

Building Memory

Skills

(Home-Study Course HS-19)

presented by

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Course Objectives

Upon completing this one-hour, elective CE module, a participant:

1. Will better understand the different types of memory.
2. Will be able to create and use mnemonic devices to aid in remembering key information.
3. Will be able to make better nutrition and lifestyle choice to aid in improving memory.
4. Will be more aware of available brain exercises to build memory skills.
5. Will have learned about visualization, association, linking, and chunking techniques.
6. Should score a minimum of 70% on the 20-question Final Assessment.

About eight or ten years ago in Atlanta, Georgia, I saw something happen before a management seminar that was quite embarrassing for the seminar leader. It was a fairly large group, and after the program coordinator had greeted and registered the attendees...and after they sat down, the seminar leader walked up to each person, said good morning, introduced himself, asked for the person's name, and generally just tried to make them feel welcomed. There was a group of four employees who worked together and had arrived very early...about 7:45 for a 9 o'clock class. After the seminar leader had made his introductions they all left to grab some breakfast before the class began. About 45 minutes later they all returned. In the meantime, the instructor had "met" 30 or 40 other people as they arrived. The group sat back down, and the instructor approached them again, and it seemed like he had no memory of just having met them less than an hour before. One by one, he said, "Good morning...welcome...my name is so and so...good morning...hi, my name is so and so..." When he said to the third guy, "Good morning, my name is so and so," the third guy said (just loud enough so that everyone else around them could hear), "We know...we just met you about a half hour ago, genius!" Ouch! I've never forgotten that experience. Imagine how embarrassed and ashamed that man must have felt.

Now...fast forward a couple years later. This time we are in a seminar room in Philadelphia, Pennsylvania. It was a seminar on management skills for first-time supervisors, with 81 people in attendance. At the start of the class, in small groups, they were asked to have a discussion centering around all the challenges they were facing in their new positions. After a five or six minute conversation, the instructor debriefed the exercise with the entire crowd. There were no surprises with the things that came up. Things like: "My employees aren't motivated...I need to manage my time better...my boss is a jerk...my HR department doesn't support me..." On and on and -on. After commenting on each challenge, the instructor asked the group a very important question. He said, "While all of these things are *real* challenges...and certainly some of them are very difficult, wouldn't you all at least believe that if you are willing to take in some new information today, and start to do some things a little differently than you do now...wouldn't you all agree that at least it's *possible* to overcome some, if not all, of these challenges?" Some people nodded yes, but many people were not so sure. Then *that* seminar leader did something I will also never forget. He told the story of how when he was younger, he had a huge problem remembering people's names and faces. He said sometimes he'd meet somebody, they would introduce themselves to one another, exchange a greeting, and then *as they walked away*, he'd

say to himself, "Now what the heck was that guy's name?" I'm sure many of you can relate to that! Then he said, "I said I *used* to have that problem. With your permission, please allow me to say good morning once again to you all." He then proceeded to go around the room, saying good morning to each attendee, using their first (and in many cases) their last names too. He did that with all 81 people, and did not make one mistake! Not one! Imagine that instructor's pride and the influence he had on those attendees! After all, he had *shown* them that indeed it is possible. As you can imagine, I will never forget that experience either. I can also guarantee you that those two stories are absolutely the truth; told with no embellishment, no exaggeration. You know how I can guarantee you that? Because in both instances - in Atlanta many years ago and in Philadelphia a few years later, that seminar leader was the same person. It was me.

Hello again...and just in case you've already forgotten my name, it's Anthony Record, and I am looking forward to spending this time with you today to delve into the subject of Building Memory Skills. I am not a psychologist, nor have I been formally trained in memory. My degree and more than 40 years' experience is in business and management – and like most of you, I am an Eye Care Professional – specifically a Florida-licensed optician. But after being embarrassed and frustrated by a horrible memory, I decided to do something about it. So now, after years of studying, reading books, researching, and most importantly, putting into practice many of the things I learned and want to share with you today, I have achieved a degree of success in terms of memory improvement that many people find hard to believe. In fact, even after seeing me greet 81 people by name, or repeat back a grocery list of more than 50 items after someone reads it to me, many people still think it's trick. They just don't believe it's possible! But look, I am just an average guy...with average intelligence...who had a real problem...realized it...took in some new information...was willing to practice (and put into practice) some new things. That's the beauty of it. Continue to do what you've done, and no improvements will be made. But be willing to try a few new things...eventually, you're bound to get new, and better results.

Now obviously, there are tricks - or to be more accurate - techniques and activities that will help you make improvements regarding to memory. Using some of the tips and techniques I want to share with you today will make it possible for you not only to remember names and faces

of patients and colleagues, or a grocery list without writing it down, but also things like phone numbers, travel itineraries, professional contacts, important dates or appointments, birthdays, meeting agendas, presentation outlines...you name it! The sky is truly the limit.

To that end, the four key areas we're going to concentrate on in this session include
1) Mnemonic devices, 2) Body health and its impact on memory, 3) Exercising your brain, and
4) Using visualization and chunking, and much more in between.

Let's talk about three foundational things related to memory: The definition of memory, the different types of memory, and the different types of memory loss. First, memory is actually a psychological term describing the process by which information is encoded, stored, and retrieved. Simple enough. Second, depending on what source you believe, there are many different types of memory, with many different classifications. Some terms you may or may not have heard include Sensory Memory (which holds information for just a second or two), Short-Term Memory (which without training and development holds information from a couple of seconds to just over a minute), and Long-Term Memory (which can store virtually unlimited information for an unlimited amount of time, from just over a minute to forever). When it comes to long-term memory there are many sub-classifications with names like Explicit Memory, Implicit Memory, Episodic, Declarative, Procedural, Semantic, and many more. What we will mostly be concentrating on today is techniques to effectively move the things we wish to remember successfully from our short-term memories to our long-term memories. Third, it is worth noting that there are two types of memory loss: Transience and Absentmindedness. Transience is a fancy name that describes the phenomenon of memories degrading over time. Those can occur in all three of the types of memories (sensory, short-term, or long-term) and it happens between the time a memory is stored, but before it's retrieved. Some of you can probably relate to this as it follows a general pattern where the information is rapidly forgotten during the first couple of days or years, followed by small losses over subsequent days, weeks, months, and years. The best way to describe the -second type of memory loss is Absentmindedness. Absentmindedness, I believe, is best characterized as memory loss due to lack of attention. The amount and type of attention you pay to things as they are received in sensory and short-term memory will determine if and how - and for how long - they will remain in your long-term memory, and therefore be able to be retrieved. This could come in handy, for

example, when you're discussing with your boss all the delegated tasks you received in a meeting last week. All these things are the focus of our time together.

So, let's start with #1: **How to Develop and Use Mnemonic Devices for Instant Recall.** Mnemonic is a funny, little word. M-N-E-M-O-N-I-C. Rhymes with demonic. Like the "p" in pneumonia, the "m" in mnemonic is silent. It's Greek in origin, and while most people would have no idea what the word meant if they saw it simply written or typed on a piece of paper, those who do usually mistake its true definition. A lot of people think that a mnemonic device is only an acronym that is created to help remember something. For example, if any of you ever took music lessons when you were a kid, to help you remember what notes corresponded to the lines and spaces of the treble clef, your teacher may have told you that the five lines are E-G-B-D-F or Every Good Boy Does Fine. The four spaces are F-A-C-E...easy to remember because face and space rhyme. (Wow...talk about how powerful these devices can be...it's been more than 40 years since I had a music lesson, and the device for remembering the bass, or bottom, clef just popped into my head too: G-B-D-F-A or Good Boys Do Fine Always for the lines, and A-C-E-G or All Cows Eat Grass for the spaces.) But alas, I digress. While those four techniques are indeed mnemonic devices, acronyms are not the only things that are mnemonic devices. In fact, anything that you use to help you remember something is technically a mnemonic device. Do you use a Day Planner? Do you have a scheduling app on your iPhone? Did you tie a piece of ribbon around your finger last night, so you wouldn't forget to call that problem patient who's been bugging you for her glasses? Well guess what? Those are all mnemonic devices. Anything that is used to assist your memory is a mnemonic. Some of you may remember the mnemonic device you were taught to remember how many days there are in each month: 30 days hath September, April, June, and November, all the rest have 31, except for February, to whom we 28 assign, but leap year gives it 29. By the way, simple acronyms you use at work like HR for Human Resources, PD for Pupillary Distance, or ROI for Return On Investment are all, in a way, mnemonic devices.

Creating acronyms is a very effective way to remember things. I bet even those of you who haven't played an instrument for 20 years remembered the EGBDF and FACE and what it means. Another classic example is a mnemonic saying to remember the planets in our solar system, starting with the one that is closest to the sun. I learned: My Very Educated Mother Just

Showed Us Nine Planets. The first letters of that mnemonic remind me that it's Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Pluto. There are variations of course, and now that Pluto has been demoted to non-planet status, I changed my device to My Very Educated Mother Just Served Us Nachos. Hey...whatever works. As an optician, when I was younger and trying to remember the order of the color spectrum, I was taught the acronym Roy. G. Biv, which stands for Red, Orange, Yellow, Green, Blue, Indigo, Violet. That's what's known as a name mnemonic: turning something you're trying to remember into a name. How about a mnemonic device to remember the five Great Lakes? Here...you try it. Write these names down on a sheet of paper: Erie, Superior, Michigan, Huron, and Ontario. Look at the first letter of all the lakes' names. Can you make an acronym or something memorable out of them? Do you see it? Right! The first letters can make the word HOMES. I learned that more than 35 years ago, and I remember it to this day. Plant that image of a few nice homes on a big lake, and you will never forget what you just committed to your memory. I encourage you to create some of your own acronyms and sayings to help you remember patient names, places, products, main points of a presentation you must give next Thursday...whatever makes sense in your world. Now...a little piece of advice: When I asked you to figure out something to help you remember the names of the Great Lakes, I said, try to make it memorable. That's the key to creating effective, lasting mnemonic devices. Memorable things are easier to remember than unmemorable things. Don't believe it? What if I asked you to tell me the name of the *third* person you ever kissed? Tough assignment, huh? But if I asked you to tell me the name of the *first* person you ever kissed? You could do it in an instant. Why? Because the first of something is usually quite *memorable*. So as you start to create your own mnemonic devices to help you remember work-related or family things, try to make them as unique, meaningful, bizarre, or as funny as you can. Those will be memorable, therefore easier to commit to memory.

Now remember, a mnemonic is *any* device that helps you remember. Different things work better with different people. You know what works well for me? Music. Maybe it can work for you too. I often find myself remembering things by creating words to popular melodies. I first stumbled on this back in college. I was taking a Humanities class, and as part of our final exam, we were going to have to identify the composers of 50 pieces of classical music. A few of us were studying for the exam, and someone had the great idea to make up words for each note of the musical passages we were supposed to recognize. Here let me show you. [Play a few notes

from Beethoven's Fifth]. Most of you recognize that melody, and some of you may know that it's Beethoven's Fifth Symphony. I know for certain it is, because to this day when I hear it, I hear in my head: Beethoven's Fifth...Beethoven's Fifth. Have any of you ever heard this? [Play a few notes from Mozart's 40th]. I know it's a movement from Mozart's 40th Symphony because during that study session someone suggested, "It's a bird, it's a plane, it's a Mozart...in fact it's his fortieth attempt." To this day my kids know, in order, all our Presidents, because I taught them with this: [Sing] Washington, Adams, Thomas Jefferson, Madison, Monroe, Quincy Adams, Jackson, Van Buren, Henry Harrison, Tyler, Polk, and Taylor. I won't bore you with the last three verses, but you get the point. The point is be creative.

What about numbers. Again, creativity is key. I never thought about it before, but just this morning I came up with one to help someone remember my phone number using the letters and their place on a telephone keypad. Ready? Florida (FLA) - for Florida - Thug Cab. 352-848-4222.

Once I read where someone had come up with a "story" so to speak to help them remember the first 100 digits of the mathematical constant that is the ratio of a circle's circumference to its diameter - you know...pi. I have no personal interest in that myself, but the story that was concocted was so compelling, I do remember the first 10 or 15 words. It went, "Now I need a drink, alcoholic of course, after the heavy lectures involving quantum mechanics." That helps you remember that the first 15 digits are 3.14159265358979. Did you see how that works? Now I need a drink...Now has 3 letters...I one letter...need 4 letters... get it? Good! There are all kinds of other mnemonic devices: model mnemonics, rhyme mnemonics, image mnemonics, and many more. What you can accomplish with mnemonic devices is only limited by your imagination and the time you want to invest in the endeavor, and the applications for work-related things here are varied and wide. Here's a specific Action Step to take as a result of participating in this module: Over the next few days, create three original mnemonic devices to remember three work-related things. This could be anything like the phone numbers of your 10 most important clients, or the first and last name of all of your co-workers. If that challenge seems a little daunting, the rest of our session will likely help. Now...

#2. Let's consider how diet, nutrition, exercise, lifestyle choices, and even sleep for that matter can affect your memory performance. I only researched this a few years ago when I started to notice that even with many of the tips and techniques (including mnemonics) that I was using, some days the engine of my brain just didn't seem to be firing on all its pistons. If I had stayed up too late the night before, or pulled an all-nighter...it was much harder to remember the names of a room full of seminar attendees the next day. It didn't take a genius to figure out that it was probably due to the lack of sleep. So, it got me thinking: what other seemingly unrelated factors might be affecting my memory.

There are many studies that have clearly demonstrated that diets that are high in cholesterol and saturated fats can adversely affect the brain. A study published at the National Institutes of Health website (nih.gov) in June 2025 entitled *The Effects of Dietary Intervention on Cognitive Outcomes* found that supplementation with B vitamins + omega-3 polyunsaturated fatty acids (PUFAs) significantly enhanced episodic memory in older adults. There have been numerous other studies that show that exercise has a positive effect on the brain, mostly by increasing blood flow. Therefore, most scientists conclude that by lowering cholesterol and increasing blood flow to the brain, you are positively affecting your ability to remember. Talk to your doctor about all this, but from personal experience, I'm pretty sure that the same things that improve your waistline will also improve your ability to remember. In fact, an article I found on the WebMD website, reviewed by Dr. Laura J. Martin, suggests that even moderate aerobic exercise may, "Slow [down] or even reverse age-related memory loss in older adults by increasing the size of the hippocampus, a part of the brain that assists in forming memories. [As we age] the volume of the hippocampus may shrink and lead to memory impairment...but researchers found that one year of moderate aerobic exercise, like walking...increased the volume of the hippocampus by 2%, which effectively reversed the age-associated shrinkage by one to two years." In researching for this CE module, I came across study after study that affirmed the same thing: the more you exercise the less likely you are to forget to go to the gym to exercise!

Likewise, I'm sure it will come as no surprise that the same poor lifestyle choices that lead to heart disease, cancer, obesity and diabetes are also very bad for the brain! Now, despite claims to the contrary, there is no single, miracle food, drink, or snack that will boost your ability to remember. On the other hand, the same kind of diet that is good for the rest of your body is

good for your brain and will make it easier to remember and to use the mnemonic devices. From what I've discovered, the best diet for your brain is whole grains, fresh fruit and vegetables, and not too much protein...just enough to fuel your body's daily activities. Your diet should also include some monounsaturated fats and polyunsaturated fats that are high in omega-3 fatty acids rather than saturated fats. One study I came across suggested that diets rich in olive oil (which is mostly monounsaturated fat) may help prevent memory loss and thinking decline. Of course, it was from an Italian university, so maybe they were a little biased. As far as the omega-3 thing goes, those fatty acids are found mostly in cold-water fish like salmon, tuna, herring, and mackerel. Therefore, eating these kinds of things may not only improve memory, you may also be thwarting heart disease, high blood pressure and the risk of stroke. Not bad side effects while improving your memory.

Along the same lines of making dietary changes to improve memory, doctors and nutritionists have known for a long time that diets deficient in B vitamins can lead to memory problems, and that increasing your intake of certain B vitamins can increase your memory abilities. There is some evidence that vitamin B3 (which is better known as niacin) may be a good memory enhancer. In one study, people who took a supplement of 140 mg of niacin a day, improved their memory by as much as 40%. Every participant improved his or her memory by at least 10%. That's impressive. Folic acid is also a B vitamin (B9). Deficiencies of folic acid have been linked to dementia in the elderly, and among healthy people, lower scores on standard memory tests. Researchers at the University of North Carolina also proved that vitamin B12 is important for memory and other cognitive functions. Other than supplements, leafy and green vegetables such as spinach, asparagus, turnip greens, lettuce, as well as legumes like lentils, peas, and beans are all good sources of folic acid. Vitamin B12 is found mostly in animal-derived foods like meat, fish, poultry, eggs, and the like. According to nutritionist and researcher Dr. Richard C. Mohs, "Getting enough of vitamins C and E may also help perk up a flagging memory and keep it sharp."

Mohs also claims that magnesium (which is sometimes called the "anti-stress mineral"), has "many essential metabolic functions in the body, and it may be important in learning and memory." Mohs and many others feel that the RDA (recommended daily allowance) of

magnesium should be doubled due to its many benefits. Other than taking a supplement, dietary sources of magnesium include green leafy vegetables, whole grains, nuts, soybeans, and milk.

Dr. Mohs's research seems to agree with what I previously said about aerobic exercise. He takes it a step further by saying, "Aerobic exercise can help maintain short-term general and verbal memory. This type of memory is especially important when you want to recall names, directions, telephone numbers, or match a name with a face. One study suggested an even more impressive role for exercise: building new cells in a specific region of the brain that is associated with the age-related decline in memory that normally begins around age 30."

It has long been known that adequate amounts of sleep are essential to a high-performing memory. Research as far back as the 1960s showed that people who didn't get enough sleep the night before had a hard-time processing simple, short-term memory items. It is thought that during the dream cycle, the brain catalogues and forms memories from everything our naturally fragile memories experienced that day. If you have difficulty falling asleep, the good doctor says you're better off NOT using a sleep-inducing drug, rather, he suggests the following six guidelines to fall asleep naturally:

1. Go to sleep and wake up about the same time every day.
2. Keep your bedroom quiet and dark.
3. Follow the same routine every night as you prepare for bed.
4. Use your bedroom for sleep and the other activity that begins with the letter "S."
But don't read, eat, watch TV, or talk on the phone while in bed.
5. Don't try to concentrate on falling asleep.
6. If you haven't fallen asleep after 30 minutes in bed, get up and go to another room. Sit quietly, read, or watch something boring on TV. Then go back to bed.
Repeat steps 5 and 6 as necessary.

Finally - and this will come as no shock - drinking alcohol and smoking tobacco (besides causing cirrhosis of the liver and lung cancer) can adversely affect your memory. More specifically, these two habits can *permanently* damage your ability to remember everyday life.

So, if you want to enhance your memory and performance at work, here are some Action Steps: I would suggest getting as much sleep as you can (at least more than you do now), get up early enough to have a good breakfast before work, and instead of skipping lunch, use that time

to fuel yourself and your brain with some of the food and nutrients we just learned about. And by the way, there's something else you could do at lunch that might help...

#3: Why not give your brain workouts to keep it in top-notch shape. For some people, actual *physical* exercise is not something they look forward to. We know it's good for us, but it's something many of us dread. But what about the kind of exercise that wouldn't even require you to leave the comfort of your living-room sofa? Or beneficial exercises you could do while watching TV or even while going to the bathroom? Believe it or not, research shows that most people's brains look forward to and thrive on games, surprises, puzzles, and challenges. And just like daily exercise is recommended for your body, consider challenging your brain every day. If you do, studies show that it will contribute to your brain actually working better, improving your ability to concentrate, better visual perception, mental imagery, improved reasoning and cognitive skills, and of course, improving your memory. Rather than cite studies or share any personal anecdotes here, let's just dive right into it. Here are 20 specific suggestions of different things you can do to keep that brain muscle in shape.

- The Daily Crossword. While we need specific techniques to quickly and measurably improve our memory, working a crossword is a good brain exercise. And if you subscribe to a tangible or virtual daily newspaper, several crossword puzzles, and other things like the Jumble, Crypto-Quotes, Anagrams, and Sudoku are at your fingertips every single day.
- Word Search Puzzles - Any of those types of newspaper activities can really help.
- Memorize something - without using any "techniques." Just memorize it. A short poem, lyrics to a new song you like, a favorite recipe...anything, just memorize it. And repeat it every day for 30 days.
- Take an adult-education class.
- Read...anything...just read a little more than you do now.
- Read a magazine article about a subject matter you have absolutely no interest in. I just did that yesterday. I have no interest in crime or prisons, but I forced myself to read an article about California's Three Strikes and You're Out Law. Later I found

myself discussing it with my wife and citing startling facts and statistics I had learned.

- Play computer games - ones designed to exercise your brain and memory. Nintendo has some great ones, like Brain Age, and Big Brain Academy. There are plenty of similar apps for your iPhone and Smart Phone. (By the way, it probably wouldn't come up under a search for Brain Games, but for your phone I highly recommend an app called The Moron Test.)
- Manually punch in frequently called phone numbers rather than relying on your cell phone's memory.
- Humor. Tell a joke. Listen to a joke. Repeat a joke. Get a Joke-a-Day calendar.
- Improve your vocabulary. Learn a Word-a-Day. Really learn it. Use it in conversation at least three to five times the day you learn it...chances are you'll remember it.
- If you're left-handed, eat with your right hand or vice-versa. Of course, I would recommend doing this at home in front of your family, not at the luncheon you have with your most important client tomorrow.
- Use music to exercise your brain. Listen to a genre of music you claim not to like. For you maybe that's Country, or Classical, or Rap. If nothing else, imagine the positive effect it would have on your Generation Y co-worker, when a Mature or Baby-Boomer asks if they like the latest rap song!
- Listen to classical music more than you do now.
- Drive to work or drive home using a different route than you normally use. If it's a relatively safe locale, purposely turn down the wrong street when you're a mile or two from home. Try to find your way home without backtracking.
- Avoid watching TV for hours on end, or at least solve puzzles and perform some of these other activities WHILE watching TV. Try to solve a Rubik's Cube while watching TV. I call that Couch-Potato Multitasking!
- Never skip breakfast. I know that doesn't seem like an exercise, but for those of you who do skip it now, this could be a real challenge.
- Play board games with your family and friends.

- Check out Lumosity [that's L-U-M-O-S-I-T-Y].com and some of its competitors. For you older ECPs, believe it or not, AARP's website has some challenging brain games to offer.
- Learn a new musical instrument, or take up painting, or dance. Heck, anyone can afford a ukulele.
- Share the fact that you are going to consciously exercise your brain and improve your memory with your friends and family. Studies show that if you "Socially Commit" to your goals - all other things being equal - you are more likely to achieve them. Good luck...and have some fun!

While these things may not seem directly related to work at all, start to exercise your brain in these ways and you *will* see real improvements in your performance at work - and so will your boss. And if that gets your attention, there are a few other things that will help...

And (#4): **One of those things is using the power of visualization, association and something called linking** and the memory techniques associated with them. Of all the techniques out there, this is the one that I personally take advantage of the most. These techniques take advantage of the fact that most humans remember images way easier than spoken or written information. You've probably heard that many professionals who excel in their field use visualization as just one more tool in their quest for perfection. For example, before taking the field, a major-league pitcher may sit in the dugout, eyes closed, visualizing every aspect of his pitch. From taking the signal from the catcher, to the wind up, delivery, and follow-through. Likewise, a serious pianist will visualize by "listening" to herself playing the sonata she is about to perform in her head. She watches her own hands perfectly playing the notes on her piano. So to transfer that technique to use in memory. you must be able to visualize what you want to transfer from short-term to long-term memory. Using these techniques boosts your memory for three reasons: First, as I said earlier, images are easier to remember than words; second, creating visual images forces you to focus during the short-term memory process, thus boosting your original awareness; and third, every time you review the images, the memory is further reinforced.

Say you wanted to remember lettuce - for whatever reason (maybe it's one of the products your restaurant is going to start purchasing from a different vendor, and that's one of the topics

on the agenda of a staff meeting, or maybe it's just an item on a grocery list you want to remember without writing it down). You must be able to *visualize* lettuce in your head, not just the word or its spelling - the *image* of lettuce. So, if it's Iceberg lettuce you want to talk about or remember, while it's in your short-term memory (the first moment you think of it), you must picture a big, light green, glistening with water, wrapped-in-cellophane head of lettuce in your mind's eye. Do that right now...do you see it? Hopefully you can almost taste it and here the "crunch" when you break it apart. Now let's see how using this visualization technique in conjunction with another technique called linking can really work. Linking is where you visually *link* the first item on your list, or on your meeting agenda, or on your travel itinerary, or on your homework assignment list, or for whatever purpose you can think.

In the interest of brevity let's use the visualization and linking techniques to remember a list of six or seven things you need to pick up at your local Super-Center on your way home. You are driving, so writing a list or using your cell phone's recorder is not safe or appropriate. Let's say the items on your list are as follows, and you think of them as you're driving. We'll start with that fresh head of lettuce since it's still firmly in your short-term memory. Let's say you need lettuce, a basketball net for your son's basketball hoop, tuna fish, peanuts, computer paper, the last season of *The Big Bang Theory* on DVD, carrots, and milk. Okay, I think that's eight things, but we can do it. You can imagine how difficult even that short list would be to remember, and the average person would likely forget at least one or two of those things once you got to the store. But not you. Now...do this along with me. Start by *visualizing* that juicy head of lettuce, *link* that image to the image of it passing through a basketball net (now we are going to continue to visualize and link)...*visualize* that basketball goal and pole planted into the blowhole of a dolphin (I know that's not a tuna fish, but close enough, I like the image)...link that to the image of peanuts shooting out of the blowhole...as the peanuts shoot out of the blowhole...and land in that space where the paper exits a printer...as the paper exits the printer, on it you visualize the logo of *The Big Bang Theory*, which is a vividly colorful model of an atom with electrons spinning around...now let's visualize a sharp, singular carrot being used like a dagger to pierce the logo on the page...now finally visualize milk squirting out of the leafy greens at the top of the carrot. Remember what I said earlier. Images and the like need to be memorable - the more bizarre, unique, or off the wall they are, the more memorable they become. Now, for a list of eight things all you really need to *consciously* remember is the first thing, in this case, the lettuce.

I truly randomly made up that list, and then came up with the images within seconds. Repeat the linking sequence of that list in your mind's eye slowly once or twice, and even a month from now you would remember it. Practice similarly and within a month you would be able to visualize and link a list of more than 50 things. Piece of cake! To reiterate, you can easily see how this system could be used to remember the four main points of your presentation without notes...or the five reasons you are going to share with your boss to convince her you deserve a raise. The possibilities and applications are limitless. Before we talk about association, let's take a brief detour:

Think about a Red Delicious Apple. I bet all the things that you remember about an apple are flooding your memory right now. You *see* its color; you *hear* the sound that's made as you bite into it; you *taste* it...mmm; you can *smell* it; and you know how it *feels* both in your hand and in your mouth. You know why your memory of an apple is so vivid? Two reasons: First - Repetition (you've probably eaten hundreds of apples in your life), and the second reason is that all five of your senses are used when you do. So, as you visualize, try to use all your senses. For example, as you visualize the lettuce going through the basketball net, "hear" it happening too. Teaching point here: When trying to remember things, you should engage as many senses as possible. Keep that in mind when you are trying to memorize something said in a business meeting or in a conversation with your most important client in the hallway. While you can't taste or smell words on a page or words that are spoken - you can usually visualize them in your head - now engaging not just hearing, but sight as well. Speaking of sight. Let's talk about *association*.

What we mean by association to improve memory is to connect, combine, or correlate what you are trying to remember to something else. In fact, in most books on memory they suggest to simply "associate something to something else." However, I believe there are four things to remember about association: 1) Associate the something you are trying to remember with something you already know - and know well; 2) Make it memorable (and by that I mean something bizarre, funny, risqué...that kind of thing); 3) Increase original awareness through visualization., and 4) Capitalize on your strengths. By that I mean be aware of what your strengths and interests are and use them to your advantage. With me, I use popular musicians, actors and actresses, books, and movies. Because those are things I like. The last public seminar I

taught was about a month ago, in Birmingham, Alabama. I remembered the names of all 68 attendees before we began the class. Here are examples of three of the attendees and what went through my mind as I met them. You will see that visualization and association are both at work here. I met a young, black woman named Aretha Neighbors. I pictured her as Aretha Franklin singing to Gomer Pyle (played by Jim Nabors on TV). I met Coleen Bird. I had a friend when I was younger named Tim Bird whose sister's name was Colleen. I pictured Colleen, arm in arm with Tim. I met a man named Dori Felton - also an African American. I pictured his face on the body of a clownfish (like Dori the fish in Disney's *Finding Nemo*), with a huge Afro hairdo - like my classmate in high school whose last name was Felton, and who guess what? He had a huge Afro. Sounds complicated. It's not. Just use what works for you and practice, practice, practice. For those of you who work in retail, customer service, the medical field, or any field where you meet the same people over time, imagine the benefits of remembering people's names. Think of the impression on your customer or client who walks through your door and hasn't been there for six months or more. An *ordinary* person would greet the client with, "Good morning, how may I help you?" But what if you could greet the client with, "Good morning Ms. Johnson, nice to see you again. How'd your husband's cataract surgery turn out?" That's not *ordinary*...that's *extraordinary*.

Another technique I learned which takes a little work but is worth the investment is to create in your head what's called a Memory Landscape. I used 60 "points" where I live - because I've lived here for 25 years and I'm kind of familiar with it. Point one is my mailbox. Point two our basketball goal, point three is the pole, point four is the garage door, point five is the other garage door, point six is the water heater, and on and on with a total of 60 points inside and outside of my homestead. The points on my landscape are in a logical order geographically speaking. That took me a couple of weeks to commit it to my memory with repetition, repetition, repetition. But now I always have it in my head and can use it for many purposes. For example, instead of linking to remember the grocery list, I could use the memory landscape. For example, I might associate the lettuce with the mailbox in a memorable way; the basketball net with the basketball net (that's convenient); the tuna fish with the pole; the peanuts to the garage door, and on and on. There are many other applications and uses - it's only limited by your imagination and the amount of time you spend on developing your memory landscape. Like anything else, the more you practice, the easier and more natural it becomes. Try this Action Step: The next time

you are in a team meeting, try to remember the main points by using the techniques I just outlined.

The final thing we want to consider is the concept of Chunking. Remember, that without using memory techniques, most people have trouble remembering more than four unrelated things; more than seven - forget it! One way to get past this obstacle is to use a memory technique called chunking. By grouping things together into one larger whole, you'll be able to remember much more. Again "chunking" is technically speaking, a psychological term that means to group things together to make memory easier. Before we all had smart phones and had to dial phone numbers, we had always used chunking to remember numbers. It's hard to remember the number 2,127,891,406. But it's relatively easy to remember 212-789-1406. You probably had dozens of phone numbers memorized at that time. You used chunking without even knowing it! The mnemonic I made up for my phone number - remember what it is? FLA THUG CAB is chunking. I chunked the numbers into words from the number pad of a phone.

The Atlantic magazine recently highlighted the value of chunking based on the ideas in the book *The Ravenous Brain* by neuroscientist Daniel Bor. In one study, an undergraduate volunteer went from being able to remember a 7-digit sequence to remembering an 80-digit sequence after 20 months of practice, using chunking. The volunteer had been a track runner, so he grouped numbers as running times: 3492, for example, became 3 minutes and 49.2 seconds. Twenty months is a long time but look at the improvement - nearly 12 times the capacity was achieved! Think what you could do in half that time.

There are three different ways to chunk information which include grouping, patterns, and organizing. Let me give you a brief description of each. First, Grouping can be used in any number of ways, again, only limited by your imagination. For example, if you wanted to remember the first names of 12 people in a meeting. You could group them by gender: Four women and eight men. Now instead of the daunting task of remembering 12 names, your mind thinks it only has to remember the names of two small groups of people. Not so tough. Or say you're out in the field and you need to remember the serial number of a piece of lab equipment. The serial number is 3351182356. That's tough. But if you group the numbers into two imaginary Zip Codes: 33511 and 82356. A lot easier. Or maybe you group them into five groups of two numbers each: 33-51-18-23-56. Which works best for you?

Second, finding patterns in the information you are trying to remember is another way to use chunking. Once in a room filled with attendees sitting at round tables, I realized that the names of the six people at the front round table were Andrea, Eddie, Georgette, Christina, Kelly, and Iris. Do you see the pattern? I did straightaway - only because I've practiced for years. The more you practice the more all these things just seem to pop out at you. I noticed the pattern of every other letter in the alphabet starting with the letter A: A-C-E-G-I-K. I chunked them in that order: Andrea, Christina, Eddie, Georgette. Iris, and Kelly. After a couple of internal repetitions, I didn't even need any visualization, or association. Chunking had done the trick. The third chunking technique is Organizing. Rather than names, let's say you wanted to remember to what Age Generation 50 people in a room belonged: Matures, Baby Boomers, Generation X, or Millennial. You could Organize them into one of the four groups, then use some form of visualization, association, and linking to remember them all.

Remember that chunking simply refers to the strategy of breaking down larger pieces of information into smaller, more manageable, or memorable pieces of information. We need this technique because of the limits of our natural memory. If this whole concept intrigues you, I would suggest a book written in the 1950s called *The Magic Number Seven, Plus or Minus Two* by George Miller. It was one of the first serious works that centered around improving short-term memory.

Like any book you read, seminar you attend, or webinar you listen to, learning new information is nice. But information without action will not help you make any improvements whatsoever. If you haven't done it already, I would encourage you some time in the next hour, resolve to do three things - or three things differently - than you do now. Oddly enough, one of my favorite quotations about memory was uttered by one of the characters on the TV series *The Wonder Years*, which ran from 1988-1993, The narrator of the series once said, "Memory is a way of holding onto the things you love, the things you are, the things you never want to lose." That's a high-minded vision of memory, and I have used some of these mundane techniques to remember some things that are near and dear to my heart. You could do the same if you wanted to, or you could simply use these techniques to amaze your co-workers and dazzle your boss. What you can do with your memory is truly limited by your time and imagination. Enjoy the journey!

Final Assessment

1. Grouping individual things into a larger whole to remember them is called:
 - a. Association
 - b. Chunking
 - c. Visualization
 - d. Mnemonics

2. In a study cited in this module, what activity increased the brain's hippocampus by 2%?
 - a. Repetition
 - b. Aerobic exercise
 - c. Brain exercises
 - d. Mnemonics

3. Transience and Absentmindedness are two types of:
 - a. Memory Loss
 - b. Brain Exercises
 - c. Mnemonics
 - d. Association Remedies

4. A good way to remember a list of things might be:
 - a. Mnemonics
 - b. Repetition
 - c. Concentration
 - d. Visualizing and Linking

5. Using a phrase like "All Boys Should Come Home Please": to remember the names of Henry VIII's wives were Aragon, Boleyn, Seymour, Cleves, Howard, and Paar is an example of:
 - a. A Mnemonic Device
 - b. A Song-Like Device
 - c. Association
 - d. Visualization

6. Describing how a subject went from only being able to memorize 7-digit sequence to being able to memorize an 80-digit sequence in 20 months, was described in which book mentioned in this module?
- a. *The 7 Habits of Highly Effective People*
 - b. *The Magic Number Seven, Plus or Minus Two*
 - c. *Memory and Other Songs from Cats*
 - d. *The Ravenous Brain*
7. What's the author of this module's cell phone number?
- a. 813-543-9876
 - b. 352-848-4222
 - c. 727-863-4444
 - d. 352-688-6994
8. All but which one of these activities might help improve your memory?
- a. Skipping breakfast
 - b. The Daily Crossword
 - c. Listening to more classical music
 - d. Learning to play the tuba
9. Which of the following two habits are probably damaging to memory?
- a. Smoking and Exercising
 - b. Exercising and Chunking
 - c. Karaoke and Crosswords
 - d. Smoking and Drinking (alcohol)
10. Roy G. Biv is a common _____ used by opticianry students.
- a. Mnemonic device
 - b. Visualization tool
 - c. Association technique
 - d. Chunking method

11. All except which of the following were the four key areas presented in this module?

- a. Diet and nutrition
- b. Formal education
- c. Visualization and association
- d. Brain exercises

12. Implicit, Episodic, Declarative, Procedural, and Semantic are all different types of:

- a. Mnemonics
- b. Memory
- c. Chunking techniques
- d. Visualization methods

13. An effective way to memorize the SKU – 82376538200 – of your best-selling frame might be to use:

- a. Chunking
- b. Create a mnemonic
- c. Association
- d. Visualization

14. Memory is a/an:

- a. Bodily function
- b. Automatic action
- c. A psychological term
- d. Fixed ability which cannot easily be improved

15. The word “mnemonic” comes down to us from which language:

- a. French
- b. Greek
- c. Latin
- d. Spanish

16. The reason you can remember your first kiss or your favorite teacher without any real effort is because both of those events are:

- a. Funny
- b. Recent
- c. Memorable
- d. Emotional

17. E-G-B-D-F is a mnemonic device to remember the lines of a musical, treble clef. Which of the following is also a mnemonic device?

- a. Reading a book to improve memory
- b. Using a Day Planner app on your phone to keep track of appointments
- c. Attending a seminar to improve memory
- d. Using visualization to imagine yourself passing your State Board exam

18. Sensory, short-term, and long-term are all types of:

- a. Memory
- b. Visualization
- c. Association
- d. Episodic Issues

19. In one study cited in this module, participants who were given 140 mg of niacin (vitamin B3), on average, improved their memory by:

- a. 20 %
- b. 30 %
- c. 40 %
- d. 50 %

20. One website that offers creative brain exercises to improve memory is:

- a. lumosity.com
- b. amazon.com
- c. abo-ncle.org
- d. disney.com

