

BRAIN DANCING FOR STUDENTS

Introduction to Mind Mapping®: Learn a note-taking (*thực hiện ghi chép*) technique that can also be used to enhance the creative (*sáng tạo*) writing process.

Comment [n1]: Anh xạ

How to improve reading skills: Learn how to optimize eye movements when reading, how to read more selectively and at multiple speeds.

How to improve your memory: Learn how to transfer more information to long term memory (the place where your phone# is stored), how developing your imagination can improve your memory, and an efficient review strategy that combines multiple metalearning techniques.

How to improve learning skills: Various distinctions (*sự khác biệt*) that can increase learning effectiveness, where learning is defined as the enhancement of capacity for effective action.

Other metalearning references: A list of metalearning books worth reading.

A MetaLearning Handbook

MetaLearning, or *learning how to learn*, involves optimizing the mental processes performed frequently while learning. Most people will spend about 100 hours during their lifetime just tying their shoes. Imagine how much time we will spend reading, remembering and learning! Doesn't it make sense to invest some time today towards optimizing the strategies you use to perform these activities? It is one thing to read a book on a specific topic, and quite another to read something that improves the effectiveness with which you learn any topic from that point forward.

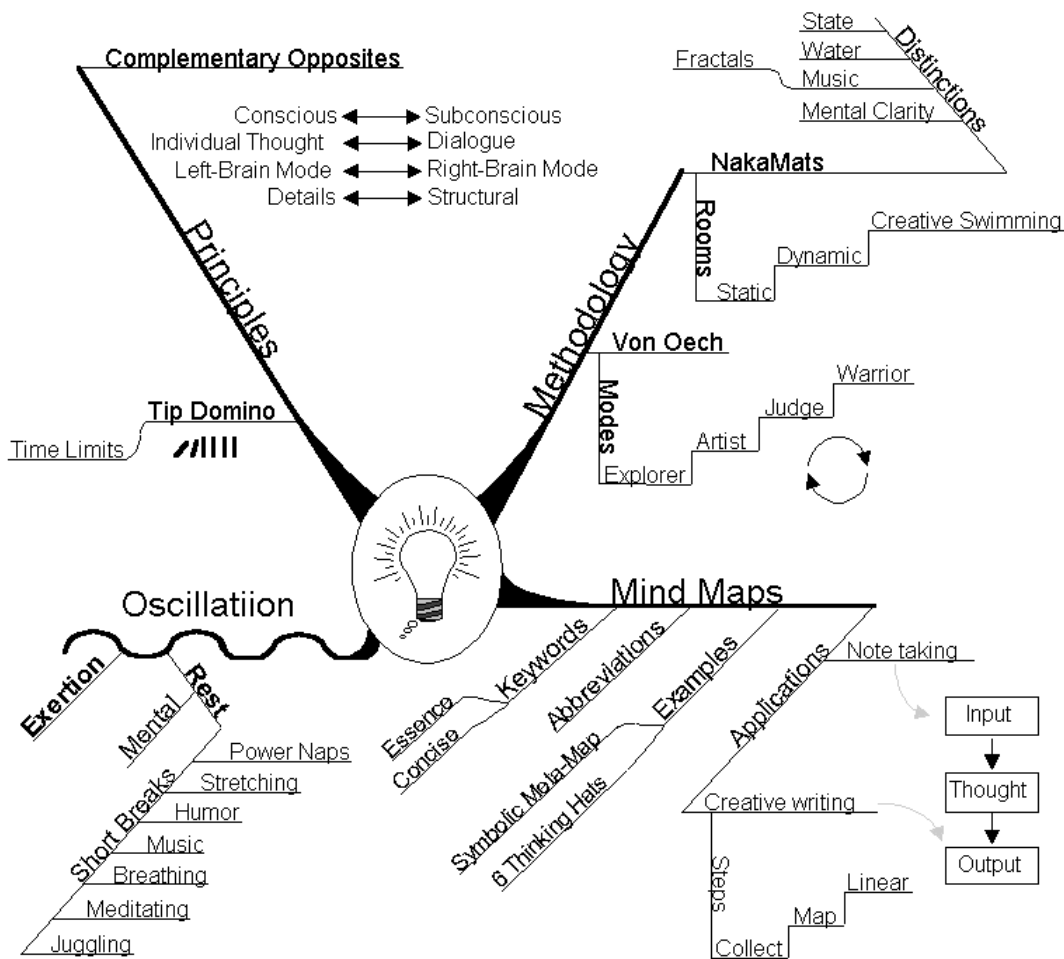
Introduction to Mind Mapping®

Mind Maps, invented by [Tony Buzan](#), diagram the structure of ideas in an associative (*kết hợp, liên kết*) manner which is more representative of how ideas are stored in the brain. A modified Mind Map of Chapter 5 of *Brain Dancing* is shown below. To follow the Mind Mapping rules precisely, there should only be one word per line. The following links will give you a brief introduction to Mind Mapping. Once you begin to see the potential usefulness of Mind Mapping, you are encouraged (*khuyến khích, động viên*) to read *Use Both Sides of Your Brain* and *The Mind Map Book*, by Tony Buzan, for a more thorough discussion of the topic.

Keywords

[Two main uses](#): input (note taking) and output (creative writing)

[Three step creative writing process](#)



"My advice to any young person at the beginning of their career is to try to look for the mere outlines (phác thảo/dễ dàng nhỏ) of big things with their fresh, untrained (không kinh nghiệp, rèn), and unprejudiced (khách quan) mind." --Hans Selye

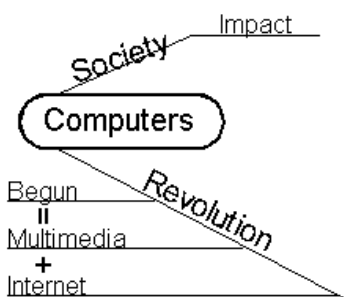
Mind Mapping is a tool you can use to see the big picture in new ways. Modified Mind Maps of [Chapter 3](#) and [Chapter 9](#) from *Brain Dancing* are also available online. These Mind Maps were created using Visio 2.0. Buzan Centres teaches Mind Mapping seminars which you can learn about by [clicking here](#).

Keywords

The idea of "keywords" is a fundamental concept in Mind Mapping® and has broad implications for other mental processes. Consider the following sentence:

While **computers** have come a long way and had a dramatic **impact** on **society**, the potential of **multimedia** and the **internet** offer strong evidence that the computer **revolution** has really **just begun**.

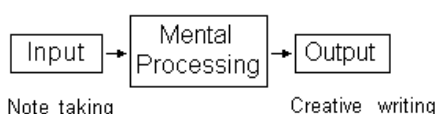
The key ideas in this sentence are expressed by the words shown in bold. They are most memorable and contain the essence of the sentence. The remaining words are merely grammatical constructions and emphasis. They are not necessary for recall. In Mind Map form, this sentence looks as follows:



When creating a Mind Map for communicating ideas to others, I sometimes add a few extra words to increase precision. The same words often trigger different memories for different people. Another alternative is to deliver the Mind Map along with a verbal overview (*nhìn khái quát bằng lời*), giving the receiver a chance to annotate the drawing as needed for precise recall.

When Mind Mapping a book you are reading, the keywords you select to include on your drawing depend upon your reading objectives. Different objectives often result in different Mind Maps. For example, a entire branch that I might include may be irrelevant to your situation. Use the space on the page to record ideas that you want to transfer to long term memory during your periodic review sessions (discussed in [memory section](#)).

Two Main Uses of Mind Maps®



The way you use Mind Maps depends on whether you are acquiring (*thu được*) new information (taking notes on a book or at a seminar) or using the information to write something new (a speech, business plan, or personal goals.)

Note Taking

The next time you are reading a book or listening to a seminar, obtain several sheets of blank non-lined copy paper. Begin each page by turning it sideways and writing one or two words in the middle to indicate the subject. If a picture comes to mind, sketch that instead. As important information is presented, add keywords to your Mind Map that will help you remember these points. When a major theme is presented, draw it in large letters close to the center. Add related ideas in clusters around this theme as they become available. If your information needs are different from those anticipated by the lecturer, you may want to use a completely unique method of organizing the material. Sometimes ideas will end up scattered around the page. In this case, use your first review period (10 minutes after the lecture or reading session ends) to draw a new Mind Map with correct organization.

Most of the value of note taking Mind Maps comes from the process of creating them. Mind Mapping promotes active reading and listening. It encourages interaction with the information which heightens interest and allows you to personalize the information to suite your particular needs. As you will discover in the section on improving your memory, these Mind Maps are useful in the review process.

Mind Maps encourage right brain activity. *They help you understand the structure of the information being learned.* Seeing the big picture helps you notice how the various ideas relate to each other, and sometimes connect the material to other ideas not presented by the author/lecturer. Specific rules for creating Mind Maps are presented in a later module. The best way to learn Mind Mapping is to just start creating them "as if" you already know how.

Creative Writing (lối viết sáng tạo)

The following module discusses a 3 step process for using Mind Maps in the process of creative writing. This process is helpful any time you need to create and organize new innovative ideas.

Three Step Creative Writing Process

Whether you are writing an essay, speech, or developing personal goals, the following three-step process can be applied:

1. [Idea Collection](#) (chọn lựa ý tưởng): Use various brainstorming techniques to gather your thoughts on a specific topic.
2. [Idea Mapping](#) (sắp xếp/ánh xạ/vẽ ra ý tưởng): Create Mind Maps that organize your thoughts structurally.
3. [Conversion to Linear Form](#) (hoán chuyển sang dạng tuyến tính): When writing or speaking, ideas must be presented one word after another. **The challenge is to present the material in a way that the associations and structure of the material are not lost.**

These are general guidelines to be adapted to specific circumstances (hoàn cảnh cụ thể). For example, when doing presentations, I'll sometimes do step 3 "on the fly", trusting my subconscious to pull the material off the Mind Map spontaneously.

Idea Collection Sheets (chọn lọc ý tưởng)

Idea collection sheets **serve as a bridge across the space and time that separate the great ideas you are capable of coming up with** on any specific topic. The steps are:

1. **Use unlined paper** (giấy không kẻ hàng). Lined paper shuts down the right brain. I use 11x17 or larger paper when tackling major issues.
2. Try turning the paper sideways. **"Landscape" mode** seems to work better for me in part because it helps me see more of the page at one time.
3. **Write the topic in the center and circle it**, or quickly sketch a symbol representing the essence or theme of what you plan to write.
4. **Set your stopwatch** for 5-7 minutes, or just jot the ending time in the upper left corner as a reminder.
5. As quickly as possible, **write as many ideas related to this topic as you can**. Use personal shorthand, abbreviations, symbols you've developed, or any other method you have for writing at higher bandwidths. This is not a steadfast rule. To evolve an idea, I sometimes choose to write a short sentence. Collecting ideas is an art, not a science. Your success is measured by the quality of the ideas you come up with, and not by how many of the rules you followed in coming up with them. Use whatever writing instrument allows you to write the fastest in the most comfortable manner. Avoid pens that drag across the paper unless held at a certain angle.

The idea collection phase differs from the Mind Mapping phase in that some of the aspects of Mind Mapping disrupt the rapid flow of ideas during this phase's mental burst. For example, in the idea collection phase:

- Use the same writing instrument throughout. Don't take time to switch pens to write or draw in a different color.
- Write down your ideas as they flow without judging whether the idea is related to the topic. Some ideas are "mental bridges" to other useful and more directly related ideas.
- Write your ideas in the first place that comes to mind. Don't take the time to position the idea in the optimal place. Placement is a Mind Mapping step.

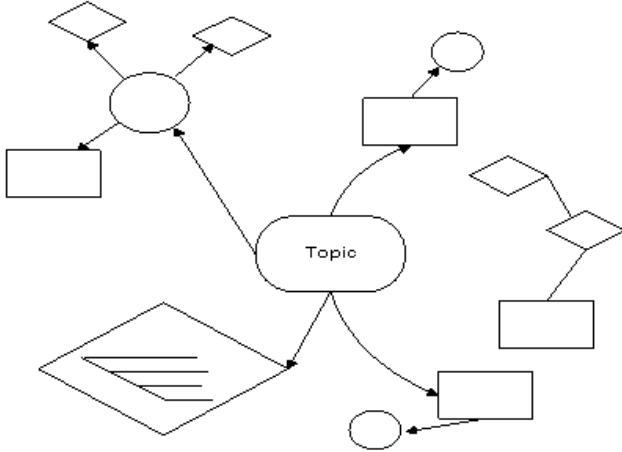
After completing the initial mental burst, take a short break to incubate related ideas. The 5-10 Minute Break Ideas section later in this chapter offers some ideas. After your break, take 30-40 minutes to pull related ideas from various reference materials. Follow this session with another short break or just move on to another project. Some topics require multiple passes.

If possible, place the idea collection sheet in a place where it will be handy over the next day or two. When related ideas come to you, write them on this sheet, or jot them in your calendar and transfer them to the idea collection sheet when convenient. I usually carry a portfolio around which contains a few sheets of unlined paper for this purpose. Idea collection sheets in progress are often stored here or in the adjacent pocket. Carrying my idea collection sheets around with me allows me to round them out from the perspective of a variety of mental states.

When writing a paper or a speech, the most difficult decision is often which topic to address. Doing an idea collection sheet is an excellent way to brainstorm possible topics for future projects.

Categorizing Ideas (Phân loại ý tưởng)

Using idea collection sheets as a precursor to Mind Mapping was inspired in part by material in Charles Thompson's book, *What a Great Idea*. **Thompson suggests using various symbols such as circles, squares and triangles to help categorize the points on the idea collection sheet before organizing them into a map.** For example, in reviewing an idea collection sheet, you might notice that there are four main themes (4 chủ đề/ đề tài) to the ideas. **You could place a circle around all ideas related to theme one, a triangle for ideas related to theme two,** etc. These symbols make it apparent (rõ ràng) how many ideas relate to each theme, which helps you decide how to organize them in the Mind Map.



Now that you've gathered your thoughts, you are ready to organize them into a structure based on how they relate to each other. This leads us to Mind Maps.

"Surveys of creative thinking have emphasized the importance of encouraging an initial right brain visualization, an intuitive solution, which can subsequently be evaluated logically by left brain processes." Colin Rose

Converting to Mind Map Form

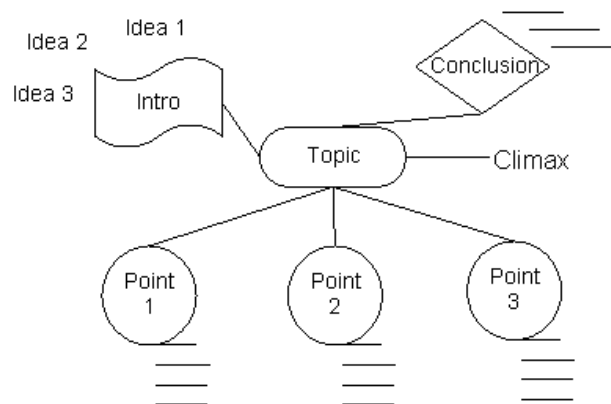
An abbreviated list of the rules for converting ideas into a Mind Map are as follows (refer to *The Mind Map Book*, by Tony Buzan, for a complete listing and explanation of the rules):

1. Use unlined paper or a whiteboard. Sometimes bigger paper allows "bigger thinking". One client made an entire wall into a whiteboard for strategic thinking and planning.
2. Start by drawing a color symbol in the middle of the page that uses at least three colors. This encourages right brain activity from the outset. If an image doesn't come to me in 10-15 seconds, I use keywords and circle them with a border. Sometimes the border is simply a geometric shape such as a square or circle. Other times I use shapes like a 3-D book or computer monitor. At any rate, the best way to get it done is quickly!
3. Branch the main ideas off this central image.
4. Use one keyword or symbol per line. Avoiding clutter permits more ideas to be represented and encourages your mind to see how they relate to each other.
5. Print the words on top of the lines. Printed words are easier to read than cursive.
6. Use color throughout. This can be especially useful in grouping related ideas.
7. Use images throughout your Mind Map. In practice, I usually include a few quick sketches and symbols. But I don't think "on the job" is the best place to create a drawing masterpiece unless they are to be used by others. Most of my Mind Maps are used as means, not ends.

At this point, you know *what* you want to communicate--the substance. You still have to figure out the *how*--the sequence. Whether you are writing a paper or delivering a speech, these are linear forms of communication where the material must be presented one word at a time.

Conversion to Linear Form

In the case of a speech, you have three possibilities: writing it out word for word (extreme left-brain approach), winging it from your Mind Map (extreme right-brain approach), or something in-between. Sometimes I write out the speech based on my Mind Map simply as a mental exercise, then use new distinctions gained from this writing to evolve a new more sequential Mind Map organized something like the following:



"Linear" Mind Map for speech delivery.

The more right brain deliveries you rehearse from such a linear Mind Map, the better your chances of "winging it" successfully in front of an audience.

The following sections on reading and memory will discuss how these Mind Mapping concepts can be applied to these mental processes.

How to Improve Reading Skills

[Reading groups of words at each glance](#)

[Reading more selectively](#)

[Orientation vs project reading](#)

Reading Groups of Words at Each Glance

It turns out that our eyes can only **take in information when they are stopped**. What feels like continuous motion is actually move-stop-read-move-stop-read, etc. You can easily verify this by sitting face to face with a partner, holding up a book and watching their eyes as they read. The key is to minimize the number of stops by maximizing the number of words you see at each stop as shown in Figure 6.1.

The person who uses the first eye movement pattern is actually looking at every word, one at a time. The person who uses the second is still looking at every word, but in groups. The person who uses the third eye movement pattern "notices" only a few key words and does so by reading both horizontally and vertically at the same time.

"But the first reader is going to comprehend the material much better than the third!" you may be thinking. Possibly, is my reply. If the third reader actually uses all three eye movement patterns, using the slower patterns very selectively, then he has a better chance of investing his mental energies on the material of most relevance to him.

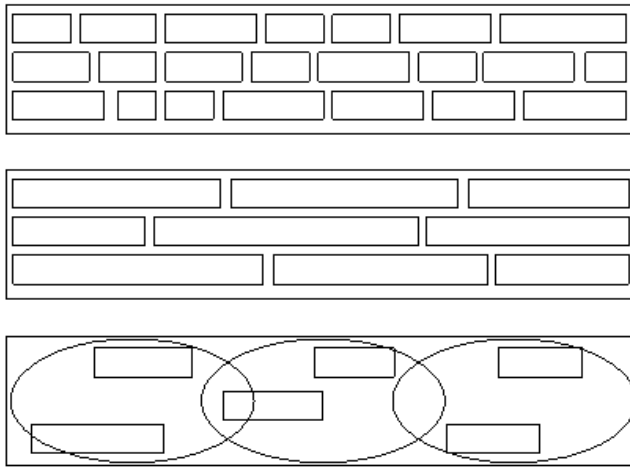


Figure 6.1. Three eye movement patterns.

"The art of becoming wise is the art of knowing what to overlook." William James

The smart reader is one who uses the third technique to scan the entire book (overview) or chapter (preview), and then comes back and uses some combination of the first two techniques to further explore the sections of most relevance.

Getting to both the second and third levels requires a visual reading strategy. You must silence subvocalization and learn to "trust your eyes". **This involves shifting your mental reading process from "see->say->understand" to just "see->understand"**. One way to make this leap (quãng nhẩy) is to build up your visualization muscle using the exercises suggested in [Chapter 3](#) and later on in this chapter.

One way to stop subvocalizing (saying words in your head while reading) is to increase the rate at which your eyes move across the page to the point where it is impossible to subvocalize. This means switching your reading strategy to a point whereby you notice gulps of words at each eye resting point. These gulps sometimes involve pulling words from multiple lines. When I did this recently, I noticed that I was still understanding what I was reading but in a different way. I caught myself thinking: "But now I'm not really reading." In other words, part of my mind still believed that the definition of reading was to look at every word and sound it out in my mind.

Another way to look at this issue of subvocalization is that you should develop multiple reading strategies, some of which may include subvocalization and some do not. You wouldn't want a car that only went one speed. You want to have multiple gears (i.e., reading styles) that can be applied based on the unique demands of each situation.

[Click here for an ActiveX/VB Script driven version](#) of the following exercise.

273	_____	11454	_____	17 44 34	_____
545	_____	87879	_____	86 32 77	_____
142	_____	12342	_____	65 41 28	_____
275	_____	45411	_____	27 33 11	_____
848	_____	78989	_____	66 32 97	_____
109	_____	21314	_____	32 45 81	_____
2763	_____	56548	_____	44 18 72	_____
5478	_____	09711	_____	31 73 90	_____
4452	_____	33442	_____	27 11 88	_____

1127 _____	83219 _____	72 61 49 _____
9956 _____	76675 _____	16 64 34 _____
3313 _____	33228 _____	26 89 55 _____

Figure 6.2. Grouping Exercise.

The exercise shown in Figure 6.2 was adapted from material in *Speed Reading* by Tony Buzan. It will help you train your eyes to take in words in larger gulps. Begin by covering the numbers with a sheet of paper. Then uncover one at a time for a fraction of a second. From memory, write the number you saw to the right. The idea is to increase the amount of information taken in with each glance. To make it more challenging, try uncovering two numbers at once.

Reading More Selectively

The underlying principle is this:

As the amount of information increases in a given area, there is an increasing need for the ability to scan that information at a high level and to be highly selective of the areas you choose to study in detail.

When I read anything, my objective is not to look at every word and picture as fast as I can. Rather, **it is to identify and understand useful ideas as efficiently as possible**, and then to either transfer this information to long term memory or note it for future reference.

Imagine arriving at a large lake and being told that somewhere in the water there is a buried treasure. To find that treasure, you could either put on your trunks and go for a swim, or jump in a high speed boat with radar programmed to detect the presence of anything resembling the treasure. This would allow you to do a fairly quick pass over the entire lake, noting areas that look promising, and then go back to each promising location, drop anchor, and go for a dive. You are much more likely to find the treasure because you will have eliminated huge portions of the lake very quickly. When it comes to reading, your subconscious mind is your radar, and it is "programmed" when you invest time "self-communicating" the outcome you are trying to create.

Of course, when it comes to reading selectively, the most important thing is to make sure you are swimming in the right lake! Any time I'm presented with an information rich environment, such as a bookstore or a trade convention like COMDEX, I invest time up front getting clear on my goals, and then do some high speed scans over the entire terrain before diving into a single book or booth. It often takes discipline to finish the complete scan before stopping at an extremely promising location. Ray Dolby, inventor of Dolby noise reduction, encourages would-be inventors not to jump at the first solution because sometimes the really elegant solution is right around the corner.

I have just described a rather left-brain approach to reading. Its complementary opposite is to allocate some time looking for the unexpected. The key to this strategy is to set a specific time limit, since we tend to ignore time when operating in right-brain mode. My experience suggests that without the discipline of setting specific time limits for "right-brain" mode activities, there is a tendency to avoid them in order to maintain personal ecology.

Layered Reading (đọc theo từng lớp)

In addition to using your subconscious mental radar, you can read books more selectively by using a layered reading approach. Here are four phases that commonly show up in layered reading strategies:

- **Overview (nhìn khái quát):** Look over the entire book at the rate of 1 second per page to determine its **organization, structure and tone**. Try to finish the overview in 5 minutes.
- **Preview (xem trước):** Should you decide to read further, preview the first chapter at the rate of 4 seconds per page. Pay particular attention to beginnings and endings such as the introduction and conclusion, and the first sentences of paragraphs and sections. Mark key sections with Post-it tabs or a yellow marker.
- **Read:** If any part of the chapter warrants (bảo đảm) closer attention, go back and read it at whatever speed seems appropriate.

- **Review (xem lại):** As discussed in the following section on memory, doing short reviews periodically (định kỳ) after reading new ideas can significantly increase the amount of detailed information that makes it into long term memory.

There are several advantages to having seen every page of a document. It partially eliminates the intimidation of the unknown. It is also much easier to comprehend material at rapid speeds when your eyes have already seen the material twice, even if only briefly. And lastly, your right brain is a lot happier about the whole situation because it has at least some idea of the context or overall picture in which the material is being presented.

Saying that someone has one reading speed is like having a car that only goes one speed. Different material calls for different speeds. Layered reading is about being flexible in the strategy you use to extract useful ideas from written material.

Here are some additional suggestions for reading more selectively:

- Focus on key words and ignore filler words. As discussed in the previous chapter, most of the meaning in sentences is transferred by a few key words. Many times it is unnecessary to read all the "is's" and "the's".
- Skip what you already know. As you transfer more and more knowledge from an area into long term memory, the sections you can skip will become larger and thus accelerate your journey along the compound learning curve.
- Skip material that doesn't apply to you.
- Skip material that seems particularly confusing and come back to it if necessary after reading other sections. Books are linear while their subject matter is often multi-dimensional. As Hannah Arendt put it, "Nothing we use or hear or touch can be expressed in words that equal what we are given by the senses." It may be far easier to understand the material in light of information that follows. Giving your subconscious time to incubate the material might help as well.

Orientation vs Project Reading (đọc có định hướng và đọc "chiếu")

In school, the purpose of reading is usually to help you pass a test or complete an assignment. In business, it is usually either to orient yourself to new material or to help you solve a problem. Orientation reading involves reading as a wandering generality. In this mode, you are looking for the unexpected. Orientation reading is also useful for building vocabulary and acquiring basic concepts useful for communicating with team members.

Since there is no feedback loop to tell you when you are done, it is important to set time limits when reading in orientation mode. In several industries today, there is far more information in trade journals and books than most people have time to read. To spend too much time reading general trade information is to risk not getting anything done.

On the other hand, if you are reading to solve a problem, you know it's time to stop reading when the problem has been solved--when you've gathered enough information to take the necessary actions to solve the problem, or complete the project you are working on.

Orientation mode is where high level scanning is most useful. A thorough survey of the infospace will help you zero in on the most useful sources of information when you begin to solve a specific problem.

In summary, both styles of reading are useful. The difference is in how you schedule your time.

Orientation reading is done for specific fixed periods of time. Project reading is done only when the problem is solved, and sometimes it is difficult to know how long that will take.

How to Improve Your Memory

[Use periodic reviews](#)

[Develop your visualization muscle](#)

[Mind Maps® and active reading](#)

[Use articulation](#)

[Summary of other memory distinctions](#)

Use Periodic Reviews

What's your phone number? Easy to recall, right? That's because it is stored in long term memory. Want to know how to shorten an idea's journey from short term to long term memory? The first technique is to use periodic reviews scheduled at the following intervals:

- 10 minutes after first learning the material
- 24 hours later
- 1 week later
- 1 month later

The key to making these review sessions practical is to organize yourself so that they can be done in just two or three minutes. Mind Maps are great for making short review sessions effective. Using a yellow marker to highlight key ideas you want to transfer to long term memory, is another way to make short review sessions effective.

After each study session, do something else for 5 or 10 minutes. When you return to your studies, quickly review the key points from the previous session before moving on to the next set of ideas. Before you begin studying the next day, take a few moments to review key points noted on the previous day. Once a week, schedule some time to review the prior weeks topics. Likewise, once per month, schedule a review of the prior months lessons. Grouping review sessions in this way doesn't follow the recommended schedule precisely, but it is more practical in cases where a large number of new ideas are being absorbed. The best way to anchor new ideas into long term memory is to actually use them for something.

If you don't invest the time to review what you learn, you will end up wasting time relearning the same material over and over. In addition, the more information you transfer to long term memory, the easier it becomes to learn new information. In other words, learning compounds just as interest in a savings account. This occurs for the following reasons:

- The more you know, the more you can skip over when reading a book.
- A larger vocabulary of both words and concepts allows you to understand the ideas behind the words more efficiently. Not having to stop and look a word up in a dictionary has obvious speed advantages.

Look at the following compound curve:



The next time you get bogged down while learning a new topic, keep the faith that as you move down this curve, learning will get easier at an increasing rate. It's the beginning that is the tough part. Audiotapes lend themselves well to the review process. Because they can be listened to in the car, it is much easier to listen to a tape several times than it is to read a book several times. The disadvantage is that we don't as yet have a way to "yellow highlight" an audiotape for selective review. It appears that a very small percentage of the population truly understands the power of turning their car into a

"university on wheels" by listening to educational audiotapes. Such tapes are available in public libraries and can be inexpensively rented at some book and video stores. The best source for purchasing quality audiotapes is Nightengale-Conant (800-323-3938).

Develop Your Visualization Muscle (sức hình dung)

This is the most powerful idea in the entire metalearning handbook. It is the highest leverage (lực đòn bẩy) (most bang for your mental buck) learning activity you can perform.

Most memory improvement programs have you perform exercises to develop your ability to visualize and manipulate pictures in your mind's eye. They suggest several memory tools based on this skill, such as **peg lists (danh sách các móc)** and **picture stories**, which are sometimes difficult to apply in the fast paced information blitz of day to day work. However, the exercises do mobilize latent memory capacities (huy động sức nhớ tiềm tàng) that seem to spill over (tràn qua) into several aspects of knowledge work. By having done the exercises, and by applying them in certain situations, the student seems to be doing something in their mind that improves their ability to remember things in all situations. The following mini-version of the peg list exercise will give you an idea of the principles involved.

Peg lists show up in almost all memory training books. This technique involves committing a series of number-picture associations to long term memory, and then using them whenever **you need to remember lists of things**. For example, here is a list of number-picture associations for the numbers one through five:

1. Space Needle, since it looks like the number one
2. Door, since it has two positions, either opened or closed
3. Stool, since it has three legs
4. Horse, since it has four legs
5. Star, since it has five points

The first step is to memorize this list so completely that when anyone mentions any number, you immediately can think of the picture, and vice-versa. You should be able to walk the list forwards and backwards. This is an excellent chance to try the periodic review strategy discussed in the last section. Try writing them out several times, or calling a friend and describe this weird (không bình thường) memory exercise which involves a list of five items, "a Space Needle, a door, etc."

Once this peg list has been transferred to long term memory, you are ready to use it to remember a list of items. For example, let's say you needed to remember to perform the following five tasks tomorrow and didn't have a pencil to write them in your schedule:

1. Call Joe
2. Meet with Sue Carpenter
3. E-mail Acorn project team
4. Read new "Snowball" strategy report
5. Write bubble sort routine

In your mind you could associate the above tasks to your peg list items as follows:

- Imagine a G.I. Joe army figure climbing the outside of the **Space Needle** with a giant telephone in one hand while shouting "Call Me" in Pig Latin.
- Imagine a carpenter working on your office **door** telling you as you walk in that you are likely to get sued if it doesn't get fixed.
- Imagine your team members standing on a bunch of **stools** under an oak tree picking acorns and throwing them into a mail bag.
- Imagine riding a **horse** reading the report as the horse balances on a snowball plowing down a hill over your competitors.
- Imagine a pen full of **star** shaped bubbles with numbers on them that float up in sorted order.

The next day when you get to work, you ask, "What was the first thing on my list?" This triggers the memory of the Space Needle, which triggers the memory of G.I. Joe climbing it shouting "allCay eMay" and so forth. While this probably seems ridiculous, it is a great exercise for strengthening your visualization muscle.

There are some drawbacks to using peg lists in day to day work. In addition to taking a fair amount of time to dream up word pictures for each item you want to remember, there is the issue of figuring out how to manage all the different lists. You almost need a peg list to remember your peg lists. Additionally, it is more difficult to apply this technique to a list of concepts than a list of objects. Another reason you should not fill your mind with ludicrous imagery on a habitual basis is that thoughts are things. Any time you think a thought, you increase the probability that it will come into existence. Lastly, once you develop the skill of being able to create, remember and manipulate visual images deftly in your mind, you must discipline your use of this skill. **You must be careful to limit your mind to positive imagery or at least use negative imagery with extreme caution!**

Mind Maps® and Active Reading

The process of creating a Mind Map promotes active reading and encourages you to think about the structure of the information being read. When completed, Mind Maps facilitate quick reviews. Oftentimes the most valuable aspect of drawing a Mind Map is the impact the process has on your understanding and memory of the material. It doesn't matter so much what it looks like on paper as much as what went on in your head while you were drawing it. There are often useful ideas contained in the way the ideas relate to each other, which are not apparent when the ideas are viewed sequentially. The more information you try to put on the page, the harder it becomes to locate any particular idea. Mind Maps are often best used as a gestalt tools.

Creating a bunch of Mind Maps poses a problem: what do you do with Mind Maps when you're done? At work they can be stored in the related project folder. At home they can go in your journal or in the book on which they are based.

Socrates encouraged students to articulate, thereby drawing forth existing knowledge and sharpening their perception of new material. Articulation also facilitates and deepens your memory of new material. A simple use of this distinction is to discuss useful ideas with a friend during the return trip from a seminar. Another application combines the use of Mind Maps, visualization and review discussed earlier. If you sketch a Mind Map while reading or hearing new material, then during your 2-3 minute review sessions, you can take a mental snapshot of the Mind Map, close your eyes, and begin articulating the content of that Mind Map as if you were teaching a class.

The [March '97](#) edition of our online newsletter explains how to use this distinction to memorize a speech more efficiently.

Summary of Other Memory Distinctions

While the above four topics offer the most leverage for improving your memory, there are a few other distinctions that play a role:

- **Primacy and Recency:** We tend to remember the first and last ideas more than the ones in between. This means that many short sessions are better than a single long one, because you will have more firsts and lasts.
- **Synesthesia (kết hợp):** The more sensory experience you incorporate into your memories, the more likely you are to remember them. As Colin Rose describes in his book, *Accelerated Learning*, the Russian psychologist, Professor Luria, spent 30 years studying a man named Shereshevskii (referred to as S.), who consistently exhibited perfect recall over long periods (several years). In addition to having amazing visualization skills, he was also adept in synesthesia, which is the ability to express a memory generated in one sense in terms of another. For example, S described a tone with a pitch of 2,000 cycles per second as looking something like fireworks with a pink-red hue. S. continued, "The strip of color feels rough and unpleasant, and it has an ugly taste--rather like that of a briny pickle."
- **Context:** Ideas are easier to remember when they can be associated to a specific context.
- **Unusualness (tính đặc sắc):** Things are remembered more easily if they stand out from the ordinary in our minds, which is why Kevin Trudeau's Megamemory course emphasizes the use of outrageous and ludicrous multi-sensory imagery.

How to Improve Learning Skills

Summary: [Learning defined](#), [Multi-pass approach](#), [Take short breaks](#), [Intelligence is distributed](#), [Paradigm shift](#), [Physical Activity](#)

Learning defined

In the business world, the kind of learning that matters is that which increases your capacity for effective action. This usually involves accumulating specialized knowledge, skills, and as much self-confidence as it takes to believe in your effectiveness. One highly effective way to accumulate specialized knowledge is to find a problem and solve it. Technology is changing things so rapidly in business, that it is creating an amazing quantity of opportunities to solve new problems. Choose your problems wisely. Each time you solve a problem, it will increase your capacity for effective action in that area. This new capacity will attract opportunities to apply it to new and larger problems of like kind. In this way, the problems you choose to solve can be destiny shaping. It is not the title of the position you hold, it is the nature of the problems you learn how to solve that will determine your success in this rapidly morphing business world.

Multi-pass approach

The multi-pass approach involves exposing your mind to the new material as soon as possible, even if only for a few moments. The ideas may seem confusing at first, as this is often the first stage of learning. Getting this phase out of the way early puts time on your side because from that point on, your subconscious mind will begin processing and assimilating that material. You will notice the effects of this subconscious processing (incubation) the next time you look at the material. There does not appear to be any limit to the amount of material the subconscious mind can "incubate". Embracing this confusion process early does not mean force feeding your mind. It should be done from a place of eager anticipation--from a place of curiosity.

Take short breaks

If you plan to study for an extended period, schedule a 10 minute break every two hours, and a 2-5 minute break every 40 minutes. Studies have shown that we remember more of the first and last things that we study. Taking these breaks increases the number of firsts and lasts. It also gives your mind a breather, so that when you return to studying, your mind will be sharper and thus your efforts more productive. The scale of productivity when doing mental work can be exponential. Think of your peak studying mode as "Michael Jordan" mode. That's where you are really cranking, understanding ideas and solving problems much quicker than normal. You are much more likely to maximize "Michael Jordan" study time if you give your mind an occasional break.

Intelligence is distributed

Intelligence is distributed throughout the body. For example, if you have ever played a musical instrument, you may have noticed that your hands seem to have a mind of their own. When studying, pay attention to signals your body may be giving you. If you are learning new material and your mind/body seems to be resisting, your body may be telling you that you have other needs which must be tended to that are more important.

Paradigm shift

Shifting your learning paradigm involves changing the role you perceive yourself playing with the information. One way to shift your learning paradigm is to listen, read and observe as if you are a teacher--as if you are going to teach this material to others who can benefit from it. Another approach is to invest some time up front trying to identify someone with a problem that could benefit from the knowledge you are about to study. Why? Because there is an infinite amount of information to be processed. Most of the value comes from a very small percentage of the information, and this value is determined by the context in which the information is applied. Even two different businesses with the same problem will have very different contexts, and thus very different informational needs. The "metaskill" you must learn is to match specific information to a specific need. Here's how it works in business: Once you have selected a problem to solve, you invest time answering the following question:

How will we recognize a successful solution after it has been implemented?

By clarifying your desired outcome, you form the basis for directing your subconscious information processing mechanisms. The clearer your outcome, the more effective your subconscious mind will be in directing you to information and people who will help you achieve that outcome. See Chapters 2 and 3 in *Brain Dancing* for a complete discussion of this process.

Physical Activity

Engaging in activities involving unique physical movements, timing, and coordination encourages dendrite growth in the brain. The more dendrites, the more connections your brain can make. The more connections, the more flexible and efficient your thinking and learning will be. So while hard work and disciplined study is a virtue, balancing it with activities such as the following can amplify your mental effectiveness:

- Playing a musical instrument (encourages development of precise timing)
- Athletics (the more timing and coordination involved the better).
- Drawing and sculpturing (eye hand coordination)
- Traveling and experiencing different cultures

These activities give you "mental rest". Your body rests when you sleep, but your mind keeps on cranking. Have you ever awoken in the middle of the night and noticed that you were thinking about something? The best way to give your mind a rest is to engage in an activity that you totally love to do, and that requires 100% of your attention. Such activities rip you out of your mental ruts and encourage the use of different parts of your brain. When you do get back to work, your mind will be fresh and learning will occur more efficiently.

Varied physical activities broaden your experience of life and nature. These experiences serve as metaphors for learning new conceptual topics. There are many parallels between patterns in nature and the structure of ideas presented in various fields.

Also keep in mind that the brain feeds on glucose and oxygen. Activities that promote cardiovascular fitness will increase the supply of oxygen to the brain. You want your mental engines running on high octane fuel.

Other MetaLearning Resources

Chapter 6 of *Brain Dancing* expands on the material presented in this handbook. The following books offer excellent information for further researching this topic:

- *Use Both Sides of Your Brain*, by Tony Buzan
- *The Mind Map Book*, by Tony Buzan
- *Accelerated Learning*, by Colin Rose
- *Mastering the Information Age*, by Michael J. McCarthy
- *What a Great Idea*, by Charles Thompson
- *Remember Everything You Read: The 7 Day Evelyn Wood Speed Reading Program*, by Stanley D. Frank
- *The Brain Book*, by Peter Russell
- [Study Skills](#), by Virginia Tech
- [Indiana University Education and Training Links](#)
- [SLEEPLESS AT STANFORD](#): What All Undergraduates Should Know About How Their Sleeping Lives Affect Their Waking Lives
- Listen to a 15 minute [RealAudio interview with Dr. Maas](#), on Power Sleeping for optimizing mental performance.

BrainDance.com Newsletter: March, 1997

by Patrick Magee, author of *Brain Dancing*

"What we discovered was that the way people responded emotionally to PC's was more important than what the computer actually did." --Don Estridge, who played a key role in the creation and launch of the original IBM PC in 1981

Summary of this issue:

- [Brain Dancing Coach Trial Version now available For Free Download](#)
- [Speech Memorization Strategy](#)
- Air Quality and Mental Clarity (no longer available)
- [Creativity and Water](#): Is there a connection?
- [Cool Products: Juiceman Juicer, Neurofeedback technology](#)
- [Marketing Message](#)

Brain Dancing Coach Trial Version Now Available [Comments:](#) [View Post](#)

The [Brain Dancing Coach](#) (BDC) is new software that makes it practical to apply some of the ideas discussed in the book, *Brain Dancing*. It does this by structuring activities (breathing, stretching and mind development) so as to minimize the number of decisions you must make. Decisions such as what to do, when to do it, and for how long. This trial version contains a few of the stretching, breathing and mental muscle exercises included in the registered version. You can also define custom Actions to meet your particular needs.

There are so many demands on our attention when doing knowledge intensive work that it is sometimes difficult to remember to take care of ourselves by taking short breaks throughout the day. When we do remember to take a break, it can be difficult, at least initially, to remember exactly how to structure the time for optimum benefit. Wouldn't it be great to have a coach available on demand to walk you through some carefully timed stretching and breathing exercises so that the only decision you need to make is to begin?

That's what the Brain Dancing Coach is all about, and [you are welcome to use the trial version](#) for 30 days free of charge.

Effective Speech Preparation: The "Rapid Talk-Through" Memorization Strategy [Comments:](#) [View Post](#)

Technical skills will get your foot in the door. But making big money usually requires effective public speaking skills. --Professor William Sailors, Western Washington University

Effective public speaking is a result of effective preparation, but what is the most effective way to prepare? There is a long term and a short term side to this issue. Long term, skill refinement is a major factor, and [Toastmasters International](#) (800-993-7732) does a great job of chunking down the process of developing public speaking skills. When you join one of the 8,000+ Toastmasters clubs worldwide, each of your first 10 speeches focuses on a different aspect of an effective speech: vocal variety, gestures, word dynamics, etc. A significant side benefit that comes from participation in Toastmasters is being around a team of proactive people every week. United by a common goal of self-development, and guided by the carefully planned structure provided by the Toastmasters organization, each meeting can be a magical experience. If this sounds like a commercial, it is. I am extremely grateful for the impact Toastmasters has had on my life.

That covers the long term aspect of effective preparation. For the immediate speech, the sooner you decide on a topic and begin [idea collection sheets](#), the more time your subconscious will have to gather related ideas (I also use idea collection sheets to gather potential speech topics.) While doing practice deliveries of my "Working Smarter" keynote speech, I kept hitting spots where I'd forget what comes next.

On the way to the meeting, the thought came to me to say the main ideas in rapid succession. I basically said the first sentence of each paragraph, or a part of it--just enough for my mind to latch onto the concept--and then quickly moved on to the next "ideagram", or set of ideas.

When you listen to an album or CD, does your mind anticipate the next song just as one song is finishing? The memorization strategy I applied uses the same principle: linking/association.

The mind links things together that happen close together.

By saying the core ideas in rapid succession, so that my mind was thinking of them in close proximity, I linked them together like songs on an album. When delivering the speech, as I finished one topic, my mind began to anticipate, or "play" the next topic. I must also add that this rapid rehearsal took a lot of effort, especially while driving down the freeway. It worked, however: I recalled the speech perfectly without any notes, even though an hour passed before I was called up to speak!

I must qualify this by stating that several chunks of the speech had been committed to long term memory prior to writing this speech. What was missing was a way to link them all together, so that I remembered which chunk came next. And when I say "perfectly", I mean that my subconscious improvised successfully as I addressed each section of the speech.

Reading a speech does almost nothing to help me memorize it. What helps is practicing "remembering". Initially, this means dividing the speech into 1 or 2 minute chunks. Then I do the following for each chunk:

- review my notes for a few moments
- deliver this portion of the speech from memory
- refer to my notes to see if anything was left out in the delivery
- redeliver the entire 1-2 minute chunk from memory again

This process is repeated a few times or until I deliver the segment successfully. Time is allocated to each chunk so as to ensure that I can do at least one pass through all parts of the speech during each review session.

This leads to the "multiple-pass" strategy. Tony Buzan teaches that an effective method for transferring ideas from short term to long term memory (the place where your social security # is stored), is to use [periodic reviews](#). With this in mind, what I try to do is deliver the first practice run as soon as possible, even if it is a very rough draft. This gives my subconscious time to incubate the delivery process.

"We learn to swim in Winter, and to skate in summer," taught William James. Once given a task to perform, the subconscious will refine its action guidance mechanisms while we are doing other things, so as to improve performance next time. I schedule as many review passes as possible as the speech deadline approaches, and separate each delivery with a totally unrelated activity, even if the diversion lasts only 10 minutes. The oscillation pattern helps transfer the material to long term memory and fully employs subconscious momentum building incubation processes.

I am not advocating word for word memorization, which introduces the faith element. In most cases, I prefer delivering speeches dynamically, trusting that whatever must happen to make the speech a success will happen; trusting that my subconscious will bring forth whatever resources are necessary. Building trust in this process may take some trial and error, but plowing through these initial difficulties is a cheap price to pay for not being tied to your notes for the rest of your speaking career!

Another powerful memorization strategy that works occasionally is to memorize a series of emotions. When you review a speech, stop and think about the emotions stirred up by each point. If you can remember that emotion, the words will usually flow from you like water from a fountain. Identify a word or three that will trigger this emotion, and then use these words to do your "rapid talk-through". To summarize the key points made on memorizing a speech:

- "Practice remembering" your speech, as opposed to reading it from a script. Break the speech into small chunks for your initial rehearsals from memory.
- Once the chunks are fairly well practiced, do a few rehearsals in "compressed time" to help your mind link the ideas together into a flow--a "mental album".
- Trust your subconscious to dynamically respond to the moment for the delivery of each chunk.
- When speaking about a topic you feel strongly about, try memorizing a series of emotions.

Air Quality and Mental Clarity

Article no longer available

Creativity and Water [Comments:](#) [View Post](#)

Consider the following facts relating to the subject of creativity:

- We get ideas when we take showers, sit in hot tubs, ride on boats, run our hands through water at the beach, or just go for a swim.
- [Yoshiro NakaMats](#), holder of over 2200 patents, and inventor of the floppy disk, compact disk and digital watch, gets his "best ideas" while in his "creative swimming" room.
- Renowned creativity consultant Roger Von Oech is an avid swimmer.

A couple weeks ago, I was in the early stages of formulating a connection between water and creativity. Coincidentally, while updating the links in the [online bibliography](#) to Brain Dancing, I revisited Marilyn Ferguson's website and noticed [a few articles](#) on this very subject.

I used to think that the "ideas while showering" phenomenon was due primarily to the fact that our thinking is state bound and compartmentalized. Check out these articles and judge for yourself. They emphasize that water has an amazing ability to store and transfer information.

Water conducts electricity; can it conduct thought waves?

Cool Products

Kitchen Timer [Comments:](#) [View Post](#)

Component Design (503-297-5944) produces a Programmable Digital Timer & Clock (Time Check, Model PT1A) that is available from kitchen supply stores for about \$21. I have been increasing my efforts to become an effective meditator, and having this timer has made it much easier to limit my meditation time. When I meditate, I don't want to be thinking about time. This timer allows me to forget about time for 5-10 minutes. I just press 2 buttons to start the timer, and it makes no noise given that it is watch battery powered. I place it under a blanket to muffle the alarm so that it doesn't startle me when it goes off. It has 4 programmable time settings, and is available from kitchen supply stores. If unable to locate one at a kitchen supply store near you, call the Complete Cook in Bellevue, Washington at (425) 746-9201. Note that they do charge quite a bit for shipping.

Juiceman Juicer [Comments:](#) [View Post](#)

"If you have a car, sell it and buy a juicer", writes Anhony Robbins in Chapter 11 of his bestselling book, Unlimited Power. Eight years ago, this is the sentence that launched me into juicing, or using a juice extractor to separate the juices from fresh produce. Most of the energy chapter in Brain Dancnig describes my juicing strategies in detail. Nothing has impacted my mental clarity and energy level as much as juicing, and the information Jay Kordach (the Juiceman) provides played a key role in the process. They have published some interesting [Juicing recipes](#). Brain Dancing would not have been written if it wasn't for juicing. Jay Kordach's audiotapes are essential for understanding the benefits of juicing. The Juiceman II juicer is one of the best you can buy.

Neurofeedback Technology [Comments:](#) [View Post](#)

Neurofeedback technology is opening the doors to improved brain wave control. Want to pop the hood to your brain and observe the brain waves you are generating? Check out [Northwest Neurofeedback](#) to learn more about how this technology helps you "learn to choose your brainwaves". You sit in a

comfortable chair with some sensors attached to your head, and watch a "pacman" like computer game. The therapist asks you to think relaxing thoughts, and when your brain waves reflect relaxing thought patterns, the pacman on the screen begins to gobble up the little dots. This creates a feedback loop to your subconscious mind and can, in some cases, literally "rewire" your thinking processes. If you decide to pursue this, make sure you do so under the guidance of a highly qualified practitioner such as [Saranel Binyon](#). It will be very exciting to see how this technology evolves in the years ahead

READING SKILLS CK

[BA](#)

Much of the course material will be given in the form of written material, backed up by lectures and background reading from prepared book lists. There will also be sources you find yourself - don't forget the World Wide Web. All of this needs to be read, some

learned, some condensed and some discarded if not relevant. These activities take time and require different kinds of reading skills.

TYPES OF READING

The way we read is determined by the purpose of the reading. Here are some categories :-

- reading for an over-view.
- search reading.
- reading for pleasure.
- reading for stimulus.
- reading to gain differing views, being constructively critical.
- reading for subject mastery.

Some of these reading categories require passive reading whilst others require an active approach.

An active reading method demands questioning, repeating, summarising and constant recalling of information. It requires reading and note taking.

SPEED VERSUS THOROUGHNESS

Reading speeds also vary with reading purpose depending on the type of material being read, concentration levels and visual skills. Fast reading does not improve recall or understanding but may be adequate when the purpose is to gain an overview of the material. When we want an overview of an article it may be possible to obtain this from a brief study of the introduction and conclusions and then skimming the rest of the document. One way of skim-reading is to read the first and last sentences of each paragraph only - this takes practice and discipline!

If your purpose is to gain a preview of the material then concentrate on the table of contents, introduction, diagrams, bibliography and most importantly, the index. You could then try examining selected extracts to find out if it is suitable for your purpose.

AN APPROACH TO THOROUGH READING

One reading method which helps when your purpose is to gain some level of mastery of the subject, is known as the SQ3R method. This can be described briefly in 5 stages:-

- **Survey** - survey the material by skimming through looking for key words and phrases. Skim by paragraphs, reading perhaps the first sentence and last.
- **Question** - have a questioning attitude as you read. Question meaning, definitions, and any relationships to other material and references.
- **Read** - actively read the material trying to answer any of the questions you have raised. To adequately do this phase requires paper and pencil.
- **Recite**- recitation and constant recall helps you to learn and apply the knowledge to other areas. Do this frequently whilst reading and always at the end of each section.
- **Review**- a review stage is a key element to study skills generally, as well as to effective reading. The review stage should include re-surveying the work, re-reading to refresh the mind and conscious recall of important points.

The SQ3R approach can also be used for reviewing lecture notes and as a revision technique. As with so many skills - the more you use it, the easier it will be to use and the better you will be at using it!