentally storing knowledge for speech

delivery, other authors see valuable benefits to memory that mold a more advanced and

conceptual kind of knowledge (Grego, 1989). In contrast to the written text, the rhetorical side

of memory is "dynamic, elaborated, generative" and "transformatory" (Francoz, 1999, p. 11). In

the article "Habit as Memory Incarnate" Marion Francoz (1999) states, "Over the last three

decades, research findings on the structure of learning in memory have been so compelling that

the whole history of comparing mind to machine has been turned on its head" (pp. 11-12).

Scholarly works by Yates (1966) and Carruthers (1990) shed light on the intimate historical

connection between memory and rhetoric, enhancing our understanding of the systems of

mnemonic locus by which classical, medieval, and renaissance orators memorized their

speeches.

Nonetheless, a disturbing silence prevails concerning the rift between

memory and post modern rhetorical theory and practice. Yet in seeking

reasons for the demise of memory, this estrangement reveals a far deeper

antipathy than has been conceived by… colleagues. After all, the whole

enterprise of postmodernism has been devoted to the lifting out and

dismantling of epistemological foundations, to the deconstructing of the

body of privileged knowledge. The memory as a mirror of nature and

culture has become an agent of insidious "reproduction." And when

knowledge itself is suspect, the expert is seen as the agent of cultural

cloning, the source of many of the major ills in Western society. (Francoz,

1999, p. 12)

Yet, even without considering the philosophical advantages of resurrecting the

importance of canonical memory there still lays a remnant of canonical memory today

within mnemonics.

Organizing a speech in parallel fashion, as mentioned in *Rhetoric for Herennius*,

makes words easier to memorize. Many school children memorize their lessons using a

mnemonic acronym. For example, the phrase, "My Very Elegant Mother Just Served Us

Nine Pickels," can cue recall of the planets as they are in the order of distance from the

sun (Smith, 2003, p.124). As of this writing Pluto is no longer considered a planet,

however, it has been around a lot longer as a planet than not as a planet, just like

mnemonics have been around a lot longer than the naysayer of canonical memory. The

article "Enhancing Student Learning and Social Behavior through Mnemonic Strategies"

encourages the use of mnemonics for students based on empirically proven data. The

authors state mnemonic strategies are enjoyable, engaging, and "highly successful" (Kleinheksel & Summy, 2003, p. 31) which students can apply to any learning activity.

For a modern example, John McNair (1996), in his article "Computer Icons and the Art of Memory," questions whether or not icon-based interfaces are better than text-based interfaces. He concludes that this debate is disputed and interpreted differently by each passing generation however icon-based mnemonic use continues to spread. An interesting point made by McNair includes the fact that computer icon interfaces can be made even more useful with some help from the ancient system of memorization as "the ancient art can shed light on interesting and perplexing points of study" (p. 77). This is not a surprising trend considering the overwhelming use of icon-based computer operating systems and international symbol use. But who would have ever thought modern computer technology and ancient rhetorical theories on memory could be synergistic? According to McNair and his applicable research of classical memory, the qualities that make computer icons effective contain several key elements. The first element is that it uses pictorial images, not words. Second, images are stored and retrieved spatially. In addition, memory uses images that are of a public nature or conventional images, such as symbols for products, traffic control, and advertising; memory encourages the making of one's own images, symbols, and icons; and memory encourages the making of symbol clusters to represent complex ideas. McNair suggests this nature of rhetorical memory, as it relates to images and places, can be effectively used to memorize and recall information as humans associate functions with iconic equivalents.

On the academic side, there is little doubt that orators who memorize speeches are impressive, more effective, and emotionally appealing. However, from a pragmatic perspective, thorough memorization of text of any length is daunting and time consuming, particularly for

older adults whose cognitive abilities decrease with age (Chesebro & McCroskey, 2002). Yet,

even the ancient rhetoricians of considerable age considered the task worthwhile. To claim they

had increased mental faculties is simply an excuse toward an inferior work ethic. However, they

did use mental techniques, or mnemonics, to aid their recall (Swadley, 2012). Following the

Roman tradition, public speakers such as Samuel Clemens used classically designed memory

techniques to deliver a speech. Clemens writes in *Harper's Magazine* "that he could deliver a

speech successfully only after he learned to arrange the parts of his topic in his mind by means of

a series of pictures. Even twenty years later, he said, he could reconstruct the speech from the

pictures" (McNair, 1996, p. 79). "How to" books from Carnegie, Lorayne, Furst, and others are

currently available that teach this memory technique.

As stated in *Communication for Teachers* (Chesebro & McCroskey, 2002), "working

memory and processing speed may hinder our ability to learn" as we age. Aging adults have

more difficulty remembering specific information as they read, especially when they cannot rely

on strategies such as, schemas, routines and knowledge to offset memory loss (Rogalski, 2010).

This fact typically becomes a deterrent for older students to enroll in higher education. *Cognitive

Science* (Lamberts, 2008) suggests the best way to recall information is to have organized that

information in memory at some point. Mnemonics aid memory recall by creating a mental filing

system of mental icons thus increasing one's ability to recall what was communicated.

Teaching mnemonic strategies as a technique to improve memory can be easily

implemented if there is an understanding of the need for them, what they are, and how to apply

them using a systematic step-by-step approach as introduced by the classic rhetorical theorists

(Kleinheksel & Summy, 2003). It would greatly benefit the schools of communication to

revitalize the ancient art or memory to aid students of any challenge. Memory may no longer

hold the mystical magic held by our ancestry however memory does largely determine our fate (Turkington, 2003).

More personally and practically speaking, from a communication studies student and Bible enthusiast standpoint, one of the challenges and frustrations I am continually confronted with is my inability to memorize Bible verses. Ben Johnson (1976), in his book titled *What Was That Verse Again?* has a number of helpful comments that align well with the principles learned from the canon of memory. This book is based on the premise that good memory is a trained memory and techniques are necessary to further the natural memory capabilities. Johnson states, "The main reason that scripture memorization is such a difficult task and of such little value for most people, is that there has been no method of memorizing that was easy or interesting… The most common method of memory today is repetition or rote memory and while this eventually works the retention is "simply awful" (p. 22). Because of this innate struggle many yearn, or are envious, for what is commonly termed a photographic memory. The fact is, it very rarely exists, and in the cases it does exist "These gifted people have nearly always had to be institutionalized because of severe physical and nervous breakdowns… Imagine the ability to remember everything and to forget nothing" (p. 23). This ability would be tragic in that we would never forgive or forget suffering, death of loved ones, emotional trauma, and the list goes on and on. The point is that humans were created with photographic minds and this innate ability is what the ancient rhetorical theorists understood. Obviously, the ancient orators had discussions about gifted natural memories. But, if all orators of the day had photographic memories there would be no need for a canon of rhetoric, nor would there be any discussion of artificial memory.

Developing a trained memory enables you to remember selectively what you desire. So, "There really is no such thing as a naturally bad memory" (p. 24), just an untrained memory that

has become inefficient through disuse. There are a number of reasons why most of us do not improve our memory, however it is never due to capacity. It is common knowledge that humans only use ten percent of their memory (Logan, 1955). The most likely reason we don't improve our memory is we never conscientiously learned how, however, fully intending to remember something is the best start.

According to Johnson (1976), "There are two kinds of memory: passive and active" (p. 37). To remember something automatically is passive. It is accomplished with natural effort and normally triggered by association. Recollection is active memory. "In this case an attempt is purposely made to recall some person, fact, place or idea. Active memory needs methodical or systemized effort" (p. 37). This effort takes us full circle to using mnemonics just like the classical rhetorical theorists explained.

In summary, this literature review historically informs readers about the classical rhetorical theory, which has served as the backbone of rhetorical understanding and education for centuries. The literature review indicates that modern times have diminished the encouragement of memory as it relates to rhetoric. Technology has played a major role in the decreased necessity of memory as an important element of public speaking yet some critics deem this demise unfortunate. Visual evidence substantiates the appeal of memory in rhetoric yet the cognitive challenges surmise its decline. To assist in memory recall and to encourage its resurrection from a lost art in rhetoric, mnemonics can be used. Mnemonic technique is an attempt to lessen the natural intimidation of using memory in public speaking and to effectively increase audience immediacy. Maximum speech and memory effectiveness necessitates the revitalization of the fourth canon of memory and mnemonics augments the corridor of

achievement. Yet, even beyond the benefits of public speaking there are methods available to

increase our memory and ultimately enhance the significance of everyone's daily life.

Chapter Three

Methodology

This thesis uses a sequential mixed methodology, one that combines qualitative and quantitative strategies, to assess the effectiveness of a mnemonic device. This mixed method is becoming more popular among theses due to its added benefits (Creswell, 2009). Two methods are always better than one as mixed methodologies result in more data to reflect upon. In addition, this sequential exploratory design has the capability to add synergistic benefits by gleaning more from the sum of both methodologies than if assembling their data independently. The first method will begin with a qualitative exploration of memory as one of the five recognized canons of the classic rhetorical theory. Included in the study will be the use of mnemonics relative to the canon of memory as discussed in the rhetorical theory. Also discussed will be a rationale as to why memory is now considered the "lost canon" of rhetoric and what rhetorical benefits have been lost as a result of its demise. The second method will quantitatively determine the practicality of mnemonics in an effort to revitalize the benefits of rhetorical memory. A lesson will be conducted at a large Virginia university to train speech communication students in a specific mnemonic technique using a Bible passage and a mental image system of pictorial icons. Findings from this quantitative phase will validate the hypotheses that there is no difference between students who receive this memory training and students who have not received this memory training.

Based on the premise of this thesis, the qualitative survey methods are also mixed. A cross sectional survey looked at the origin of memory and a longitudinal survey will compare memory usage in modern times. The multiple texts of classic rhetorical theorists Aristotle, Cicero and Quintilian are used to analyze the original intent of memory from these who are

credited with documenting what has become known as the classical rhetorical theory. This present communication age no longer places emphasis on memory as a rhetorical art since print media and the computer revolution have seemingly reduced the need (Herrick 2005; Turkington, 2003). Nonetheless, it is beneficial to the understanding of rhetorical theory as a whole to critically assess this original canon of memory that is no longer significantly acknowledged in academia. Furthermore, it is necessary to examine critically memory's environmental and historical origin and assess whether rhetoric has been served an injustice, as a vast majority of the rhetorical principles appear very much the same today. These foundational authors have received, and continue to receive, insurmountable attention among communication arts throughout the ages. Therefore, it is advantageous to glean an understanding of the era in which the rhetorical theory was created. In light of this understanding, the critical overview spotlights two types of questions. Do humans have the same capacity to memorize today as the ancient rhetoricians did in their era? Is it applicable to reinforce memory after the loss of its emphasis prior to this generation? The research hypothesis holds that students who have received mnemonic training will have greater memory accuracy than students who have not received mnemonic training.

Using mnemonics to aid in Bible memorization is steeped in religious tradition. The use of memory aids and iconic associations was passed up from the Roman ages to the middle ages by numerous Christians. Theologians, such as Augustine, used icons for practical purposes to graphically represent, and place into memory, images of hell and heaven. "Theologians called the image-rich Gothic cathedrals the illiterate man's Bible, with all that was necessary for salvation written in images on the walls and memorably pictured, an placed, in the stained glass windows" (McNair, 1996, p. 78). Frances Yates (1966) referred to these displays as a "poor

man's Bible" (p. 181) and a "powerful memory picture of rewards and punishments set it memorable places" (p. 136).

This first twenty-first century generation is particularly appropriate for the introduction of this technique because of its lifelong exposure to computer-based icons and iconic logo marketing. It was the advent of personal computers that icons became a more common word, one that was used on the desktop of every microprocessor based device. These icons now identify the company and the application simply by a continued association and experiential knowledge of the icon. The icon on a computer is the starting point of the intended function. Computer users have quick recall of the program contents when they focus on the icon. The visual mental picture associated with the icon is rich with additional mental pictures as the human brain recalls a foreknowledge of the function behind the icon. In this same way, this study hypothesizes our capacity to memorize Bible verses should increase as we associate mental pictures behind the words that are to be memorized. This technique can be enhanced further by linking the word pictures and creating a personal story. The pictorials used in the proposed lesson plan shown in Appendix B were reviewed by approximately sixty-five college aged students at a large Virginia University and chosen as relevant to this generation.

The audience of this thesis is primarily communication academics who are intimately familiar with rhetorical theory and the foundational texts discussed. There may also be those who have an interest in justifying the use of mnemonics as a tool to increase their memory recall or the memory recall of those so challenged. With grounded theory as a strategy of inquiry, it is also the hope of this study to bring further awareness that the introduction of type and technology did not change the original artistic intent of memory as described by the theorists. For there is no better way to analyze the earliest artifacts available to us, and understand the questions that have

long been debated, other than going to the sources that popularized the classical rhetorical theory

component of memory and comparing the views of rhetorical critics today.

   The quantitative portion of this methodology began with an assignment given to entry-

level speech communication students at a large Virginia university. The lesson was conducted in

a classroom setting, in the afternoon, after most students finished their registered classes. The

classroom was assigned by an event manager from the Office of University Scheduling. Based

on convenience, a minimum number of fifty participants were sought. Any additional volunteer

participants were welcomed. Based on typical university demographics, assumed ethnicity is

primarily Caucasian and, secondarily, other varied ethnicities, whose age will range between

eighteen to twenty-one years old. Gender mix was roughly forty-five percent male and fifty-five

percent female based on demographics of University at large. At risk participants were not

anticipated based upon researcher's prior familiarity with participant pool. However, it may

include participants with documented learning disabilities. These participants were reviewed on

a case by case basis. However, documented research on the pertinent subject matter encourages

the instruction of mnemonics. No prior experience with participants relative to the subject

matter is anticipated.

   This researcher facilitated the instruction, stated the objectives, administered the survey,

and observed the participants during the process. The method of instruction was lecture as

described in the lesson plan in Appendix A. The lesson began by the researcher reciting the

subject Biblical passage using the pictorial icon chart in Appendix B. The lesson continued by

giving a brief history of mnemonics and instruct participants on the mnemonic technique

discussed in the lesson plans located in Appendix A. The lecturer used visual projection tools to

aid in training. The mnemonic technique was taught to each participant in the room to aid them

in recalling a Bible passage for which they have no current recollection. The lesson instructed

the participants on the technique of this specific pictorial mnemonic. This methodology also

included the systematic means of associating familiar items and familiar places (Richards, 2008).

This process creates a personally meaningful mental filing system of icons that aid memory

recall.

Volunteer participants were drawn from a total pool of 800 students enrolled in an entry

level speech communication class. The master professor will sent an email to every registered

student in the class. If students were interested, the students were instructed to contact the

researcher via email for further information. A total of 50 volunteers were sought for the

research, however, more were encouraged to fill out a consent form because of the anticipated

attrition. The participants were evenly divided into two groups based upon which day they were

able to attend an information session as noted on the consent form. The first information session

attended by volunteers was titled Group B and served as the control group. Those volunteers

who attended the second session the following day were titled Group A and served as the test

group. At the close of the information session, those interested in continuing their participation

were asked to reserve a five-minute interval on which to recite their speech. This served as the

final roster of volunteer participants.

The method used to quantitatively study the hypothesis began with a speech assignment

requiring the memory component. Each student participant was assigned the same Biblical

passage found in James 3:2-10 (Appendix C). Group B was instructed to memorize the passage

with no specific instructions, or training, on how to memorize the passage. The expectation for

Group B members was to memorize the assignment using repetition. Group A was given a 45

minute lesson (Appendix A) on using pictorial icons to memorize the assigned passage. The

chart found in Appendix B was explained and each Group A participant was instructed to use only this method to memorize the given passage. Both groups were given two weeks to memorize the passage.

At the previously appointed time chosen by the participant, each individual participant recited from memory the assigned passage. No visual aids were permitted, such as queue cards and electronic display devices, during the recitation. All of the speeches were audio-visually recorded for later analysis by the researcher and graders. It is currently a general practice of the university to record various speeches during class sessions therefore no issues regarding this practice were anticipated. The recitation took place in a formal classroom, without an audience present. The classroom door was closed and locked to prevent disturbance from other scheduled participants and background traffic.

For data collection purposes, individual video files were uploaded into www.YouTube. com in one folder and categorized as unlisted. This allowed graders to access videos via a uniquely assigned link. To prevent any grader from being able to determine which participant received mnemonic training, a random list was created using the random sequence generator provided through www.random.org. Using the order in which the speeches was recorded, the corresponding number, as dictated by the random sequence generator, generated a new random list. This random order was listed on a Microsoft Word document and contained the associated YouTube hyperlinks for each individual speech. This document was made available only to pertinent faculty and Graduate Student Assistant (GSA) graders for the purpose of this analysis. No less than four speech trained GSA's and/or faculty members graded the speeches using the rubric provided. Each speech grader placed their assigned alphanumeric identification code on

each graded rubric. A master spreadsheet was created to organize data for statistical analysis.

The values of each rubric category was tallied and summarized with a T-Test.

In addition, a Likert scale survey was issued to each Group A participant; those who had

received mnemonic training. This survey created qualitative data to determine the statistical

significance of the hypothesis. Participants were asked to respond to ten questions on a five

point scale: strongly agree / agree / neutral / disagree / strongly disagree.

A Likert survey was be used for a number of reasons. It is the most widely used test

methodology for research. It is a quick way to measure attitudes or opinions consistently among

participants. The quantitative data that is obtained can be analyzed with relative ease. However,

similar to any survey, the validity of a Likert Scale can also be skewed. Individuals can choose

to be dishonest and either place themselves in a more positive light or retaliate against another

will (McLeod, 2008). Redundant questions worded in a different manner and/or with a

negative/positive valence were used to increase the chances of validity.

This Likert survey is a paper and pencil test and was administered at the close of each

recitation performed by Group A members. All participants were coached on the importance of

completing the survey accurately and fully without identifiers. Surveys were not used if any

information or question was left unanswered. Data was summarized by the researcher using the

T-Test as compiled using IBM's CCSC software. QuestionPro.com was used to further compile

data and standard deviations.

Ethical issues were not anticipated due to the educational environment from which the

literature review and training were conducted. This thesis is a curriculum requirement from a

communication department. The training was conducted with students and other participants

who had a motivational interest to increase memory recall based on their course of study related

to speeches. Also, there are participants who are interested in learning mnemonics to further

personal and occupational achievement.

The methodologies used in this thesis were subject to the recommendations and approval

of the university's Institutional Review Board. An application was submitted and approved after

several corrections that included the creation of a recruitment template and a consent form. Per

federal guidelines data must be available for 3 years. After which all recorded video files will be

permanently deleted; hard copies used for data collection and processing will be destroyed by

shredding; resulting analysis summaries will be included in published thesis. Any initial data

collection containing physical documentation is under lock and key. All computer files are

password protected. These documents are not available to anyone without consent from thesis

chairperson. The data received is without any identifying information such as names, postal

addresses, telephone numbers, email addresses, social security numbers, birthdates, etc.

In summary, this study reviews the history of the fourth canon of memory relative to the

classical rhetorical theory. First, to understand the creation of memory as a separate canon, and

second, to critically examine memory as a necessary element of rhetoric today. Based on the

rhetorical theory that includes memory relative to speech delivery, mnemonics is tested using a

pictorial icon based memory aid. This thesis proposes students who have received mnemonic

training will have greater recall accuracy in quoting Scripture compared to students who did not

receive this same mnemonic training.

Chapter Four

Results

The purpose of this mixed methods study was to first, review historically memory as a classical rhetorical canon, and second, to establish quantitatively its use as an aid to improving recitation memory and rhetorical skills today. Within the literature review, the proposed questions that were answered included, what is the significance of the fourth canon of memory in the classical rhetorical theory as established by the ancient rhetoricians, why it receives little attention, and, is it useful today. This study also evaluated the use of a specific pictorial icon based mnemonic to establish a correlation between 44 students who used the mnemonic to memorize a 189 word Biblical passage and students who did not use the mnemonic. An independent two-sample *t*-test, with unequal sample sizes and an equal variance, was used to evaluate the hypothesis. For those who were trained on the mnemonic, a ten-question Likert Survey (using a four degree response of strongly agree/agree/disagree/ strongly disagree), was evaluated using the response percentages.

Research question one was designed to bring forth the history of memory as the fourth canon of rhetoric, and its demise of significance as society modernized. Rhetorical memory receives little attention in communication circles today as compared to the pupils of the earliest rhetorical theorists. It is rarely emphasized in academia today as a means to increase recall and enhance public speaking skills. Therefore, the first research question asks from a historical point of view whether memory should be studied as a component of rhetoric in communication studies today. The conclusion for this question is derived from the literature review.

There is no argument among rhetorical theory historians that memory was a canon. According to the earliest rhetorical texts as written by Aristotle, Cicero, Quintilian, and other

supporting sources, memory is an individual canon of rhetoric and was originally listed as the fourth canon of the classical rhetorical theory. Aristotle's earliest works derives three main activities of the orator: invention, disposition and style. Two additional canons, memory and delivery, were added to the classical theory as defined by the original Roman handbooks of Cicero and Quintilian (Richards, 2008).

However, no matter the origin and importance of memory in ancient times, memory is less likely to fit with modern ideas in comparison to other canons (Herrick, 2005). Memory's waning significance has been replaced mainly with written discourse (Corbett, 1990; Frentz, 2006). Since the invention of the printing press in the 16th century and the emphasis on the written word, to the profound technological advancement of the microprocessor in the 20th century and 21st century, memory has received little significance as a canon of rhetoric. Modern day writers desensitize rhetorical memory through computers and its storage of impersonal information (Francoz, 1999). Therefore, the importance of memory has gradually faded with the capability of technology (Turkington, 2003; Victoria Nelson, 1998) and the arrival of the computer and its ever increasing memory capacity (Frentz, 2006). As a result of losing memory's significance in public speaking, students do not understand how memorization helps them in speaking assignments (Miller, 2005). The results are often speeches with no emotion or attraction to captivate attention and persuade the audience (Arnoff, 2011). In contrast to the written text, the rhetorical side of memory is "dynamic, elaborated, generative" and "transformatory" (Francoz, 1999, p. 11). To the contrary, memory is practical in improving rhetorical address and has proven to be beneficial to anyone seeking or requiring memory recall. Therefore in response to this question, history suggests the application of memory, as described in classic rhetorical texts, should be a component of communication studies today.

The second research question was quantitatively designed to determine the practicality of memory and mnemonics today as used in the early canonical texts of rhetoric. Based on the results of the first research question, an approach to creating empirical data was established to determine if memory and rhetorical skills can be enhanced by using mnemonic techniques. A sampling of COMS 101 speech communication students were split into groups A and B and used to evaluate the use of a specific pictorial icon based mnemonic. For the purposes of comparing test group A and control group B, a grading rubric was established with five questions. The first question was intended to determine whether there was a significant difference in recitation memory between group A, those who received memory training, and group B, those who received no memory training. The intent of four additional questions was to determine whether the mnemonic used significantly enhanced the public speaking skills for those in group A versus group B. Therefore, the first hypothesis is stated:

H1: Group A students who received training on a pictorial based mnemonic will have greater memory accuracy and rhetorical skills than group B students who did not receive training.

An independent, two-sample t-test, with unequal sample sizes and an equal variance, was executed between groups A and B to evaluate the results of the hypothesis. To establish the empirical data, five university trained speech GSA's observed an audiovisual taping of forty-four participants reciting from memory a 189 word Bible passage. Each speaker was rated on a scale of $0 - 10$, where 0 indicates speaker did not recite from memory more than the first sentence of assigned passage, and 10 indicates excellence with one or two minor flaws. An independent, two-sample t-test, with unequal sample sizes and an equal variance, was the statistical instrument used to determine correlations between groups A and B. The individual speech scores as

determined by each of the five GSA's are listed in Appendix D and are statistically summarized

in the following two tables:

Table 1

Memory Accuracy Comparison of Mnemonic Usage

	Group A			Group B				
	M	*SD*	*Var.*	*M*	*SD*	*Var.*	*p*	*t*
Q[1]	6.71	2.93	8.61	6.41	2.45	6.00	.72	.37

[1] Did the speaker accurately recite the Bible passage without pauses and interruptions?

The question posed in Table 1 was designed to specifically address the memory portion

of the thesis study. The resulting data determines whether any impact on memory recall existed

between those participants who received mnemonic training, group A, and those who did not

receive similar mnemonic training. It is known through casual conversation with group B

members that the common memory technique of repetition was used to memorize the same

assigned Biblical passage. Group B members had no prior knowledge of using the pictorial icon

based mnemonic to assist their memory recall. The data in Table 1 displays the *t*-statistic and

indicates the result was not significant at the commonly accepted .05 critical alpha level. In

other words, statistically, groups A and B are basically considered equal.

In addition, the variance of the individual question is noticeably and consistently high for

each group. This indicates a wide disparity among the scores pointing to a lack of understanding

between the graders and the criteria that warrants the point value. This assessment is

substantiated by the fact that the graders did not have any prior knowledge or access to any

participant who had received training. Each speech grader reviewed each audiovisual file in the

same order, which had been randomized prior to distribution. This methodology eliminated any

associated bias regarding those participants who received training (group A) and those who did

not receive training (group B).

Table 2

Rhetorical Skills Displayed During Mnemonic Usage

	Group A			Group B				
	M	*SD*	*Var.*	*M*	*SD*	*Var.*	*p*	*t*
Q^2	7.36	1.68	2.84	7.63	1.33	1.77	.55	-.60
Q^3	7.97	1.61	2.59	8.09	1.24	1.54	.78	-.28
Q^4	6.84	1.87	3.49	7.19	1.53	2.35	.50	-.35
Q^5	7.69	1.77	3.14	7.78	1.11	1.22	.85	-.19

[2] Did the speaker avoid the use of visually or aurally distracting mannerisms?
[3] Did the speaker use a natural, conversational quality?
[4] Did the speaker show confidence via posture, gestures, and eye contact?
[5] Was the speaker's volume, pitch, rate, and general vocal delivery effective?

The questions posed in Table 2 were designed to specifically address the rhetorical skills

portion of the thesis study. The resulting data determines whether any impact on rhetorical skills

existed between those participants who received mnemonic training, group A, and those who did

not receive similar mnemonic training. Group B members had no prior knowledge of using the

pictorial icon based mnemonic to assist their memory recall. The data in Table 2 displays the *t*-

statistic and indicates the result was not significant at the commonly accepted .05 critical alpha

level. In other words, statistically, groups A and B are basically considered equal.

Further observation indicates an improved variance as compared to the question assessed

in Table 1. Although the variances are higher than desired for a study of this nature, the

variances are consistent between each of the four questions and between groups A and B. This indicates the questions assessed in Table 2 are less ambiguous than the question assessed in Table 1. This fact increases the researcher's confidence as to the statistical results calculated among the five graders as a whole. However, this confidence level does not preclude the fact that the dataset is far from being statistically significant or trending.

Closer analysis of the statistical model is suspect and questions whether any significance is attainable with this small of a sample size. All five t-tests suggest any potentially significant statistical difference between groups A and B is plausibly due to chance or error. The research sample size was 44 and the degrees of freedom for the t-test was 42 (N - 2). Assuming the sample size and variability remained the same, the mean difference sought would be around 1.64 for a sample size of approximately 1340. Assuming the effect size and sample size remained the same, the standard deviation would need to be somewhere in the neighborhood of .98. These hypothetical values indicate unrealistic and unattainable objectives. Based on the low power (small effect size, too much variability, not enough people in the sample), the distributions overlap too much. Consequently, there is a very low likelihood of getting any sample size that would lead anyone to accept the hypothesis. However, one cannot determine if the hypothesis is true either, only that one could not reject it. This is because a real effect may exist. In other words, it is highly unlikely a test sample would ever exist to allow for the acceptance of the hypothesis. Based on the nature of this type of memory assessment, there is approximately a 20% chance of finding a sample from test group A that is far enough above the mean of control population B to statistically accept the hypothesis (Dyba, Kampenes & Sjoberg, 2006). Assuming the alternative hypothesis is correct, there is approximately a two-thirds chance of obtaining a sample that would fall beyond the point of rejection. There is also approximately a

one-third chance that a sample is received that can lead a researcher to think there is no effect,

when in fact there is one. Statistical power increases as one of the following is affected. When

the effect size is larger, the distributions are further apart, and there is less congruency. More

practically, if mnemonics have a significantly large true effect on memory, the variability is

smaller and the distributions fall within a tighter window. Or, a sample size could be larger

causing distributions to become less congruent. Theoretically, this understanding suggests one

cannot accept the hypothesis, nor can one reject the hypothesis either. In reality, the data

accumulated and statistically calculated for hypothesis 1 indicates another empirical conclusion.

Therefore, we reject hypothesis 1 and conclude the difference between groups A and B was not

significant.

The third research question was designed to determine whether the use of the pictorial

icon based mnemonic (Appendix B) is perceived as beneficial to enhancing memorization and

rhetorical skills during the recitation of the assigned Bible verses. A Likert scale questionnaire

(using a four degree response of strongly agree/agree/disagree/strongly disagree), consisting of

ten questions was administered to group A, or those participants who received mnemonic

training as established in Appendix A. Two questions were designed to establish a base line on

group A participants. One question determined whether everyone used the mnemonic to

memorize the assignment and the other question determined the general perception of technology

versus memory today. The remaining eight questions from the survey were intended to

determine the perception of other potential benefits of the mnemonic, such as longer term

memory, speaker credibility, and speaker confidence. Therefore, the second hypothesis is stated:

H2: Students who received the pictorial based mnemonic training will perceive this

method as beneficial for enhanced memorization and increasing rhetorical skills.

The survey was distributed via an email attachment to all 19 participants in group A. After one week of several email reminders, 15 of the 19 were received and complete for evaluation. The data shown in Table 3 summarizes responses to ten questions on a Likert-type survey given to only the trained test group A. The plus sign in the valence column indicates a positively phrased question and the minus sign indicates a negatively phrased question. Redundant questions worded in a different manner increase the chances of validity. Thus, for the trend to be consistent among the entire survey, the positively phrased questions will display the opposite results compared to the negatively phrased questions. The purpose of this mixed questioning is to reduce the potential for biased responses by forcing participants to read the questions more intently and theoretically provide more significant responses; a check and balance type approach to survey questions. It can be observed that the data is consistent with the intended approach as the trends are clearly supported within the group as a whole.

The first question on the survey established a baseline percentage, or a manipulation check, of those who did not use the mnemonic as instructed. This represented 13% of the survey population, or 2 out of 15 participants who disregarded the requirements to use the mnemonic while memorizing the assigned passage. This fact increases the bias toward mnemonics as being beneficial for memorization and rhetorical skills among the group who received mnemonic training. Furthermore, intensity levels between agree and strongly agree, or disagree and strongly disagree, have logical significance toward a bias, however, no standard statistical testing model was used to weigh such responses. The mean and standard deviation was calculated for each of the responses; yet, confidence in these descriptive statistics was not established due to the known bias discussed above and an ambiguous baseline.

Table 3

Perceived Benefits of Mnemonic Usage (%)

	Valence	Strongly Agree	Agree	Disagree	Strongly Disagree
Q[1]	+	.67	.2	.13	
Q[2]	+	.20	.60	.20	
Q[3]	+	.13	.67	.20	
Q[4]	+	.27	.53	.20	
Q[5]	+	.20	.73	.07	
Q[6]	+	.53	.47		
Q[7]	+		.60	.40	
Q[8]	-		.06	.47	.47
Q[9]	-	.13	.20	.54	.13
Q[10]	-	.07	.20	.53	.20

[1] I used the mnemonic training to memorize James 3:2:10?
[2] The mnemonic instruction I received helped me memorize the Bible verses?
[3] I will use mnemonics in the future to assist me in my memory?
[4] I will be able to recall Bible verses longer using this mnemonic technique?
[5] Memorizing a speech had added value?
[6] The memorization of a speech adds credibility to the speaker?
[7] The use of mnemonics gives me more public speaking confidence?
[8] I could not have memorized the Bible verses without using this mnemonic training?
[9] For memorization purposes, I prefer repetition rather than mnemonic techniques?
[10] Technology replaces the need to memorize speeches?

Regarding the positively phrased questions, 80% agreed or strongly agreed with the

mnemonic instruction they received as being helpful in memorizing the Bible verses; 80%

agreed or strongly agreed they would use mnemonics in the future to assist them in

memorization; 80% agreed or strongly agreed they were able to recall Bible verses longer using

this technique; 93% agreed or strongly agreed that memorizing a speech adds value; 100%

agreed or strongly agreed memorizing a speech adds credibility to the speaker; 60% agreed the use of mnemonics gives mores public speaking confidence.

Regarding the negatively phrased questions, 94% disagreed or strongly disagreed they could not have memorized the Bible verses without using this mnemonic training; 66% disagreed or strongly disagreed they preferred repetition rather than mnemonic techniques; 73% disagreed or strongly disagreed that technology replaces the need to memorize speeches.

Of the participants who received the mnemonic training and returned the survey, 15 of the 19 agreed or strongly agreed 60% – 100% of the time that the mnemonic was beneficial for enhanced memorization and increased rhetorical skills. Based on these inferential responses reported on the Likert survey, the hypothesis is accepted.

Chapter Five

Discussion

The objective of this thesis is to understand the original significance of the fourth rhetorical canon of memory and to determine whether a specific mnemonic using pictorial icons can justify its use today. Forty-four college students were tasked with memorizing a 189 word Bible passage. Nineteen of them received a specific training technique, as described in Appendix A and Appendix B, to aid their memorization and recall. Twenty-five did not receive any coaching on how to memorize the same passage. This chapter provides an understanding of the participant process and an analysis of the data obtained during this study as stated in the results chapter.

Based on early semester circumstances beyond the researcher's control, several weeks were lost during the intended implementation period. The master professor sent an email to every registered student in Speech Communication 101 (COMS 101) and offered twenty points of extra credit to the first fifty students who signed up for the research study. If interested, the student was told to contact the researcher via email for further information. Within several days, ninety-seven students responded as being interested in finding out more information about this research study. The target participation was fifty COMS 101 students. A sum total of fifty-seven volunteers were invited to attend one of the two information sessions, predicting that some students would not participate fully to the end of the study. The first information session attended by volunteers, served as the control group and titled group B. Thirty student volunteers were in attendance; all of whom signed a consent form to participate and scheduled a recitation time slot. The second information session took place at the same time the following day; twenty-seven volunteers served as the test group and titled group A. In retrospect, this resulted in a

better random sampling of the approximate 800 communication speech students canvassed. The

IRB was concerned the study was originally designed such that all speech students were not

given the opportunity to gain from the study knowledge. The first proposal included using six

sections, of fifteen students each, to recruit volunteers. The new method of participant

recruitment put this IRB concern to rest. Ultimately through attrition, nineteen COMS 101

speech communication students from group A and twenty-five students from group B honored

their recitation schedule. For those students who did not show up, multiple emails were sent to

remind them of their previously committed time slot. Some students had valid reasons for their

absence but most chose not to respond in any form.

Limitations of the Study

The research process brought to light a number of limitations to this study that potentially

altered empirical data. Although it is the goal of every researcher to anticipate and minimize

additional variables, they invariably surface. This study was no exception to this rule,

particularly considering the vast array of complexities that surface when using human subjects to

test a definitive hypothesis. The first limitation, that may have propagated other limitations, was

the pool of participants. Volunteers were sought from an entry-level, core class that must be

taken by all university students prior to graduation, regardless of major. The class is under the

direction of the College of General Studies and consisted of freshman students at large with a

small percentage of upper classmen. Considering the maturation of this group and the high

common percentage of students in this class that either drop out or do not complete college, the

pool represented a lower level of commitment to academics than other potential volunteers. It

was clearly observed that most participants did not spend the time to appropriately complete the

assigned task, or put forth their best effort due to other academic obligations. This was a

demanding task, requiring several hours of conscientious discipline to memorize the assigned

passage during their leisure. The researcher witnessed many participants that were frantically

cramming their memory just prior to their scheduled recorded recitation. Without question, most

students were motivated to participate in the study because of extra credit, not because of their

interest in the subject matter or potential benefits they could receive. In other words, this method

may have attracted a lesser studious participant, skewing the effectiveness of the mnemonic

alone.

　　　This study was also limited by the quantity of convenient participants. Fifty volunteers

were sought, however, this represented a smaller sampling size than is required to make any

accurate or statistically significant inferences about this population sector. This quantity issue is

even more of a factor considering this study required a stratified sampling of two groups.

Statistical power was also reduced as a result of several participants who committed to the study

but never showed up for their recitation.

　　　Time constraints prevented data collection on long term memory recall and prevented a

meeting with speech graders to ensure grading consistency. It was the original intent of this

study to schedule additional recitations further out in time to determine whether the mnemonic

used impacted one's ability to remember the assigned passage at a later date. The length of a

college semester, coupled with other pressing obligations by students, speech graders, and the

graduating researcher to write up the research, would not allow for another round of speeches to

determine long term memory enhancement. When it came time to grade the recitations the

GSAs were challenged with major time constraints and unforeseen absences. As a result, the

researcher was unable to meet with them as a group to review the baseline grading objectives.

This became a substantial limitation in scoring as the grading rubric was inherently subjective

and allowed for varying interpretations. Elements of the hypothesis attempted to measure the

participant's success in reciting the entire assigned passage with appropriate presentation skills.

The researcher is concerned the grading is inconsistent as most participants: did not accurately

recite the passage; had numerous starts, stops and long pauses; had continual hand wringing and

movement; had eyes closed or constantly looked around. Participants varied in recitation time

from one to six minutes, yet it is unknown what consideration each grader used to score the

rubric.

A number of participants expressed to the researcher manning the video camera, they

were nervous with the camera pointed at them. They said they recited it perfectly in their minds

prior to saying it in front of the camera. Environmental stimuli will significantly alter one's

behavior, yet it is impossible to fully isolate or understand the full ramifications of this fluidic

variable. Ironically, during one day of recording, there was unanticipated demolition occurring

across the hall. The loud banging was readily picked up by the audio recorder and was quite

disruptive to an already nervous group of public speakers. In addition, recitations were recorded

from three o'clock to seven o'clock in the afternoon, a time period occurring after a full day of

classes and study. Only two days during this time in the afternoon were available for recording,

which may have limited the cognitive skills of the participant.

The Likert survey was not administered to the Group A participants directly after their

recorded recitation. This was contrary to the researcher's intent and required the survey to be

distributed via email with an attachment. Several days passed before the survey was sent, and

several days following that only a few responses were received. This fact potentially impacted

the intensity of the perceptions as the survey could have been deemed a bother and insignificant

to them finishing the recitation. A few participants never did return the survey despite several

reminders the survey was required. This reduced the statistical power of an already reduced quantity of potential survey takers. In addition, the survey should have been used to clarify some of the variables, such as the amount of time spent preparing for the assigned task, the motivation to participate, demographics, memorization experience, and public speaking experience.

Implications for Future Research

A number of limitations surfaced during this study that if corrected would enhance future research on this topic. The importance of statistical knowledge prior to the creation of data is paramount. Recognizing the attributes and concise data requirements of the statistical model to be used in the methodology will improve questions and data gathering techniques. This understanding will establish more defined goals, decrease variability, clarify objectives, and ultimately make the study more meaningful to the reader. For example, the Likert survey created additional variables without the ability to measure the significance of weighted responses. To determine the intensity, from strongly agree to strongly disagree, a binomial test may have benefited the hypothesis. However, the results may be inconsequential if the sample number is too low according to statistical power constraints. Consequently, this study would be improved with a larger sample base.

There is room for improvement regarding the selection, implementation process and scoring of the participants. Future studies should include the administering of rewards based on the participant's ability to complete the task, not giving the maximum award for just an attempt. Furthermore, the study would be more comprehensive if it was open to a broader demographic, particularly upper classman, Biblical studies and seminary students. A time limit to complete the recitation should also be considered, along with how to score those participants who started over. The logic of letting them continue in silence was to determine whether the pictorial images that

came to mind helped them eventually recall words. It was obvious many of those who received the mnemonic training played the sequence of pictures in their head, yet there was no way to quantify this. It was obvious the initial training did not stress the importance of presentation skills as confirmed by constant eye contact issues and nervous gestures.

In the future, the Likert survey should be re-written to include all participants, both the control group and test group. The survey would include questions to determine the amount of time each student spent on memorization. Perhaps a question specifying gender should be included as well. The survey would also be administered directly following each speech recitation to assure full participation and eliminate the need for constant reminders to complete the survey via email. In addition, every survey would be linked to the individual and their group to determine any inferential statistical significance. By matching a response to the primary dataset, one could determine if performance is related to their opinion of the mnemonic.

Longer term memory recall was not tested as originally intended. Multiple recitations over a period of time should be scheduled to further test for mnemonics versus repetition techniques. Had time permitted, all student participants would have been scheduled to return for a similar recitation separated by one week increments for a total of three. New challenges would have been introduced, however, with participants wanting to review continually before each recitation period.

The passage used in this memory study contained 189 words. Of those 189 words, 103 unique pictorial icons were assigned to specific words for the purpose of aiding the memorization and recall process. All duplicate words found in the passage used the same pictorial icon. Most prepositions and conjunctions were not assigned a pictorial icon. However, some adverbs and other small linking works were assigned a pictorial icon. Future research

could include a reduction of pictorials and/or words to determine if a less demanding quantity would contribute results in favor of the hypothetical claim. Furthermore, this technique was intentional and common to the mnemonic technique established by the early rhetorical texts discussed in the literature review. However, the mnemonic chart used in this study contained pre-established, associated icons for the purpose of consistency, training, and data collection. Other similar mnemonic techniques teach the method and leave the pictorial associations to the individual. This allows for individual and personal association of icons that may allow for enhanced recall. In the future, more efforts should be made to teach the mnemonic method; not dictate the use of pre-existing pictorial and iconic representations.

Conclusion

The thesis study has contributed to the understanding of the rhetorical art of memory and its canonical role in public speaking. The origins of rhetorical theory and the significance of memory as a component of rhetoric have been confirmed qualitatively. The initial manuscripts on rhetoric recognized the importance that memory plays on the oratory skill set. Through the advent of technology, rhetorical memory has taken a secondary role to the written word. This fact has diminished the fundamental nature of rhetoric resulting in listless public speaking. The brain matter capacity exists in all humans to increase memory recall, yet modern society and academia no longer emphasizes memory techniques or mnemonics as illustrated in ancient rhetorical texts.

The quantitative portion of this study was designed to determine the practicality of using mnemonics to enhance one's memory and public speaking skills. Specifically, pictorial icons were assigned to words in a passage to increase the probability of memory recall. One half of the participants were trained and required to use this icon based memory aid. The other half was

not trained on any specific memorization technique. After two weeks, each participant was

graded on his or her ability to recite the same assigned passage from memory. The participant's

rhetorical skills were also noted throughout the recitation period and scored on a pre-determined

rubric. The resulting data was statistically processed and concluded there was no significance

between the group who used this particular mnemonic and the group that did not use the

mnemonic. In addition, a Likert style survey was distributed to the group who received training

and was required to use the mnemonic for memorization. Based on their responses and the

inferential result, the mnemonic usage was found to be useful and was favored over the alternate

memorization technique of repetition.

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Appendix A

Lesson Plan: Picture Perfect Memory:

A Modern Mnemonic Technique originated from the Ancient Rhetorical Theorists

by Jonathan Bobby

COMS 101 - Spring 2013

_____

Duration: 45 minutes

Statement of the Problem:

Students are challenged with memorization during assigned speeches

Target Audience:

This problem occurs among college students during speech presentations in an introductory level speech communication class. An average class size is 18 students. Most of the students in this class are freshman 18 or 19 years old with a few that may older. It is a heterogeneous group with different speaking abilities representing the general university population. Ratio of female to males is typically 55:45. Students are primarily Caucasian with a few multi-cultural students. The students' academic abilities are above average with one or two documented learning disability students. The placement of students is random based on time slot desired. Student's high school background include public school however there is a significant percentage from private schools and home schools. Economic status is primarily upper and middle class with smaller percentages under 10% on either side of this range. Parents tend to be professionals with a college education. A vast majority of students attends this university because of their Christian beliefs and recommendations from parents, siblings and affiliated churches.

A speech communication class is a general university requirement for graduation regardless of major. Many have not received public speaking training in high school. All students struggle with public speaking skills and confidence.

Theory Proposed as Solution:

Using mnemonics, specifically a pictorially based memory system

Explanation of the Theory:

The classical rhetorical theory as discussed in numerous texts over the ages originally lists five canons of rhetoric. The fourth canon, categorized as memory, is the canon which

receives the least attention and significance in communication studies today. Perhaps its decreased attention is contributed to the progress of technology, however, the debate still lingers as to the value of canonical memory in public speaking and the techniques used to aid memory.

So dominant were the methods of classical rhetorical criticism for evaluating speeches that they evolved into an Aristotelian modeled criticism, or a method of criticism that stressed speaker, speech, and audience. For most of the twentieth century, these methods "prescriptively directed not only our evaluation of classical rhetoric but also virtually all manifestations of public address" (Enos, p. 362) according to Lester Thonssen, A. Craig Baird, and Waldo W. Braden's Speech Criticism" (1970).

It was during this mentality in the Twentieth-century that oral and written contemporary communication split with more emphasis being placed on the written word, as it is today (Enos, 2006). Rhetorical critics continue to look for diversity among classic canons and basically avoid discussion on memory as having any significance to rhetorical practices (Corbett, 1990). This casualty is being justified by the onslaught of technological advances, namely microprocessors that continue to store, retrieve, and amazingly display information instantaneously.

Today, a remnant of the original canon of memory still stands in the use of mnemonics. Although these systematic techniques have also taken a backseat in communication studies and public speaking, its practicality and proven use is beneficial to anyone seeking or requiring memory recall.

Modern times have diminished the encouragement of memory as it relates to rhetoric. Technology has played a major role in the decreased necessity of memory as an important element of public speaking yet some critics deem this demise unfortunate. Visual evidence substantiates the appeal of memory in rhetoric yet the cognitive challenges surmise its decline. To assist in memory recall and to encourage its resurrection from a lost art in rhetoric, mnemonics can be used. Mnemonic technique is an attempt to lessen the natural intimidation of using memory in public speaking and to effectively increase audience immediacy. Maximum speech and memory effectiveness necessitates the revitalization of the fourth canon of memory and mnemonics augments the corridor of achievement.

Introduction:

Many of us here have heard of, or witnessed an individual who was able to recite many Bible verses, or even chapters, and stand in amazement at how such a task could be accomplished. At the same time, we commonly admit such a feat is completely out of our own reach, and is merely a gift reserved for God's chosen few. Practically speaking, this opinion does not have to be true. Let us for a moment, imagine a world prior to the printing press, and for everyone here, prior to computers. Memory was the common tool for the transfer of information as we communicated from generation to generation.

Until now, most of you have been exposed to rote memory systems or the use of acronyms to remember information and Bible verses. While these methods have value and do work, they are limited in their effectiveness as compared to methods used by the rhetoricians of old. Properly utilized, the methodology shared in the coming moments will train not only your memory, but can enhance nearly any other learning experience you encounter. We simply need to do one thing; ask our Creator to demonstrate to us how He created us to think.

The concepts of this mnemonic technique are centered upon organizing information systematically through visual icons and storing that information in mental files. Think of a

computer filing system. It is based on icons and the filing systems within the icons. Here are the steps to learning the Scripture passage that you are assigned to remember in your next speech assignment:

Task:

In this lesson you will:
1. Introduce memory significance as related to ancient rhetoricians
2. Lead discussion on memory specific to student needs today
3. Discuss speech assignment
4. Instruct students on this mnemonic technique
5. Review grading rubric

Process:

1. Two minutes: Read or put into your own words the main points of the introduction.

2. Two minutes: Discuss with students the impact of memory in academics and everyday life.

3. Three minutes: Review and explain speech assignment. Students at this point should already be familiar with speech organization but have little experience if any in mnemonics. Instructor is encouraged to recite memory passage from memory to illustrate commitment and practicality of memory technique.

4. Thirty-five minutes: Teach mnemonic technique;

   A. Memorization will most likely organize your thoughts and store them in mental files. These are actual mental places that create order, allowing you to recall information by remembering a location you are intimately familiar.

   B. Every word is an icon. Attach an icon to every word, or at least every significant word, in the passage. The icons you create for one word will be utilized continually in other verses and applications. You must learn to turn every word into a picture, which is not difficult because we naturally comprehend by thinking in pictures. On the following pages is a diagram of picture icons or images. The next 30 minutes will be spent reviewing the icon diagram, explaining the visual meaning. Note that the specific groups tasked with memorization using predetermined icons must not deviate from Bible version of passage used.

   C. Icons are accentuated, animated, disproportionate, and are linked together by action. Icons are utilized not as still shots, but as moving pictures. This is a simple and enjoyable process once utilized. This makes your learning of scripture creative and more attainable since it is unique to you. As you recall the icons in your memory, the story you filed away will allow you to recite the words in order. Just like that of a motion picture.

5. Three minutes: Discuss specific requirements of grading rubric and what students will be graded upon.

Resources:

        Classroom with video projection capabilities
        Computer with Power Point
        Class Speech Assignment
        Likert Survey
        Icon Diagram Chart (Appendix B)
        Grading Rubric

Evaluation:

        Each participant will be assigned the same Biblical passage found in James 3:2-10 (NLT). The participant will recite the given Biblical passage from memory. No visual aids will be permitted, such as queue cards and electronic display devices, during the recitation. All of the speeches will be visually and audibly recorded for quantitative analysis. The video files will be downloaded to Blackboard and made available to pertinent faculty and Graduate Student Assistant (GSA) graders for the purpose of this analysis. Each speech participant will be assigned a number through which all collected data will be assigned. No less than four speech trained GSA's and/or faculty members will grade the speeches using the same rubric. Each speech grader will place their first and last initial on each grading rubric. The values of each rubric category will be tallied and summarized with a T-Test.
        In addition, a Likert scale survey will be issued to each student participant that has received mnemonic training. This survey will create qualitative data to determine the statistical significance of the hypothesis. Participants will be asked to respond to ten questions on a five point scale: strongly agree / agree / neutral / disagree / strongly disagree.

Conclusion:

        Wow! You are now able to recite James 3:2-10 from memory much easier than you thought possible. No notes needed for the next speech. The beauty of this technique is that it is personal and meaningful to each one differently and can be applied to studying for all your following exams. Most importantly it allows you to memorize Scripture as we are commanded as Christians to do. One day in the future I will see you walking in public and ask you to recite James 3:2-10. I hope you will be up for the task.

Appendix B

If   we   could   control   our   tongues,   we   would   be
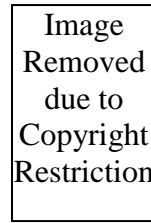
perfect   and   could   also   control   ourselves   in   every
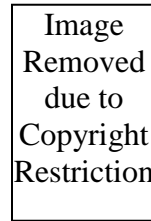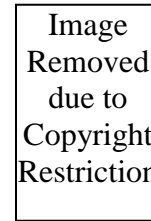
other   way.   We   can   make   a   large

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horse   go   wherever   we   want   by   means

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of   a   small   bit   in   its   mouth.

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And   a   small   rudder   makes   a   huge   ship

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turn   wherever   the   pilot   chooses   to   go,

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even though the winds are strong.

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In the same way, the tongue is a

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small thing that makes grand speeches.

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But a tiny spark can set a

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great   forest   on   fire.

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And   the   tongue   is   a   flame of   fire.

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It   is   a   whole   world   of wickedness,

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corrupting   your   entire body.

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It can set your whole life on fire,

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for it is set on fire by

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hell itself. People can tame all

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kinds of animals, birds, reptiles, and fish,

but no one can tame the tongue.

It is restless and evil, full of deadly poison.

Sometimes it praises our Lord and Father,

and sometimes it curses those who have been

made   in   the   image   of   God.

And   so   blessing and   cursing   come   pouring out   of

the   same   mouth.   Surely,   my   brothers   and

sisters,   this   is   not   right!

Appendix C - 1

Assignment for GROUP A

TITLE: *Picture Perfect Memory*

GENERAL INSTRUCTIONS:

Your goals in this assignment are to:

1) Memorize the given Biblical passage using the pictorial icon chart provided.

2) Only memorize the Bible translation provided, word for word, as accompanied by the pictorial icons.

3) Create mental pictures and a running story of the words in the given passage by using the icons provided to assist your memorization and recall. Do not rely on memory repetition without the pictorial icons, or mix common repetitive memory techniques to accomplish total memorization of passage.

4) Recite the Biblical passage from memory, without visual aids, after a minimum of one week from receiving instructions.

5) Communicate the message using the mnemonic technique learned as best you can, using good speech practices during your scheduled videotaping.

Memorize the following words from James 3: 2-10 (NLT):

"If we could control our tongues, we would be perfect and could also control ourselves in every other way. We can make a large horse go wherever we want by means of a small bit in its mouth. And a small rudder makes a huge ship turn wherever the pilot chooses to go, even though the winds are strong. In the same way, the tongue is a small thing that makes grand speeches. But a tiny spark can set a great forest on fire. And the tongue is a flame of fire. It is a whole world of wickedness, corrupting your entire body. It can set your whole life on fire, for it is set on fire by hell itself. People can tame all kinds of animals, birds, reptiles, and fish, but no one can tame the tongue. It is restless and evil, full of deadly poison. Sometimes it praises our Lord and Father, and sometimes it curses those who have been made in the image of God. And so blessing and cursing come pouring out of the same mouth. Surely, my brothers and sisters, this is not right!"

Appendix C - 2

Assignment for GROUP B

TITLE: *Memorization and Recall*

GENERAL INSTRUCTIONS:

Your goals in this assignment are to:

1) Memorize the Biblical passage below using repetition, rhythm, or rhyme

2) Only memorize the Bible translation provided below, word for word

3) Recite the Biblical passage below from memory, without visual aids, after a minimum of one week from receiving instructions

4) Communicate the message as best you can, using good speech practices during your scheduled videotaping

Memorize the following words from James 3: 2-10 (NLT):

"If we could control our tongues, we would be perfect and could also control ourselves in every other way. We can make a large horse go wherever we want by means of a small bit in its mouth. And a small rudder makes a huge ship turn wherever the pilot chooses to go, even though the winds are strong. In the same way, the tongue is a small thing that makes grand speeches. But a tiny spark can set a great forest on fire. And the tongue is a flame of fire. It is a whole world of wickedness, corrupting your entire body. It can set your whole life on fire, for it is set on fire by hell itself. People can tame all kinds of animals, birds, reptiles, and fish, but no one can tame the tongue. It is restless and evil, full of deadly poison. Sometimes it praises our Lord and Father, and sometimes it curses those who have been made in the image of God. And so blessing and cursing come pouring out of the same mouth. Surely, my brothers and sisters, this is not right!"

Appendix D

Recitation Scoring Summary

	Grp	1PD	2PD	3PD	4PD	5PD	sum	1AF	2AF	3AF	4AF	5AF	sum	1CJD	2CJD	3CJD	4CJD	5CJD	sum	1JB	2JB	3JB	4JB	5JB	sum	1TLC	2TLC	3TLC	4TLC	5TLC	sum
1	A	8	7	9	7	8	39	3	8	7	6	10	34	5	9	8	6	8	36	7	10	10	8	10	45	6	6	6	5	5	28
2	A	10	9	8	8	8	43	8	10	10	8	9	45	10	9	10	8	9	46	10	9	10	9	10	48	8	9	8	7	7	39
3	B	5	8	9	7	6	35	7	9	9	9	10	44	6	7	8	9	6	36	5	7	7	7	7	33	4	4	4	4	3	19
4	A	9	8	9	7	7	40	7	8	9	9	10	43	9	8	10	8	9	44	9	7	10	8	9	43	9	9	8	7	7	40
5	B	9	8	9	8	7	41	9	10	7	7	10	43	8	10	6	6	8	38	9	9	10	9	10	47	8	8	7	7	7	37
6	A	8	7	8	8	8	39	9	9	9	8	10	45	9	8	10	8	7	42	9	8	10	9	10	46	9	7	8	6	8	38
7	B	7	7	7	7	7	35	7	6	8	8	8	37	9	10	8	8	10	45	8	5	6	8	8	35	6	6	7	6	6	31
8	B	7	7	8	8	7	36	7	7	8	7	4	33	6	7	5	5	9	32	7	6	9	7	8	37	6	4	7	5	6	28
9	A	5	6	7	8	7	33	1	3	5	3	6	18	5	5	5	3	7	25	3	6	9	6	8	32	4	3	4	3	4	18
10	B	5	5	3	4	3	20	2	3	5	3	4	17	3	10	8	3	7	31	5	5	9	6	8	33	4	5	5	3	4	21
11	A	6	7	7	6	6	32	3	3	4	3	7	20	2	6	6	6	5	25	1	5	8	5	6	25	3	6	5	4	5	23
12	B	7	7	8	8	7	37	8	9	9	9	10	45	8	10	9	9	8	44	7	9	9	8	9	42	9	9	9	8	8	43
13	A	7	9	8	8	8	40	9	9	10	9	10	47	9	10	9	8	9	45	8	7	9	7	9	40	8	8	9	8	9	42
14	B	5	6	9	8	7	35	6	6	7	7	9	35	3	10	9	6	8	36	2	7	8	6	7	30	6	7	6	5	6	30
15	B	9	8	9	8	7	41	8	9	10	9	10	46	8	10	10	8	8	44	7	6	8	6	6	33	9	9	9	8	9	44
16	B	3	8	9	7	7	34	1	7	8	7	8	31	3	5	6	6	6	26	0	5	6	4	5	20	6	7	6	5	6	30
17	B	5	8	9	9	8	39	6	9	10	8	8	41	7	10	8	9	10	44	0	6	7	5	6	24	8	6	9	8	8	39
18	B	7	8	8	9	8	40	8	9	9	8	10	44	5	6	8	8	6	33	6	6	8	7	7	34	8	8	8	7	7	38
19	B	9	9	8	7	9	42	10	9	10	9	10	48	9	10	10	10	9	48	8	7	10	7	7	39	10	9	9	9	9	46
20	B	4	7	7	7	7	32	6	8	8	8	10	40	5	8	5	5	6	29	5	6	9	7	8	35	8	8	8	7	7	38
21	A	0	5	7	5	3	20	0	2	2	0	3	7	1	3	3	2	2	11	0	6	8	4	3	21	3	5	5	3	3	19
22	A	7	8	10	8	9	42	8	9	10	9	10	46	8	8	8	8	9	41	8	8	9	8	8	41	9	9	9	9	9	45
23	B	9	10	10	8	8	45	9	9	10	10	10	48	8	10	9	10	6	43	9	8	10	9	9	45	10	9	10	9	10	48
24	A	5	9	9	8	8	39	6	8	9	7	10	40	8	9	10	9	10	46	8	8	10	9	9	44	8	8	9	9	9	43
25	B	9	9	10	9	9	46	10	10	10	10	10	50	9	10	9	9	9	47	10	10	10	9	10	49	10	9	10	9	10	48
26	B	5	8	8	9	7	37	4	8	10	9	10	41	2	5	5	3	5	20	6	7	10	7	9	39	8	9	9	8	9	43
27	A	10	9	10	8	9	46	10	9	10	9	10	48	10	9	9	10	9	47	10	8	9	7	9	43	10	9	9	9	9	46
28	B	10	10	10	9	10	49	10	10	10	10	9	49	10	10	10	9	10	49	10	10	10	10	9	49	10	10	10	10	9	49
29	A	10	9	10	7	9	45	10	10	9	10	10	49	9	6	8	8	7	38	10	8	9	5	8	40	10	8	9	9	9	45
30	B	8	8	9	8	8	41	9	10	9	9	10	47	7	10	8	8	10	45	8	7	8	8	7	38	9	9	9	8	8	43
31	A	10	8	6	6	5	35	7	7	7	7	10	38	5	8	6	6	6	31	7	6	9	6	0	28	9	7	8	8	8	40
32	A	10	10	10	9	10	49	10	10	10	10	10	50	10	10	10	10	10	50	10	10	10	10	10	50	10	10	10	10	10	50
33	B	0	5	6	7	5	23	3	6	7	6	8	30	3	6	5	5	8	27	0	6	8	7	7	28	5	5	7	6	6	29
34	A	3	5	6	5	5	24	3	7	6	6	10	32	4	8	6	5	5	28	2	9	10	8	8	37	3	7	7	5	7	29
35	A	4	6	7	6	6	29	6	6	6	6	8	32	6	7	9	7	8	37	4	5	7	6	7	29	7	7	7	6	7	34
36	B	6	8	9	9	9	41	9	10	10	10	10	49	10	10	10	10	10	50	6	7	9	9	9	40	10	10	10	9	8	47
37	A	10	8	8	8	8	42	9	10	9	10	10	48	7	8	8	7	8	38	9	8	9	7	9	42	9	6	7	7	7	36
38	B	2	6	7	6	6	27	3	6	7	4	8	28	2	5	0	5	6	18	0	6	9	5	7	27	2	3	3	2	5	15
39	B	4	7	8	6	8	33	8	9	9	7	10	40	9	8	8	6	8	39	6	6	9	6	7	34	8	5	7	6	7	33
40	A	9	5	8	5	7	34	8	9	9	9	10	45	8	9	10	8	10	45	7	6	10	5	8	36	8	8	8	7	8	39
41	A	1	5	3	5	5	19	2	2	3	2	5	14	3	5	6	3	3	20	0	6	8	4	7	25	3	3	3	3	7	19
42	B	7	6	5	6	6	30	7	9	9	8	9	42	6	8	6	3	5	28	6	7	8	5	7	33	8	8	9	7	7	39
43	B	3	7	7	6	7	30	3	7	8	8	9	35	3	10	8	3	5	29	1	6	8	6	7	28	3	3	4	2	7	19
44	B	8	8	8	8	8	40	8	9	9	9	10	45	9	10	9	7	10	45	8	7	9	7	9	40	10	9	9	8	9	45