DEVELOPING ESSENTIAL STUDY SKILLS

-Preetam Bose

Includes

- **Preparing for study**
- **Study Skills (SQ3R)**
- **Super power memory**
- **Mind maps**

Foreword

Dear students ,This is a very sensitive age of yours where the fun and enjoyment factor is more interested in you. Masti ,Games ,Mischief's ,Jokes, Laughing ,Time Pass and all play. But wont you just want to add all this and still have a high factor in successful studies and getting good percentage in exams .

We all know that marks in examination don't judge a students intelligence in any way ,but to get a intelligent job like engineering you have to prove yourself in the exam . Such is the system .

You can be good in hardware or software of computer from a little age but that being good is not the only requisite to become a computer engineer . You have to write in exam and prove there and score high to become a computer engineer or else all your knowledge is in drain even if you know all about computers but didn't write in exam .

Plan to have a good career like doctor ,engineer, journalist ,CA, MBA, Sceintists etc , as then you can earn riches of money by doing good job and making all of us including your parents proud. I am not forgetting here to add values and good behaviour ,self respect and respect to others that you inculcate in your young life. Money for enjoyment but only after you study well and have a high degree career and status in any profession , business and so on.

I know all of you want to be No.1 in exam and some are No.1 but not all . My book is to get all of you good marks in studies .The mantra is 'Study Skills' .This book tells us of learning how to learn – 'Meta Learning' .

The top rankers knows how to study and my book tells you the secret of Top Rankers. Key points like how to increase memory, how to understand meanings, how to study subjects , how to have interest in subjects and more have been covered .

So go ahead and read on the book 'Developing Essential Study Skills' . The world is at your finger tips !

-- Preetam Bose

I Preparing for study

KEY POINTS

* Your environment affects how well you learn
* Physiological preferences and needs matter
* Be aware of and manage your mental state: Aim for 'Flow'!
* Follow a 'study plan'
* Watch out for displacement activities

INTRODUCTION

This chapter will help you ensure every study session is as effective as possible. We recommend your preparations address four distinct aspects: your environment, your body, your mind, and your study plan. Let's look at each of these in turn.

a) PREPARE YOUR ENVIRONMENT

Did you know that your physical environment affects your cognitive performance? (US. While there probably isn't a great deal you can do to modify or improve your classroom or lecture theatre, you *can* take responsibility for your home study environment, so why not make it as effective as possible *for you*? There are many different aspects to the environment, which have been shown to affect cognitive performance and test results. These include:

• temperature

• light

• sound

• aesthetics

• design and formality

Where students have a strong preference, they perform significantly better in situations where their environmental preferences are met.

*** Day Light**

Q .What is the best Kind of Light For Studying ?
A. Bright, diffused natural daylight is the best for learning. Avoid direct sunlight, as this can cause glare and adjusting to high contrast areas not in direct sunlight can result in visual discomfort .
Q. *Does it matter how bright the light is?*
A. Yes. Higher illumination levels have been consistently shown to improve performance on visual tasks
Q. *Is daylight mentally stimulating?*
A. It looks that way. Researchers believe daylight may stimulate the production of seratonin, a neural transmitter which increases alertness
Q. *Are there any other benefits to daylight?*
A. Yes. Daylight has positive effects across a whole range of human performances.

*** Temperature**

If you have spent any time in extreme temperature conditions,it may be no surprise to learn that our ability to perform mental tasks is affected by changes in temperature. The ideal temperature for optimum learning is between 68°

*** Sound : Does Background Noise Matters**

Yes. Unwanted and excessive noise can reduce your performance on a range of cognitive tasks (for a thorough review, see Earthman 2002). There is some evidence to suggest that even low-level noise may have a detrimental effect. In a study by Evans and Johnson (2000), 40 female clerical workers were randomly assigned to either a quiet open office or one with standard low intensity office noise, which included background conversation. After three hours, the workers in the noisy office experienced significantly higher levels of stress (as measured by urinary epinephrine) and made significantly fewer attempts to solve an unsolvable puzzle . . . though interestingly, they did not report feeling stressed! We know that elevated stress causes the brain to release excess levels of epinephrine – a chemical that triggers changes in the hippocampus, which is an area of the brain important to memory and learning. While this is only a small study, and research is ongoing, it might be worth paying attention to the level of background noise, and minimise it when you can!

*** Décor**

Several studies have shown a significant link between quality of décor and student performance. Think about how ou can improve the décor where you study. Don't choose a desk with graffiti, or one in an area that badly needs redecorating.

Decaying environmental conditions such as peeling paint, crumbling plaster, non functioning toilets, poor lighting, inadequate ventilation, and inoperative heating and cooling systems can affect the learning as well as the health and the morale of staff and students.'

*** Posture**

How do you prefer to sit (or lie) when you're studying? Is your chair suitable? Is your table at a good height? It is important to be comfortable while you study, but it is also worth trying to develop good posture habits. The authors are not aware of any research linking postural effects directly with learning, but the links between posture and physiology, and the consequences of repetitive strain injury (RSI) are well established. If you're interested in learning more about posture, the 'Alexander Technique' has a good reputation and is widely used by musicians and performing artists.

*** Workspace**

Do you think better in a space that is neat and tidy, with uncluttered surfaces? Or do you prefer to work in a disorganised space, with piles of papers and books? Also consider whether you like open-plan spaces, or cosy nooks. Choose a workspace where you feel comfortable and creative.

***Odours**

Smells can be very powerful memory anchors, and can affect your mental state. Strong odours, even delicious food smells, can be very distracting. Try experimenting with scented candles or air fresheners

***Privacy**

Constant interruptions can have a devastating impact on the effectiveness of your study time – so manage them well. If you work in a shared space, make sure your friends and colleagues know when you are studying, and ask them not to interrupt you. Perhaps put a sign on your door, or have some kind of signal at your desk so that other people know not to bother you. Turn your phone off, and don't log in to your online chat or instant messaging service.

***Supplies**

Finally, think about any information sources (textbooks, articles, notes, tapes) and materials (paper, index cards, coloured pens) you might need, and make sure you have them to hand before you settle down to study.

b) PREPARE YOUR BODY (MEETING YOUR PHYSICAL NEEDS)

Mobility

Some people prefer to be still when they learn, and others prefer movement. Dunn et al. (1986) found that student's results on recognition and memory tasks improved significantly when their mobility preferences were met. If you have a preference for mobility, then make sure you find a place to study that allows you to move freely.

Food Intake and Performance

Some people like to 'snack' and drink while they are concentrating. Ballone and Czerniak (2001) cite evidence that matching dietary intake preferences improves performance on a range of cognitive tasks. In many libraries and study halls, eating and drinking is prohibited – so be aware of your own preference and choose a place that works for you. There are lots of magazine articles about the importance of water and the risks of dehydration, and a frequent recommendation is that we need 8 □□8 fluid ounces of water a day. However, this is probably rather simplistic: a report by the Institute of Medicine (February 2004) sets general recommendations for total fluid intake at 2.7 litres (91 fl. oz) per day for women nd 3.7 litres (125 fl. oz daily) litres per day for men. These requirements can be met through all fluid and food intakes, not just water, and the required amounts are higher with prolonged physical activity or heat exposure

Time of the day :

We've known for over a century that our internal or circadian rhythms influence both physiology and cognition. Our body temperature fluctuates with these rhythms. Some people's temperatures peak before noon, some in the afternoon, and some in the evening, and these patterns frequently change with age. What is particularly interesting from our point of view is that recent studies have shown that students' comprehension of material and performance on tests are significantly better during their preferred time of day While you may still have to attend lectures and practical sessions at set times, you can select study times which are in tune with your own circadian rhythms. Work with your body ,not against it.

Sleep : Whats it worth for you ?

Pat: It's a real pleasure to meet you at last, Dr M.

Dr M.: Pleasure's mine. What can I do for you and your readers?

Pat: Well, perhaps you could start by telling us how you prepare for your record-breaking memory feats.

Dr M.: Well, if it's an evening event, as most of them are, I always have a nap in the afternoon.

Pat: Now that's a surprise. I thought you would be busy rehearsing.

Dr M.: I need my brain in tip-top condition.

Pat: Hmmm. I'm wondering what would happen if I took a nap after a study session. Do you think that would help me to learn?

Dr M.: Sara Mednick and her Harvard colleagues think so.1 They found that a 60–90 minute nap improved learning.**Pat:** I wish I'd known that a few years ago!

Dr M.: Well, that's not all. I read something a few months ago that found it only takes an average of 18.25 hours without sleep, before there is a significant reduction in cognitive performance.

Pat: You're kidding, right?

Dr M.: No, I'm absolutely serious. As far as I'm aware, no-one else has tried to repeat the results yet, but if it turns out to be a real effect, it has quite strong implications for our sleep habits, doesn't it?

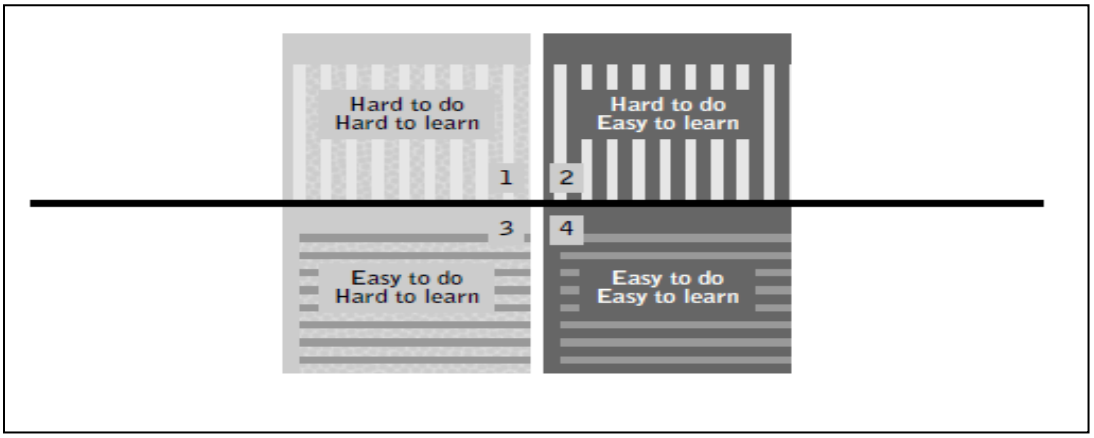
Pat: Yes. I'm beginning to wonder how much of my struggle at college

Dr M.: Well, it looks that way to me.

Pat: So how do you manage when you're travelling?

Dr M.: It's very difficult. Missing a night's sleep reduces mental performance in a whole range of areas, not just memory.4 So, I do whatever it takes to maximise sleep the night before a competition or exhibition event.

II MULTIPLE INTELLIGENCE



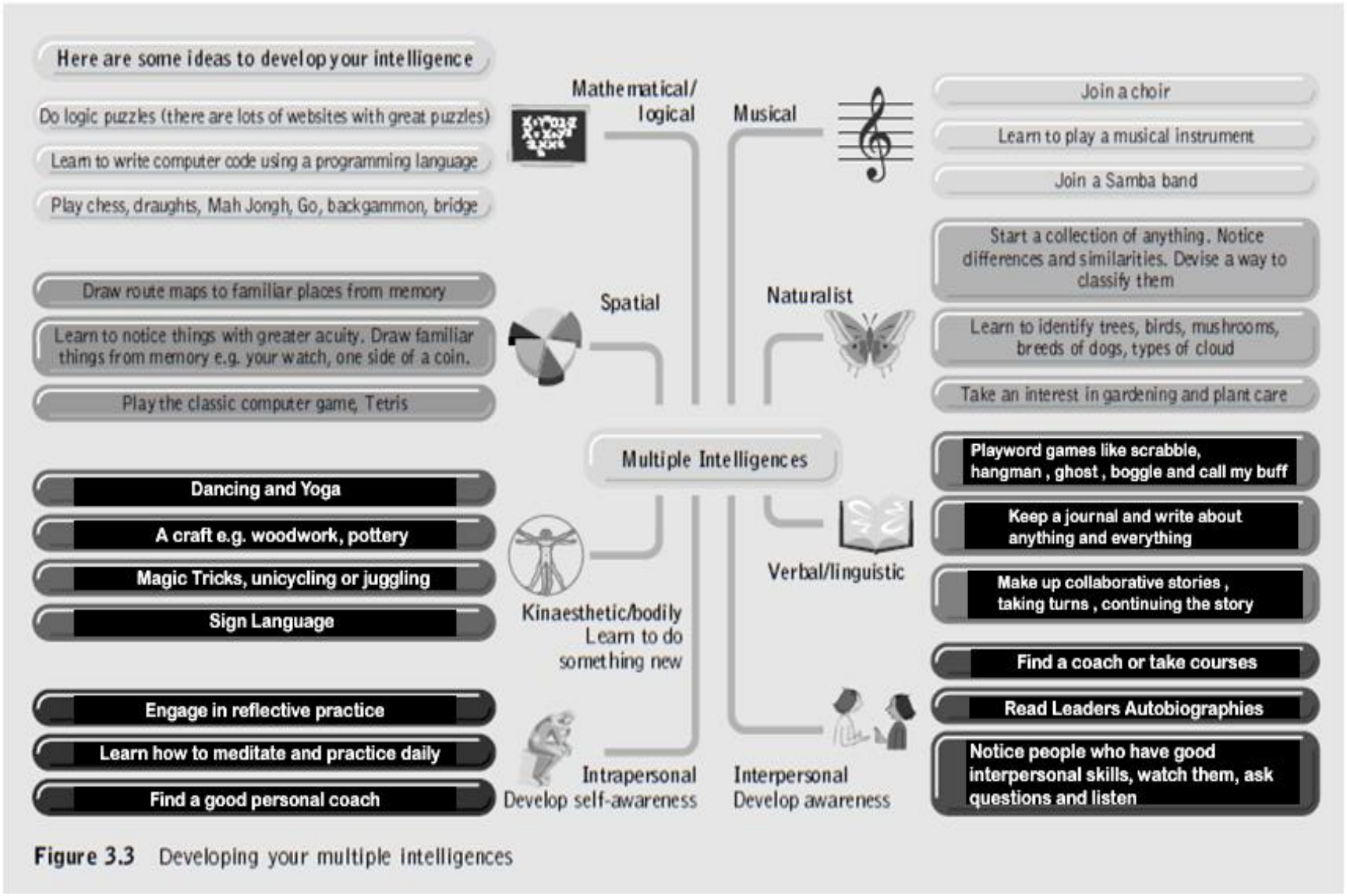


Figure 3.3 Developing your multiple intelligences

1. MATHEMATICAL/LOGICAL INTELLIGENCE

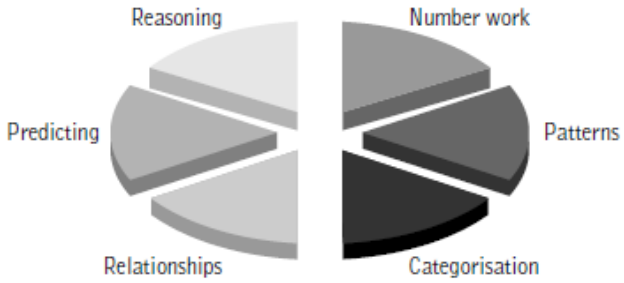


Figure 3.5 Mathematical/logical intelligence core abilities

Core abilities: See figure 3.5 (overleaf) for mathematical/logical intelligence core abilities.

Mathematical/logical intelligence is highly valued in our education system, yet many adults considerably underestimate their talents in this area. If you profess to be 'hopeless' at maths, it's more likely you've not had the appropriate encouragement and help to develop your intelligence in this area. We know much more now about how children learn maths, and how for many people early classroom experiences were in conflict with their natural learning style – sometimes with disastrous consequences. You may use your mathematical/logical intelligence more than you realise.

Do you do any of the following?

• Plan the sequence of jobs when redecorating a room e.g. painting the

ceiling, walls, woodwork, replace the carpet etc.

• Plan journeys, using timetables.

• Budget your accounts/manage your finances.

• Estimate quantities.

• Gamble or play games of chance.

• Make risk assessments or predictions based on information.

• Make comparisons when you shop.

If you do any of the above, then you use your mathematical/logical intelligence. There are lots of ways you can use your mathematical intelligence in non-mathematical subjects. In many disciplines the ability to recognize patterns is extremely important, for example, with dates, plots, motives, themes, results, places, timings, and sentence structure. The ability to construct logical arguments and sequence steps or rank ideas is also extremely important.

2. VERBAL/LINGUISTIC INTELLIGENCE

Core abilities:

a) Using words effectively either orally or in writing.

b) The ability to manipulate:

• syntax or structure of language

• phonology or sounds of language

• semantics or meanings of language

• pragmatic dimensions or practical uses of language, including rhetoric, mnemonics, explanation, and metalanguage. You use your verbal linguistic intelligence every time you read, write, tell or listen to a story. People with a highly developed verbal intelligence may enjoy playing with words, puns, mnemonics, and the sounds and structure of language.

3. BODILY/KINAESTHETIC INTELLIGENCE

Core abilities:

a) Control of one's own body

b) Control handling objects.

There are probably three distinct elements to this intelligence

• the motor logic or neuromuscular skill that is involved in the syntax or ordering of movement

• kinaesthetic memory or the ability to mentally reconstruct muscular effort, movement, and position in space

• kinaesthetic awareness or awareness of posture, position, resistance, and the extent, direction and weight of movement. Not all cultures value proficiency in all the intelligences equally. The !Kung bushmen of the Kalahari desert believe their intricate and complex medicine dance protects them from dark forces and so bodily kinaesthetic intelligence is highly valued. 'People learn the songs and dances when they are children and work for perfection in skill and timing all their lives.'

Q : How can I use this right now in my studies ?

• Writing and drawing are physical processes, so write up your notes and thoughts or capture them in drawings. If you use index cards, you can sort them physically.

• Use your body as a metaphor, and use movement to capture information etc.

• Act out or dance the steps in a process.

• Use role play.

• Make up hand signs to represent facts or concepts.

4. SPATIAL INTELLIGENCE

Core abilities: Accurate mental visualisation and mental transformation of images. We use our spatial intelligence to perceive and interpret shapes and images in 3D. When you think about the best route to get somewhere, you are using your spatial intelligence. The images in figure 3.6 (overleaf) are displaying the same data but in different ways. How easily can you mentally map the data from one image onto the others?

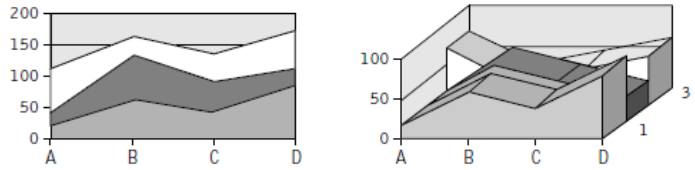


Figure 3.6 Spatial Intelligence

Q : How can I use this right now in my studies ?

Convert your notes into graphs and mindmaps. (There are a number of software packages available which make it very easy to create mindmaps.We like Mindjet's MindManager©).

• Explore relationships graphically, either in your mind or on paper.

• Imagine a way of physically navigating through a process or system, e.g. to learn about the circulation system, you could imagine navigating your way through the major veins, arteries and heart.

• Use the back of a jigsaw and write keywords or steps of a process on each piece, linking them in a meaningful way.

• Use a 'visual route' memory peg system

5. INTRAPERSONAL INTELLIGENCE

Core abilities: Awareness of own emotions, goals, feelings and motivation. Intrapersonal intelligence is our cognitive ability to understand and sense our 'self': who we are, what feelings we have, why we are this way. It is not often recognised from the outside, unless perhaps it is expressed tangibly in some artistic form. Such people are likely to be realistic in what they can achieve and as such, are often valued colleagues and collaborators. You can usually tell if you have a well-developed intrapersonal intelligence because you:

• are aware of your underlying anxieties, desires and motivations

• act on the basis of self-knowledge, creating environments, guiding behaviour, and making decisions based on an accurate picture of yourself

• possess a strong sense of identity and purpose, and make decisions based on what is right for you, not what is expected.

Q : How can I use this right now in my studies ?

You are already using this intelligence by reading this chapter. Learning about how you learn (sometimes called metalearning) is a great way to improve your effectiveness as a student. Another tip is to ask yourself 'Why does this topic matter to me?' If the answer is not obvious, try and find a way of reframing a subject so that it becomes important to you.

6. INTERPERSONAL INTELLIGENCE

Core abilities: Awareness of emotions, goals, feelings and motivations of other people. Many people with a well-developed interpersonal intelligence are good at resolving conflicts. They tend to be comfortable in the company of others, and are often natural leaders. The traits in Figure 3.7 are commonly associated with good interpersonal skills.

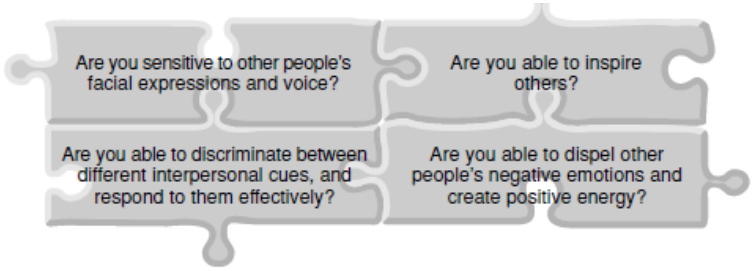


Figure 3.7 Traits associated with well-developed interpersonal intelligence

Q : How can I use this right now in my studies ?

• Teach what you have learned. Trying to explain something to someone really helps to clarify your own thinking . . . and getting stuck indicates where you haven't fully grasped something.

• Arrange team competitions and write your own questions.

• Organise co-coaching groups or pairs.

• Role play with groups of two, three or four.

• Find a 'study friend' and compare notes – you may be surprised by the different points you pick up and miss out. (This needs to be an active process.)

7. MUSICAL INTELLIGENCE

Core abilities: see figure 3.8.

Infants as young as two months old are able to match pitch, melodic counter and loudness of their mother's voice. It seems that infants are predisposed to these aspects of music, even more than the core properties of speech – and musical intelligence may influence the emotional, spiritual and cultural development more than the other intelligences.

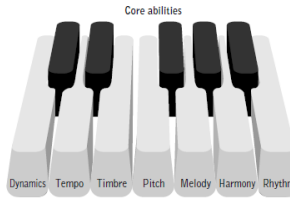


Figure 3.8 Musical intelligence core abilities

Q : How can I use this right now in my studies ?

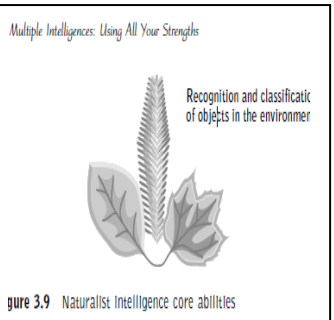
• Make up your own songs and rhythmical poetry to summarise what you have learned.

• Associate different music with different topics.
At age 6, Pat remembers the day her music teacher gathered the class around the piano. She went round the children in turn, playing two notes and asking each child to sing the notes they had just heard. On the basis of this extensive assessment, Pat was told she couldn't join the school choir. This was common practice in the UK – and Pat, like thousands of other children, grew up with the firm belief that she 'couldn't sing'. As a teenager, she studied classical guitar and even won a music festival competition, but never had the courage to take any of the formal music exams because of her firm belief that she would fail the aural part. We now know that letting any child believe they have no singing ability is misguided. The research suggests you can learn music at any age, though if you start later in life, it might take more time for you to reach proficiency (Jensen 2000). And the good news There is significant evidence that developing your musical intelligence has benefits for some of the other intelligences,

8. NATURALIST INTELLIGENCE

Core abilities: see figure 3.9 (overleaf).

More recently, Gardner (1995) has added an eighth intelligence, the naturalist intelligence, to the original list of seven, though there is still some debate about how well this meets the requisite criteria outlined in appendix 1 (page 257). According to Gardner, individuals with highly developed naturalist intelligence are able 'to recognise flora and fauna, to make other consequential distinctions in the natural world, and to use this ability productively.' Gardner speculates that this intelligence is used by suburban children when they sort and organise their collections of trading cards and the like.



gure 3.9 Naturalist intelligence core abilities

SQ3R

SQ3R reading method

- SQ3R is a reading strategy formed from its letters: **Survey! Question! Read! Recite! Review!**

Process

1. **Survey**

   The first step, survey or skim, advises that one should resist the temptation to read the book and instead glance through a chapter in order to identify headings, sub-headings and other outstanding features in the text. This is in order to identify ideas and formulate questions about the content of the chapter.

   Before you read, Survey the chapter:

- the title, headings, and subheadings
- captions under pictures, charts, graphs or maps
- review questions or teacher-made study guides
- introductory and concluding paragraphs
- summary

***S means Survey.**

1. When you survey a whole book, as you should at the beginning of the class
2. Learn the title. Know who the authors are and learn something about them.
3. Study the table of contents. Try to understand how the material is organized.
4. Look through several chapters to see how they are organized.
5. Check the back of the book: the index, glossary or other helpful information.
6. Think about what you already know on the subject.
7. Decide looks especially interesting to you.

When you are ready to read a chapter or section of a chapter, do another survey. Look for the

Title and subtitles

1. Bold words or phrases
2. Information in boxes
3. Illustrations
4. Introduction and Conclusion
5. Questions at the end of the chapter

2. **Question**

   Formulate questions about the content of the reading. For example, convert headings and sub-headings into questions, and then look for answers in the content of the text. Other more general questions may also be formulated:

   - *What is this chapter about?*
   - *What question is this chapter trying to answer?*
   - *How does this information help me?*

Question while you are surveying:

- Turn the title, headings, and/or subheadings into questions
- Read questions at the end of the chapters or after each subheading
- Ask yourself,
  "What did my instructor say about this chapter or subject
  when it was assigned?"
- Ask yourself,
  "What do I already know about this subject?"

***Q means Question.**

Write a list of questions. Start with questions you think your teacher would expect you to answer, questions that might be on a test. Then write questions about things you would most like to learn on the subject.

3. **Read (R^1)**

   Use the background work done with "S" and "Q" in order to begin reading actively.

When you begin to Read:

- Look for answers to the questions you first raised
- Answer questions at the beginning or end of chapters or study guides
- Reread captions under pictures, graphs, etc.
- Note all the underlined, italicized, bold printed words or phrases
- Study graphic aids
- Reduce your speed for difficult passages
- Stop and reread parts which are not clear
- Read only a section at a time and recite after each section

***The first R means Read.**

1. If you see a large number of new vocabulary words, list them and write definitions. This will make the reading easier to understand.
2. If there is an introduction or conclusion, Read those first.
3. If there are questions at the end of the chapter, read those next.
4. Most people divide the reading into sections. This is easy if the book has section headings and subheadings.
5. As you read, take reading notes. List the Main Idea in each section and underline it. Then list other important information or details that you think you should learn or want to learn.

4. **Recite (R^2)**

   The second "R" refers to the part known as "Recite/wRite" or "Recall." Using key phrases, one is meant to identify major points and answers to questions from the "Q" step for each section. This may be done either in an oral or written format. It is important that an adherent to this method use his/her own words in order to evoke the active listening quality of this study method.

Recite after you've read a section:

- Orally ask yourself questions about what you have just read, or summarize, in your own words, what you read
- Take notes from the text
- Underline or highlight important points you've just read
- Reciting: to repeat the words of, as from memory, especially in a formal manner:

The more senses you use the more likely you are to remember what you read Triple strength learning: Seeing, saying, hearing

Quadruple strength learning: Seeing , saying , hearing, writing!!!

***The second R means Recite.**

1. Look away from your notes and go over the main idea and details. You can do this mentally. You can recite aloud. You could also recite by writing the information down. Then check your notes to see if your memory was complete and correct.
2. If you didn't really understand the material, go over it again, reading slowly and carefully.
3. If you still don't understand, don't just skip it. You might check the topic on the Internet and see if that helps. You might call a classmate and ask them to explain it to you. You might need to ask the teacher to explain it to you. But, most of the time, when you go through the material three or four times, you will understand.
4. If you understood the material but forgot a lot as you recited, go over your notes carefully and recite again. Repeat this until you remember the information completely and correctly.
5. Then go to the next section and repeat.

5. **Review (R^3)**

   The final "R" is "Review." In fact, before becoming acquainted with this method a student probably just uses the R & R method; Read and Review. Provided the student has followed all recommendations, the student should have a study sheet and should test himself or herself by attempting to recall the key phrases. This method instructs the diligent student to immediately review all sections pertaining to any key words forgotten

   Review:
   the process of going over a subject again in study or recitation in orderto fix it in the memory or summarize the facts.

***The third R means Review.**

Review is a lot like Recite. You begin to Review when you finish reading the chapter or assignment.

1. It is best to review the material within an hour and then again before you go to sleep. Review at bedtime is very helpful because your brain makes connections while you sleep helping you remember more of the material and you will remember it longer.
2. After the first day, it is best to review the material twice a day for a few days, then once a day, then twice a week, once a week, etc. Before a test, you might go back to reviewing every day for a week, especially at bedtime. You should then be ready for the test.
3. If you decide to remember the material for final exams or forever, put your notes in a **Review Notebook** and review them once weekly, twice a month, monthly, etc. As long as you continue regular reviews – even in once a year, you should be able to remember the information for as long as you want.

   Yes it takes longer to read this way, but many students go back and read the assignments again before a test. If you read carefully, learn the vocabulary, understand the material, recite and review, you should never need to read it again. You should know the material well and remember much of it after the class is done.

SUPER POWER MEMORY

How to Remember Everything You Need To!

* Educational success requires accurate recall
* Luckily, there is no such thing as a 'bad memory'
* Accurate recall involves focus, encoding and retrieval
* There are many techniques and activities that can help you to remember

In this chapter we look at how to remember information. Most educational programmes place a high value on accurate recall. Although the increasing use of continuous assessment, open-book exams, problem-based learning and project-based assignments may indicate a move away from an 'over-reliance' on memory (Ryan 2003) the need for accurate recall will not disappear. The ability to recall information precisely can also save you time and energy outside the learning environment. This chapter looks firstly at how you remember and the implications this has for your study. We then describe some specific techniques and activities that will help you remember.

How do I remember?

Various models of memory have been proposed. Although some controversy continues, most people agree that it's useful to consider three distinct memory systems: sensory, short-term and long-term memory. These are shown in figure 7.1 below. This model has some implications for learning. Here's our list. You may be able to think of others.

• Memory is a process or an activity; it is not a noun.

• You must focus on information before it will enter your short-term memory.

• You must encode or process the information before it is stored in long term memory.

• In order to recall information you must 'locate' then 'retrieve' it.

• The more deeply and richly you can process or encode information the easier it will be to remember that information accurately and easily.

• There are techniques to help you focus, encode and retrieve so that you will remember more effectively and efficiently.

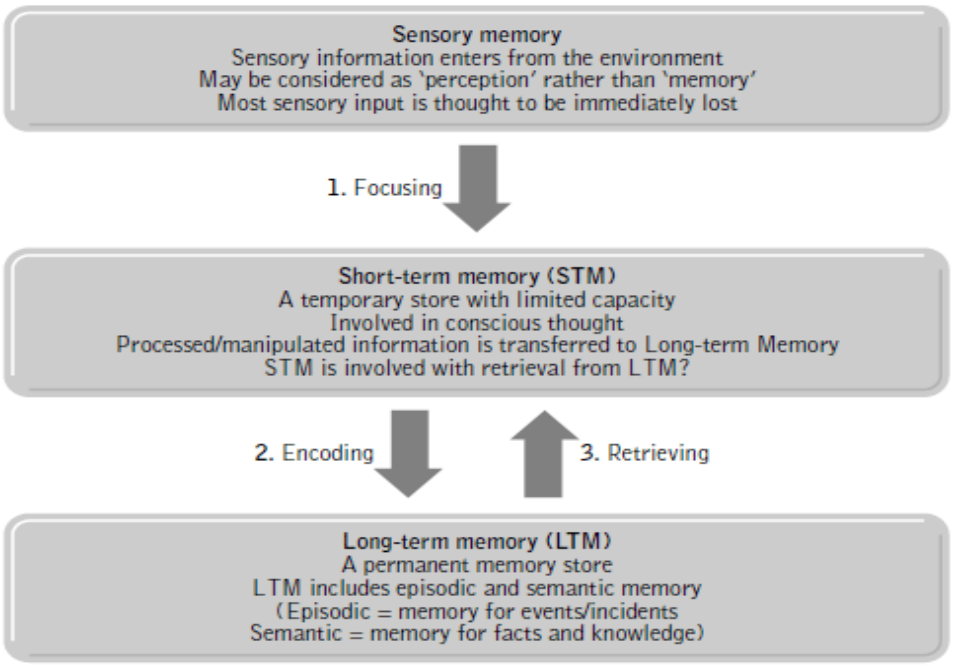


Figure 7.1 A model of memory

• The more deeply and richly you can process or encode information the easier it will be to remember that information accurately and easily.

• There are techniques to help you focus, encode and retrieve so that you will remember more effectively and efficiently.

How To Remember More Accurately

From the model and activities presented above, it should be clear that improving your memory is all about improving your focus, encoding and retrieval skills. There are various techniques and activities that can help you do this. Here we will consider:

• **M**nemonic techniques

• **R**epetition

• **C**hunking

• **O**verlearning

• **M**eaningfulness

* **C**hunking Phrases

• **I**nterference

• **C**alm state

How comprehensive is the model?

Mnemonic techniques tend to be most useful for learning information that must be learnt 'word perfect' yet has little inherent organisation or meaning – lists of names or digits. They are less useful for material that has intrinsic meaning or where your recall should be faithful to an original account but not word perfect, e.g. summarising a theory. Detailed information on Memory techniques in the later chapters .

Repetition →

We tend to forget the bulk of what we are studying very quickly, although the subsequent rate of loss slows down. Therefore it makes sense to return to material quite soon after it has first been studied, and then allow gradually longer intervals between each repetition or review (Buzan 2003). As always, the material should be fully understood since repetition alone cannot add depth to your knowledge. It may take several cycles of review before material is fully committed to long-term memory but once you are confident that you have 'learnt' a subject area then quick reviews of the material are all that is likely to be needed in future.

Chunking →

How many words did you remember from the two earlier lists? In a classic article published in 1956, G. A. Miller proposed that the number of items we hold in our short-term memory is seven, plus or minus two. However, the more 'information' contained within each item, the more information you hold overall. Increasing the amount of information within each item is called **chunking**. Bellow is an example of 'chunked' energy sources:

Full list	**Chunked list**
Wind generation	**Renewable energy sources:**
Hydro power	Wind generation
Tidal power	Solar power
Biomass	Tidal power
Geothermal energy	Hydro power
Solar power	Geothermal energy
Coal	Energy from waste
Oil	Biomass
Gas	
Energy from waste	**Non-renewable energy sources:**
Nuclear energy	Oil

Natural gas

Coal

Nuclear energy

Learning material is often already ‘chunked’ when presented. For example, individual elements are grouped within the periodic table, diseases may be chunked into different therapy areas, and geographical concepts might be chunked under physical, social or economic geography. Experimenting with different ways of chunking will not only help you

condense the information but you will also find new connections between information, which by itself means deeper processing and better recall. Acronyms are another example of chunking; single words or phrases like ‘Mr Comic’ take you to detailed information.

TRY THIS

Think about one of the subjects that you are currently studying. How is information chunked in those subjects? And what chunking strategies have you developed yourself?

How to remember everything you need to! For example, in media studies films may be categorised under different genre such as comedy, thriller, romance, or film noir. However, you may have also developed your own ways of rembembering films, by chunking according

to director, year of release, nationality, leading actors etc.

OVERLEARNING →

Have you ever spent the night before an exam cramming? This is a high-risk learning strategy. Last-minute cramming raises the risk that information will not be retrieved since it has only been superficially studied. Six months later there may be little you can spontaneously recall. Over-learning through repeated review leads to faster and better recall of information. Think of the phrase ‘etched on my mind’ and try to over-learn the material that you need. You can over-learn using many different techniques – repeated review, chatting with friends, reading notes, through mindmaps etc. Again, the more active your learning the better it will be!!

MEANINGFULNESS →

Your brain tries to add meaning to all situations – and this includes all new information. Most of the memory techniques presented in this chapter are about adding extra layers of ‘meaning’ and ‘organisation’ to material. Both classic and recent memory experiments have demonstrated that it’s easier to remember material when it you find it meaningful and Since material is stored in many ways, the more richly or ‘deeply’ you can process information the more retrieval cues are at your disposal.

CHUNKING PHRASES →

Suppose you were to remember these paragraph:

"She did not hear the story as many women have heard the same, with a paralyzed inability to accept its significance. She wept at once, with sudden, wild abandonment, in her sister's arms. When the storm of grief had spent itself she went away to her room alone. She would have no one follow her."

Chunk the sentence

Repeat in the mind : "She did not hear the story as many women have heard the same"

After memorization add : ", with a paralyzed inability to accept its significance." – repeat in the mind , memorise , Then add the first phrase to the second , repeat and memorise

Then add : "She wept at once, with sudden, wild abandonment, in her sister's arms." – repeat in mind – memorise. Then add the two phrase to the thrid , repeat and memorise

Then add : "When the storm of grief had spent itself she went away to her room alone." – repeat in mind. Then add the three phrase to the fourth , repeat and memorise

Then add : " She would have no one follow her."" Repeat in the mind , memorise. Then add the four phrase to the fifth , repeat and memorise

INTERFERENCE →

New information can interfere with, or 'get in the way' of previously learnt information. Did the lists that you tried to learn earlier interfere with each other? The more similar the different sets of to-be-remembered material, the greater the capacity for interference.

The implications for study are:

• Take breaks between topics or try to space them out.

• Try to avoid learning similar information 'back to back', unless the two are related. It is best not to learn Latin vocabulary followed by French vocabulary, as there may be interference. Instead follow the Latin with an entirely different subject, such as maths, and save French revision for later.

CALM STATE →

Can you think of a time when you have been 'put on the spot' and not been able to recall a crucial piece of information or even think of anything to say? Excessive anxiety or stress makes it more difficult to remember accurately. Although it has been suggested that highly emotional or arousing incidents – such as where and how people heard of the death of Princess Diana or the events of

9/11 – are well remembered, recent evidence suggests this is not the case. Instead, self-perceived accuracy is higher, probably due to rehearsal via conversations with others and 'mental replays' Some arousal *is* needed for successful learning and you should aim for a heady mix of relaxation plus alertness. Cassaday et al. (2002) found that recall of words was better when study took place in relaxing rather than a neutral environment.

RETRIVAL

Many of the techniques described in this chapter help you to retrieve information by either providing contextual clues or signalling when you have forgotten something. There are some other techniques that also help you retrieve information when you need it. When trying to remember information make use of the fact that your brain organises and cross references information in many different ways. Memory experiments have shown that even when people find it difficult to retrieve 'known' vocabulary, for example, they can still identify the number of syllables or the initial letter at better than chance rates. Next time you have forgotten something try working your way through the alphabet, or think about the length of the word to see if this aids recall. Similarly, have you ever struggled and failed to recall an important piece of information, only to find that it pops into your head sometime later when you are no longer directly thinking about it? Higbee (1996) advises 'thinking around' when trying to recall information, by mentally trawling through all your associations with that item. When trying to attach a month or year to an historical event, for example, consider what else you know about that event. What came afterwards? Was there a subsequent coronation or peace agreement that might help you place the date? What preceded the event? Even thinking about when the event was taught within your curriculum might help you remember the correct date. These may lead to greater success than frustratingly focusing on the forgotten date.

FORGETTING

There are several theories of why we forget, including the following.

Fading: This theory states that memories simply fade away. There is limited supporting evidence for this, but if memories do fade the implications for learning are clear – over-learn and review.

Interference: This was described above and refers to new material 'getting in the way' of old.

Retrieval difficulty: This theory suggests that we never lose memories but sometimes we can't access them, and has emerged from physiological evidence in which brain stimulation has awakened 'forgotten' memories. When acquiring new information you may 'learn and forget' several times before you really know the material. Continue to 'process' and 'review' until you are able to retrieve the information easily and accurately.

EXTERNAL RESOURCES

This chapter has focused on techniques and strategies to help you remember but there are also external resources that you can use. What resources do you use to help you remember? Our list included:

- IT and software resources e.g. task lists, reminders
- diary
- other people
- watch alarms
- post-it notes
- whiteboards/chalkboards
- address/telephone books
- mobile phone reminders.

There is no reason not to use external aids. Successful learning is partly about making smart choices.

DEVELOPING A SUPER POWER MEMORY

- All memory, whether trained or untrained is based on Association. Association means -- To connect or bring into relation as thought, feeling, memory etc. Connection or combination.
- When people say 'I forgot , they didn't usually – what really happened was that they didn't remember in the first place .
- One of the fundamentals of a Trained memory is what I Call Original Awareness .Anything of which you are Originally Aware cannot be forgotten .Anything you wish to remember must first be observed .
- Objects tangible can be associated . Nothing is abstract or Intangible so far as the system are concerned .

  Eg : Objects Tangible : Eg : Apple , TV , Computer

  Objects Abstract/ Intangible : Eg : Phenomena , Fundamental , Scenario .

  More clarity in the after pages…

- Virtually all learning is based on memory .
- We Believe that there are three basic learning skills : 1) The search for information . 2) Remembering the information . 3) Applying the Information .

  - ***Association : The Memory Trick :***

- In order to remember any new piece of Information ,It must be associated to something you already know or remember in some ridiculous way .
- All you need to do is to form a ridiculous , picture or image in your mind's eye – An association a between those two things .
- There are two steps involved . First you need a ridiculous – impossible ,crazy ,illogical ,absurd – picture or image to associate the two items . What you don't want is a logical sensible picture .
- An Example of a logical picture for memorizing an Airplane and a tree , might be: an airplane parked near a tree. Though unlikely ,that is not ridiculous ,it is possible – therefore ,it probably won't work. A ridiculous or Impossible picture might be : A gigantic tree is flying instead of an airplane ,or an airplane is growing instead of a tree, or airplanes are growing on trees ,or millions of trees (as passengers) are boarding airplanes . These are crazy ,impossible pictures . Now, select one of those pictures ,or one you thought of yourself ,and see it in your mind's eye.
- We don't, of course, mean to see the words airplane and tree . You are to actually see the action you've selected – and most ridiculous association between any two items will be actions ,like the examples given here .
- See that picture ,that action ,in your mind for a split second . You're not doing anything unusual ; you've been seeing pictures in your mind all your life . Actually ,you cant think without seeingb pictures .Aristotle said it, centuries ago – one of his books opened with this sentence : 'It is impossible even to think without a mental picture' .
- Once you have tried to do that, stop thinking about it .The 'trying' however is quite important . Mr.Lorayne tells his students that even if his systems don't work ,they must

work. That sounds silly but its true. Just trying to apply the systems must improve your memory, whether or not they really work. The fact that they do work and work beautifully will improve your memory to an unbelievable degree .

- Reasoning is reasoning about something .The 'something' is in the memory' .And you wont understand something later if you don't memorize it originally . Its obvious ,the more material in your memory, the more tools you have with which to reason ,the more things you have to reason about. To learn is to remember .

Link Method of Memory

A man's real possession is his memory. In nothing else is he rich, in nothing else is he poor.

—Alexander Smith

I **want** to show you now, that you can start, immediately, to remember as you've never remembered before. I don't believe that anyone with an untrained memory can possibly remember twenty unassociated items, in sequence, after hearing or seeing them only once. Even though you don't believe it either, you will accomplish just that if you read and study this chapter. Before going into the actual memorizing, I must explain that your trained memory will be based almost entirely on mental pictures or images. These mental pictures will be easily recalled if they are made as ridiculous as you can possibly make them. Here are the twenty items that you will be able to memorize in sequence in a surprisingly short time.

carpet, paper, bottle, bed, fish, chair, window, telephone, cigarette, nail, typewriter, shoe, microphone, pen, television set, plate, donut, car, coffee pot, and brick.

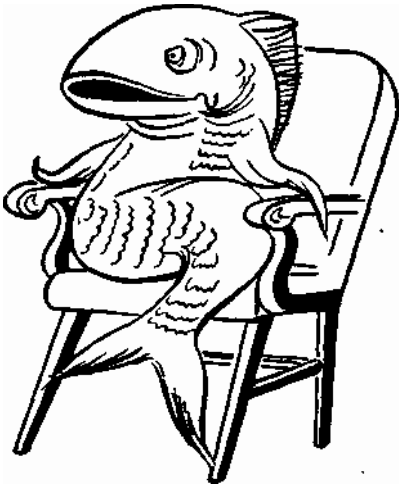
A famous man once said that method is the mother of memory. So, I'll teach you now, what I call the Link method of memory. I've told you that your trained memory will consist mostly of ridiculous mental images, so let's make ridiculous mental images of the above twenty items! Don't be alarmed! It is child's play; as a matter of fact it is almost like a game. The first thing you have to do is to get a picture of the first item, "carpet," in your mind. You all know what a carpet is—so just "see" it in your mind's eye. Don't just see the word, "carpet," but actually, for a second, sec either any carpet, or, a carpet that is in your own home and is therefore familiar to you. I have already told you that in order to remember anything, it must be associated in some way to something you already know or remember. You are going to do that right now, and the items themselves will serve as the things you already remember. The thing that you now know or already remember is the item, "carpet." The new thing, the thing you want to remember will be the second item, "paper." Now then, here is your first and most important step towards your trained memory. You must now associate or link carpet to, or with, paper. The association must be as ridiculous as possible. For example, you might picture the carpet in your home made out of paper. See yourself walking on it, and actually hearing the paper crinkle under foot. You can picture yourself writing something on a carpet instead of paper. Either one of these is a ridiculous picture or association. A sheet of paper lying on a carpet would not make a good association. It is too logical! Your mental picture must be ridiculous or illogical. Take my word for the fact that if

your association is a logical one, you will not remember it. Now, here is the point which I will keep reminding you of throughout this book. You must actually see this ridiculous picture in your mind for a fraction of a second. Please do not just try to see the words, but definitely see the picture you've decided on. Close your eyes for a second; that might make it easier to see the picture, at first. As soon as you see it, stop thinking about it and go on to your next step. The thing you now already know or remember is, "paper," therefore the next step is to associate or Link, paper to the next item on the list, which is, "bottle." At this point, you pay no attention to "carpet" any longer. Make an entirely new ridiculous mental picture with, or between bottle and paper. You might see yourself reading a gigantic bottle instead of a paper, or writing on a gigantic bottle instead of on paper. Or, you might picture a bottle pouring paper out of its mouth instead of liquid; or a bottle made out of paper instead of glass. Pick the association which you think is most ridiculous and see it in your mind's eye for a moment. I cannot stress, too much, the necessity of actually seeing this picture in your mind's eye, and making the mental image as ridiculous as possible. You are not, however, to stop and think for fifteen minutes to find the most illogical association; the first ridiculous one that comes to mind is usually the best to use. I'll give you two or more ways in which you might form your pictures with each pair of the twenty items. You are to pick the one that you think is most ridiculous, or one that you've thought of yourself, and use that one association only. We have already linked carpet to paper, and then paper to bottle. We now come to the next item which is, "bed." You must make a ridiculous association between bottle and bed. A bottle lying on a bed, or anything like that would be too logical. So you might picture yourself sleeping in a large bottle instead of a bed, or you might see yourself taking a snort from a bed instead of a bottle. (I can get pretty ridiculous.) See either of these pictures in your mind for a moment, then stop thinking of it.

You realize, of course, that we are always associating the previous object to the present object. Since we have just used, "bed"; this is the previous, or the thing we already know and remember. The present object, or the new thing

that we want to remember, is "fish." So—make a ridiculous association or link between bed and fish. You could "see" a giant fish sleeping in your bed; or a bed made out of a gigantic fish. See the picture you think is most ridiculous.

Now—"fish" and "chair"—see the gigantic fish sitting on a chair, or a large fish being used as a chair. Or, you're catching chairs instead of fish while fishing.



Chair and Window—See yourself sitting on a pane of glass (which gives you a pain) instead of a chair. Or, you might see yourself violently throwing chairs through a closed window. See the picture before going on to the next one. Window and Telephone—See yourself answering the phone, but when you put it to your ear, it's not a phone you're holding, but a window. Or, you might see your window as a large telephone dial, and you have to lift the dial to look out the window. You could see yourself sticking your hand through a window pane in order to pick up the phone. See the picture you think is most ridiculous, for a moment.

Telephone and Cigarette—You're smoking a telephone instead of a cigarette; or you're holding a large cigarette to your ear and talking into it instead of a telephone. Or, you might see yourself picking up the phone and a million cigarettes fly out of the mouthpiece and hit you in the face. Cigarette and Nail—You're smoking a nail; or hammering a lit cigarette into the wall instead of a nail. *Nail and Typewriter*—You're hammering a gigantic nail

right through a typewriter, or all the keys on your typewriter are nails and they're pricking your fingertips as you type- Typewriter and Shoe—See yourself wearing typewriters instead of shoes, or you're typing with your shoes. You might want to see a large shoe with keys and you're typing on that.

Shoe and Microphone—You're wearing microphones instead of shoes, or, you're broadcasting into a large shoe.

Microphone and Pen—You're writing with a microphone instead of a pen, or you're broadcasting and talking into a giant pen. Pen and Television set—You could "see" a million pens gushing out of the television screen, or pens performing on television, or there is a screen on a gigantic pen and you're (I can't resist this pun) watch-ink a television show on it.

Television set and Plate—Picture your television screen as one of your kitchen plates, or see yourself eating out of the television set instead of out of a plate, or—you're eating out of a plate, and seeing a television show in the plate while you eat.

Plate and Donut—"See" yourself biting into a donut, but it cracks in your mouth for it's a plate. Or,picture being served dinner in a gigantic donut instead of a plate.

Donut and Automobile—You can "see" a large donut driving an automobile; or, see yourself driving a gigantic donut instead of a car.

Automobile and Coffee Pot—A large coffee pot is driving a car, or you're driving a gigantic coffee pot instead of a car. You might picture your car on your stove, with coffee perking in it.

Coffee Pot and Brick—See yourself pouring steaming coffee from a brick instead of a coffee pot, or "see" bricks pouring from the spout of a coffee pot instead of coffee. That's it! If you have actually "seen" these mental pictures in your mind's eye, you will have no trouble remembering the twenty items in sequence, from "carpet" to "brick." Of course, it takes many times the length of time to explain this than to simply do it. Each mental association must be seen for just the smallest fraction of a second, before going on to the next one. Let's see now if you have remembered all the items. If you were to "see" a carpet, what would that bring to mind immediately? Why, paper, of course. You saw yourself writing on a carpet, instead of paper. Now, paper brings bottle to mind, because you saw a bottle made of paper. You saw yourself sleeping in a gigantic bottle instead of a

bed; the bed had a gigantic fish sleeping on it; you were fishing, and catching chairs and you were flinging chairs through your closed window. Try it! You will see that you will go right through all the items without missing or forgetting any of them. Fantastic?? Unbelievable?? Yes! But, as you can see, entirely plausible and possible. Why not try making your own list of objects and memorizing them in the way that you have just learned. I realize, of course, that we have all been brought up to think logically, and here I am, telling you to make illogical or ridiculous pictures. I know that with some of you, this may be a bit of a problem, at first. You may have a little difficulty in making those ridiculous pictures. However, after doing it for just a little while, the first picture that comes to mind will be a ridiculous or illogical one. Until that happens, here are four simple rules to help you.

1. Picture your items out of proportion. In other words, too large. In my sample associations for the above items, I used the word, "gigantic" quite often. This was to make you get the items out of proportion.

2. Picture your items in action whenever possible. Unfortunately, it is the violent and embarrassing things that we all remember; much more so than the pleasant things. If you've ever been acutely embarrassed, or been in an accident, no matter how many years ago, you don't need a trained memory to remember it vividly. You still squirm a bit whenever you think of that embarrassing incident that happened years ago, and you probably can still describe in detail the facts of your accident. So get violent action into your association whenever you can.

3. Exaggerate the amount of items. In my sample association between telephone and cigarette, I told you that you might see millions of cigarettes flying out of the mouthpiece, and hitting you in the face. If you saw the cigarettes lit and burning your face, you'd have both action and exaggeration in your picture.

4. Substitute your items. This is the one that I, personally,use most often. It is simply picturing one item instead of another, i.e. Smoking a nail instead of a cigarette.

1. Out of Proportion. 2. Action. 3. Exaggeration. 4. Substitution.

Try to get one or more of the above into your pictures, and with a little practice you'll find that a ridiculous association for any two items will come to mind instantly. The objects to be remembered are actually linked one to the other, forming a chain, and that is why I call this the Link method of remembering. The entire Link method boils down to this:—Associate the first item to the second, the second to the third, third to the fourth, and so on. Make your associations as ridiculous and/or illogical as possible, and most important, SEE the pictures in your mind's eye. In later chapters you will learn some practical applications of the Link system—how it can help you to recall your daily schedule or errands, and how you can use it to help you remember speeches. The Link system is also used to help memorize long digit numbers and many other things. However, don't jump ahead of yourself; don't worry about those things now. Of course, you can use the Link immediately to help you remember shopping lists, or to showoff for your friends. If you want to try this as a memory stunt, have your friend call off a list of objects; have him write them down so that he can check you. If when you try this you find that you are having trouble recalling the first item, I suggest that you associate that item to the person that's testing you. For example, if "carpet" were the first item, you could "see" your friend rolled up in your carpet. Also, if on first trying this as a stunt, you do forget one of the items, ask what it is and strengthen that particular association. You either didn't use a ridiculous enough association, or you didn't see it in your mind, or you would not have forgotten it. After you've strengthened your original association, you'll be able to rattle off the items from first to last. Try it and see! The most impressive part of it, is that if your friend asks you to call off the items two or three hours later, you will be able to do it! They will still be brought to mind by your original associations. If you really want to impress your listeners, call the items off backwards! In other words, from the last item called, right up to the first one. Amazingly enough, this works for you automatically. Just think of the last item, that will recall the next to last item, and so on down, or rather, up the line.

Studying with the Link [Abstract / Intangible]

Once you have completed the ‘ridiculous – pictures’ drill, you’re ready to take another giant step toward remembering (studying) better, more easily ,and with more fun and imagination – toward ‘remembering smart’ .

I have a stack of examples taken from high – school and college textbooks ,given to me by students as they wailed , “Oh boy, if I could only remember this quickly ,and retain it” . I’ve pulled out one of those examples ,and I’ll be ‘pulling out’ other examples throughout this book . This one is a ‘hardness scale’ . Everyone who studies geology must, in order to be able to identify minerals , memorize this type of list; it consists of ten minerals in sequential order. And in my source ,an old teacher’s edition of a textbook on earth science , each one is given a harness number from 1 to 10 . Students tell me that they’d better know (remember) them “by number,” too. We’ll get to that soon enough .Right now, since you’ve just learned how to remember items in sequence ,let’s stay with that.

Here's a version of a hardness scale (it lists ten minerals in increasing order of hardness and enables the student to determine scratchability) .

1.	talc	6.	feldspar
2.	gypsum	7.	quartz
3.	calcite	8.	topaz
4.	fluorite	9.	corundum
5.	opalite	10.	diamond

The problem : Memorize the minerals in sequence ,talc to diamond . The solution : Apply the Link System of memory . But wait a moment – how can we ? We cant visualize things like 'talc' , 'gypsum' , and so on . Oh Yes, we can. The Link is based mainly on the ***reminder principle*** . I've taught you to force one thing to remind you of the next. This is a natural phenomenon, something you have done and will do many times, all through your life . You see something that makes your mind swap its fingers and say ,"Oops ,that reminds me !" . It's a natural ,subconscious mental calisthenic over which you have no control . I've taught you to apply the reminder principle consciously,with control.The ridiculous picture forces one thing to remind you of another.

But you have to be a subject master first , know all the meaning ,facts and knowledge before associating the abstract words Lets enlarge on that idea just a bit. What does "talc" make you think of ? Brainstorm it for a moment .How about 'talk' ? .That sounds almost like the word 'talc' ,doesn't it? So does 'take,' or even 'tall k (the 'k' sound) . "Of course ,it may make you think, simple of 'powder' (talcum) .Yes, 'talc' could make you think of – remind you of – any of those things would also remind you of 'talc' !

So you can visualize 'talc' , because visualizing 'talk' , 'take' , 'tall k' , 'powder' – anything you think of as a reminder ,as a substitute – is the same as visualizing 'talc' ,because it will automatically remind you of it ! Once you understand this principle, you can apply the Link System to those minerals ,just as you applied it to more concrete items like lamp, paper, bottle, and so forth . Let's do it; work along with me .

Use whichever substitute picture (or word) you like to remind you of talc . I'll assume ,for teaching purposes ,that you're 'seeing' powder. Powder has to be associated, as you've already learned, to the next item. The next item is *gypsum* . What can you use to remind you of that ? Well, what does it sound like ? How about gyp some , *gyps 'im, gypsy ?* If you thought of it, it must remind you of – its really the same as – gypsum . (Chip sum or chip some would also work.) So, associate powder to ,say , gypsy ; form a ridiculous picture between the two items. Perhaps you'll visualize a gigantic gypsy (see whatever the word conjures up in your mind) pouring powder all over everyone ,all over the world . Use that ,or a picture you thought of yourself ,and as you know ,see it in your mind .Do it; work with me .

You want gypsum to remind you to calcite . Call sight ,calls height ,cold site would remind you of that .(Do you know anyone named Cal? His height – Cal's height – or his skin – Cal's hide – would do fine .) So, perhaps someone is measuring heights and a gypsy calls out those heights – gypsy , calls height . (Remembering ,I don't care how silly you get). See that picture .

Floor right will certainly remind you of fluorite ,particularly if you thought of it . (My helping you is not really helping you . It all works better if you think up your own reminders and pictures .As mentioned , however , I have no choice but to give you suggestions at the beginning .)

Someone is calling heights (calcite) and the floor yells “right” each time . See that picture ,or one you thought of yourself .

Now you need something to remind you of opalite .There are many ways to go – opal light , oh pal light , oh polite, open light. Associate floor right to one of those ; perhaps a floor keeps saying ‘right’ to everything because it’s oh so polite . See the picture; think of it a second .

You want opalite to ‘bring you to’ feldspar . Felled spar is what I see to remind me of feldspar ; its close enough in sound . (Field spar, fell spar, felt spar, felled while sparring, are all good, too.) You’re being oh so polite to a felled (fallen) star .

More rapidly now : A felled star looks like a gigantic quarter (quartz) ,or quartz of liquid pour out of a felled star. Or, you felt a spear and quarts of liquid pour out of a felled star . Or, you felt a spear and quarts of liquid pour out and soak you . See the picture , Connect quarter or quarts to toe pass ,to pass , or dope ass (donkey) .One of these will remind you of topaz. Perhaps you see yourself pouring quarts of liquid over a dopey ass . See it .

The dopey ass eats a gigantic apple core that’s soaked in rum , and that makes him dumb . Core rum dumb – corundum . See the picture .

A gigantic apple core (just that is enough of a reminder; corps would do, too) . is around your finger – it’s a ring (to remind you of diamond) .Or, the core sparkles like a diamond ,or it is playing cards and holds the ace of diamonds .Select a picture and see it, imagine it .

Explaining what goes on in the mind takes much longer than what actually goes on in the mind . I've had to use time and space to teach you how to Link the ten minerals . Had you known the system ,you could have memorized the list in a fraction of the time that it took me to explain it.

Right now ,test yourself ;see it you know the hardness scale .Start with talc (powder) and glide to the end . Try it; fill in these blanks :

talc , _____, _____, _____, _____

_____, _____, _____, _____, diamond

And yes, you know them backward ,too. If you're studying geology ,or if you will be studying it, you're ahead of the game . Obviously ,if you want to remember "apatite" or "opaline" rather than "opalite" , use appetite or open line (or oh pal lean) as your substitute thought instead of oh polite ; If you want to remember orthoclase ,use oar tow class instead of felled star; and for corundum, use run instead of rum in the proper pictures . You might, incidentally ,want to start your Link with hard scale to tell you what the list is. (You could see yourself sprinkling lots of talcum powder on a very large ,hard scale.) And, you'll soon learn how to remember /know the ten minerals by number.

LONG – DIGIT NUMBERS

The problem of remembering numbers, probably the most difficult of all memory chores, can be solved by learning a simple phonetic alphabet , consisting of just ten pairs of digits and sounds . They are not all difficult to learn ,even if you use rote memory – which you won't need to do. We want to eliminate rote, not find uses for it. You'll be given a simple memory aid for each pair, and if you concentrate ,you'll probably find that you know them after one reading .

First ,to break down the idea for you ,there are ten digits in our numerical system : 1,2,3,4,5,6,7,8,9 and 0 . There are also ten basic consonant phonetic sounds . (Technically, of course, there are more than ten, but the ten basic ones will serve our purpose and admirably) .

Think of the letters t and d for a moment .Although they are different letters ,and fall in different parts of the alphabet ,they make the same phonetic sound. Your vocal apparatus (tongue, teeth, lips) is in exactly the same position when making the d sound . The t sound is a bit harder than the d, that's all .For our purposes ,they'll be considered the same .

The rule – the vocal apparatus being in the same position – will hold true for other consonant sounds. For example ,although g and v (and ph) are different letters ,they form the same phonetic sound; again, the only difference letters ,they form the same phonetic sound; again ,the only difference is that one is harder than the other, and, again ,your lips ,tongue, and teeth are in the same position to form either one .

P and b are phonetically the same for our purposes. So are j , sh, ch and soft g – your tongue curls the same way to sound any one of them . The hissing sounds ,s,z ,soft c ,are also the same phonetic sound, and so are k ,hard c and hard g .

All right then .There are ten of these phonetic sounds ,and it is the sounds we're interested in , not the letters themselves . All we've done is to pair a sound to each digit ,and there are only ten pairs for you to learn . That's the phonetic alphabet .Learn it; once you do , you'll use it for the rest of your life – it will never change . Don't worry now about how it will be used ; just learn it. It can be useful to you in ways you couldn't imagine .

Pay attention to the memory aids; they're silly but they'll enable you to learn the phonetic alphabet in minutes . The sound that ill represent number 1 will always be the sound made by the letters t or d ,and vice versa .The memory aid, which you'll need for only a short while, is this : A typewritten t has one downstroke. Think of that for just a moment .

The number 2 will always be represented by the sound made by the letter n .The memory aid is :A typewritten small letter n has two downstrokes .Think of that for a moment .

Number 3 will always be represented by the sound made by the letter m; 3 = m and m = 3 .The small typewritten letter m has three down strokes ,or you might think of the 3M corporation. Again ,it is the sound we're interested in, not the letter.

Number 4 will always be represented by the sound of r . The simplest memory aid for this is that the word ‘four’ ends with an r .

Number 5 will always be represented by the sound of *l* . The memory aid : Spread the five fingers of one hand ,thumb straight out, and the thumb and forefinger form the letter *l* .

Number 6 will always be represented by the sounds j, sh ,ch, and soft g (as in gentle); they all make the same phonetic sound . The memory aid ; The digit 6 and a capital letter j are almost mirror images 6 j .

Number 7 will always be represented by the sounds k , hard c (as in cap) , hard g (as in glide) .As the memory aid ,you can form a capital k with to 7’s ,one right side up and the other upside down, like this ; k

Number 8 will always be represented by the sound made by the letters f or v or8 the sound ph . To help you remember this quickly ,an 8 and a handwritten f are both made with two loops ,one above the other 8

Number 9 will always be represented by the sound made by the letters p or b . The number 9 and the letter p are almost exact mirror images 9 P .

And finally ,the zero (0) will be represented by the hissing sound made by the letters z ,s or soft c (as in century) .The memory aid : The first sound in the word ‘zero’ is z .

If you have read red last few paragraphs with some degree of concentration ,the odds are that you already know all, or most ,of them .But look at this chart for a moment :

1 = **t** or **d** . A typewritten small t has one downstroke .

2 = **n**. A typewritten small n had two downstrokes.

3 = **m**. A typewritten small m has three downstrokes .

4 = **r**. The word four ends with an r.

5 = ***l*** . The five fingers ,thumb out ,form an *l*.

6 = **j, sh, ch soft g**. A 6 and a capital J are almost mirror images. 6 J .

7 = **k, hard c, hard g**. You can make a capital k with two 7’s K .

8 = **f , v , ph** . An 8 and a handwritten f look similar 8 f .

9 = **p or b**. A 9 and a p are mirror images 9 P .

0 = **z, s, soft c** .The first sound in the word zero is z .

A few rules : The vowels a, e ,i , o, u ,have no value whatsoever in the phonetic alphabet; they are disregarded . So are the letters w, h and y. The only time that h is important is when it follows certain consonants ,changing the sound . Also, although this is rarely used ,the th sound will for our purposes be the same as the t sound : th = 1 .

Silent letters are disregarded. The word knee would transpose to 2 in the phonetic alphabet, not 72 . Remember, we are interested in the sound, not the letter . There is a k in that word but it is silent; it makes no sound and therefore has no value . The word bomb transposes to 93, not 939; the last b is silent .The beauty of this, if you'll forgive our saying so, is that it doesn't even matter whether or not you pronounce (or read) a word correctly . If you happened to speak with an accent, and pronounced that final b in bomb, you would transpose that word to 939. But since you'd always pronounce it that way ,the system would work just as well for you .

This leads to the rule for double letters. The word patter transposes to 914 ,not 9114. Yes, there are two t's in the word ,but they are pronounced as one t . The word bellow would transpose to 95: b=9 , t=5; the ow has no value . The rule is simple and definite; always consider double letters as making only one sound. (Except ,of course, where the two letters are obviously pronounced differently – as in 'accident' .The double c here transposes to 70.)

Finally ,the letter x will almost never be used, but it transposes to according to the way it is pronounced in a particular word . In the word fox the f is 8 ,and the x is 70. (The x makes the ks sound in that word.) In the word complexion ,however ,the x would transpose to 76. Pronounce complexion slowly and you'll see why. As for the letter q, it always makes the same sound as k – so it transposes to the number 7.

The phonetic alphabet should become second nature to you. That is, whenever you hear or see the 2, you should think ,n. You must know them quickly and out of order. Go over them mentally now; you probably already know them. Those simple little memory aids make the phonetic alphabet easy to remember.

Thus we transpose numbers to alphabets and make those alphabets in word or sentences ridiculously associated.

Eg : To remember 0141 : s t r t :→ Street / start or store

e, a, o are vowels and is not included as per the rules

To remember 4952 : r p l n → Airplane

To remember Preetam's Phone number :

98197 55220 : p f t p k l l n n z

puf top kill non zoo → Ridiculous sentence transposing the number

The Peg

Having mentioned a list of items in sequence, using the Link, how would you know ,say ,the 8th item instantly?. You wouldn't ,you'd have to go over the Link and count, either mentally or on your fingers .There's a much easier way, using Peg words that are based on the phonetic alphabet. This is the Peg system of memory.

If you know the sounds of the phonetic alphabet, and you should by now, this won't take much time or effort. Lets start by giving you ten Peg words ,then you'll be shown how to use them .

Since the number 1 is always represented by the sound t or d, the Peg word for 1 must contain only that sound. Many words could fit for any number, but the ones here are easy to picture and serve the purpose as well as any .

The word for 1 will always be tie .The word tie contains only one consonant sound and that sound (t) ,can only represent 1. So ,a mental picture of a man's necktie will always represent 1.

The number 2 is also a single digit, so the Peg word must contain only one consonant sound – but now, that sound must be the sound that represent 2, which is n . The word (name) that will always represent 2 is Noah .Picture whatever you like, probably a man with a long gray board, or just the beard.

The peg word for 3 will always be Ma; picture your mother or a little old lady,

4: rye .That word could only represent 4 because it contains only one consonant sound ,r .Picture a loaf of rye bread ,or a bottle or rye whiskey .

5: la, Picture whatever law represents to you; we always picture a policeman.

6 : shoe : Shoe contains only the sh consonant sound, which represents 6. Picture a shoe.

7: cow: Picture a cow ofcourse.

8: Ivy .The v sound can only represent 8, therefore ivy can only represent 8. Picture ivy climbing on a wall,

9:bee. Picture the stinging insect.

The number 10 contains two digits, therefore the Peg word for 10 must have sund t (or d for 1) and s (for 0. In that order .The word toes , toes can only represent 10. Picture your toes :

1. tie
2. noah
3. Ma
4. yye
5. law
6. shoe
7. cow
8. ivy
9. bee
10. toes

Now you have to remember this words :

1. pen
2. article
3. scissors
4. telephone
5. fish
6. ballon
7. car
8. cracker
9. pillow
10. teeth

Memorizing the above words using Peg ::

1. tie pen

You might see yourself wearing a gigantic pen ,instead of a tie. (your Peg word for the number 1), around your neck – see the ink dripping all over your shirt

4. rye telephone

Your peg word is rye; you might see yourself talking into a loaf of rye bread, instead of a telephone, or a large bottle of rye whiskey is making a phone call ….

And so on..

You can also use rhyming Pegs :

A rhyming example

1- one - gun Visualize the first item being fired from a gun
2- two - zoo Visualize an association between the second thing and a zoo
3-three - tree Visualize the third item growing from a tree
4-door Visualize the 4th item associated with a door
5-hive Visualize the fifth item associated with a hive or with bees
6-bricks Visualize the sixth item associated with bricks
7-heaven Visualize the seventh item associated with heaven
8-plate Visualize the 8th item on a plate as if it is food
9-wine Visualize a glass containing the 9th item
10-hen Visualize the 10th item associated with a chicken.

For example to remember the following grocery list of 10 items:
Apple: Picture an apple being fired from a gun
Butter: picture a gorilla stomping up and down on a stick of butter
Razor Blades: Picture a tree with razor blades for leaves
Soap: Picture a door made from soap
Bread: Picture bees flying from a loaf of bread as if it is a hive
Milk: Picture a brick house with milk jugs where the bricks should be
Cat food: Picture an open can of cat food with angel wings and a halo
Bacon: Picture bacon on a plate
Batteries: Picture a wine glass filled with batteries
Orange juice: Picture a hen being squeezed, and orange juice coming out

Remembering Speeches

The best way to deliver a speech is to talk in your own words thought for thought. A speech is a sequence of thoughts ,if the thought is out of sequence then the speech wont make sense . Now you know how to use the Link System to remember things in sequence. The Link ,plus one other idea ,will help you to remember your speech thought for thought.. There is rarely a thought ,whether it is to be expressed in one sentence or two paragraphs, that cannot be brought to mind by one word or phrase, It is these key words (or Key Thoughts) that you link – at which point you have the speech memorized thought for thought !

Remembering foreign Vocabulary

Associate a word to its meaning whether its an English word or a foreign word.

Most often other memory is concerned on entity consists of two things .Even the most complicated seemingly memory chores can usually be broken down into entities of two; a name to a face, an address

to a person, or company , a definition or meaning to a word & so on. Even while forming a long link ,you are still basically working with any two items at a time

English	*French*	*Substitute*
Bread	Pain	Pan

The Link → The handle of a pan is a loaf of French bread

Chicken	Poulet	Poo-leh

The Link → You are pulling the leg of gigantic chicken .

Note : Whether the English word is presented or French word must be taken into consideration & the association accordingly .

Remembering Names & Faces

1. Take care of the name . Ridicule & substitute the name
2. Take care of Faced. Look at the persons face & select what you think is its outstanding feature.

Mrs. Crane -- Her high forehead is her outstanding feature

You look at her forehead and many cranes fly out of it .

Mr.Colleti – Thick lips is his outstanding feature .

Mr Colleti has very thich lips .Picture those lips & see millions of cups of tea or tea bags coming out of them ; you are calling one of those cups or bags. Really try to visualize that silly action & call a tea will remind you of Colleti

Absent Mindedness

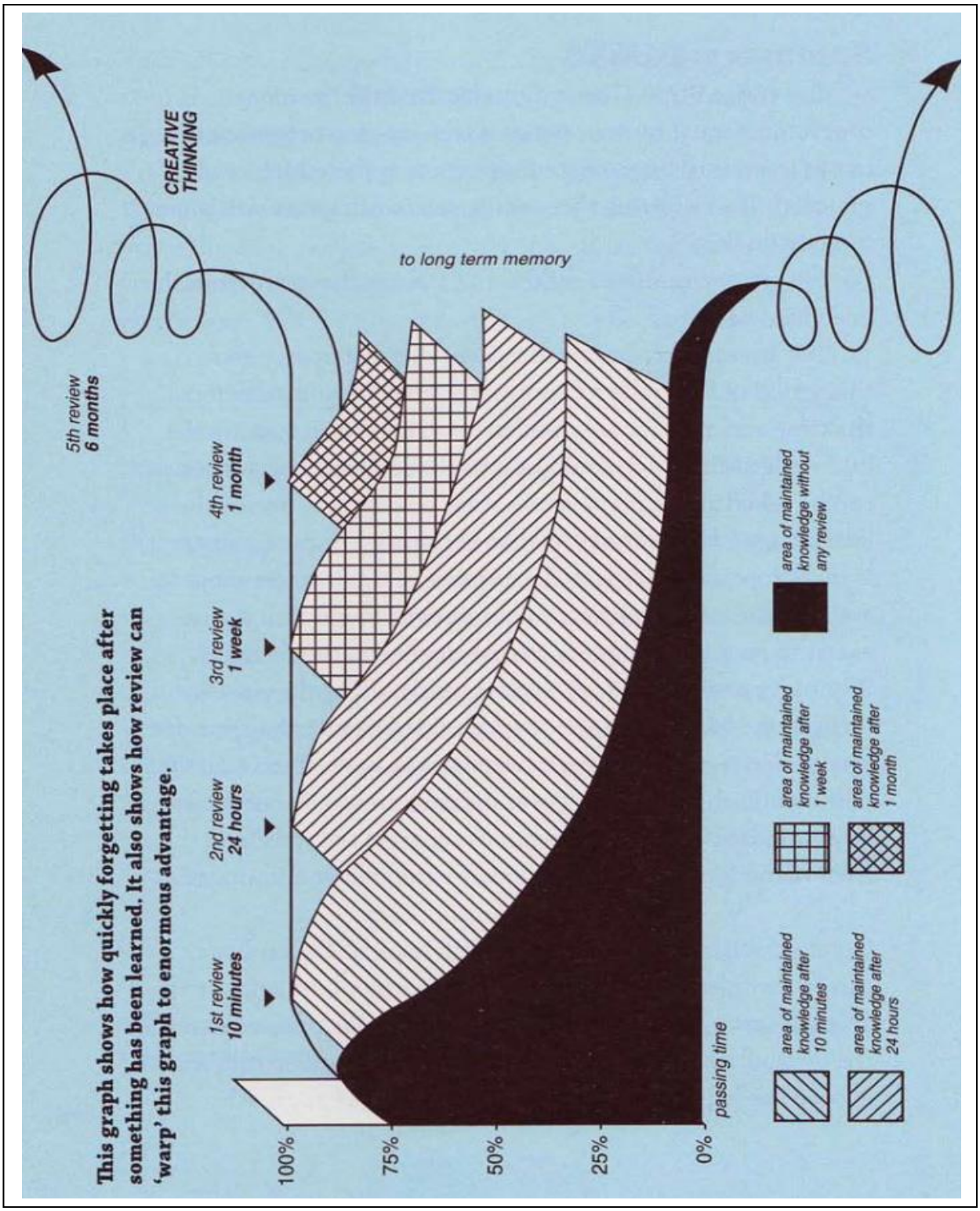
Intelligence isn't necessarily a factor in memory.

You are absentminded when your mind is absent ,when you perform actions , unconsciously without thinking .

We see with our eyes but we observe with our minds .If your mind is absent ehrn performing an action ,there can be no observation; more importantly there can be no Original Awareness.

All you have to do is to be sure to think of what you are doing during the moment in which you are doing it .

* * *


This graph shows how quickly forgetting takes place after something has been learned. It also shows how review can 'warp' this graph to enormous advantage.
1st review 10 minutes
2nd review 24 hours
3rd review 1 week
4th review 1 month
5th review 6 months
CREATIVE THINKING
to long term memory
100%
75%
50%
25%
0%
passing time
area of maintained knowledge after 10 minutes
area of maintained knowledge after 24 hours
area of maintained knowledge after 1 week
area of maintained knowledge after 1 month
area of maintained knowledge without any review

MIND MAPS

A **mind map** is a diagram used to visually organize information. A mind map is often created around a single concept, drawn as an image in the center of a blank landscape page, to which associated representations of ideas such as images, words and parts of words are added. Major ideas are connected directly to the central concept, and other ideas branch out from those.

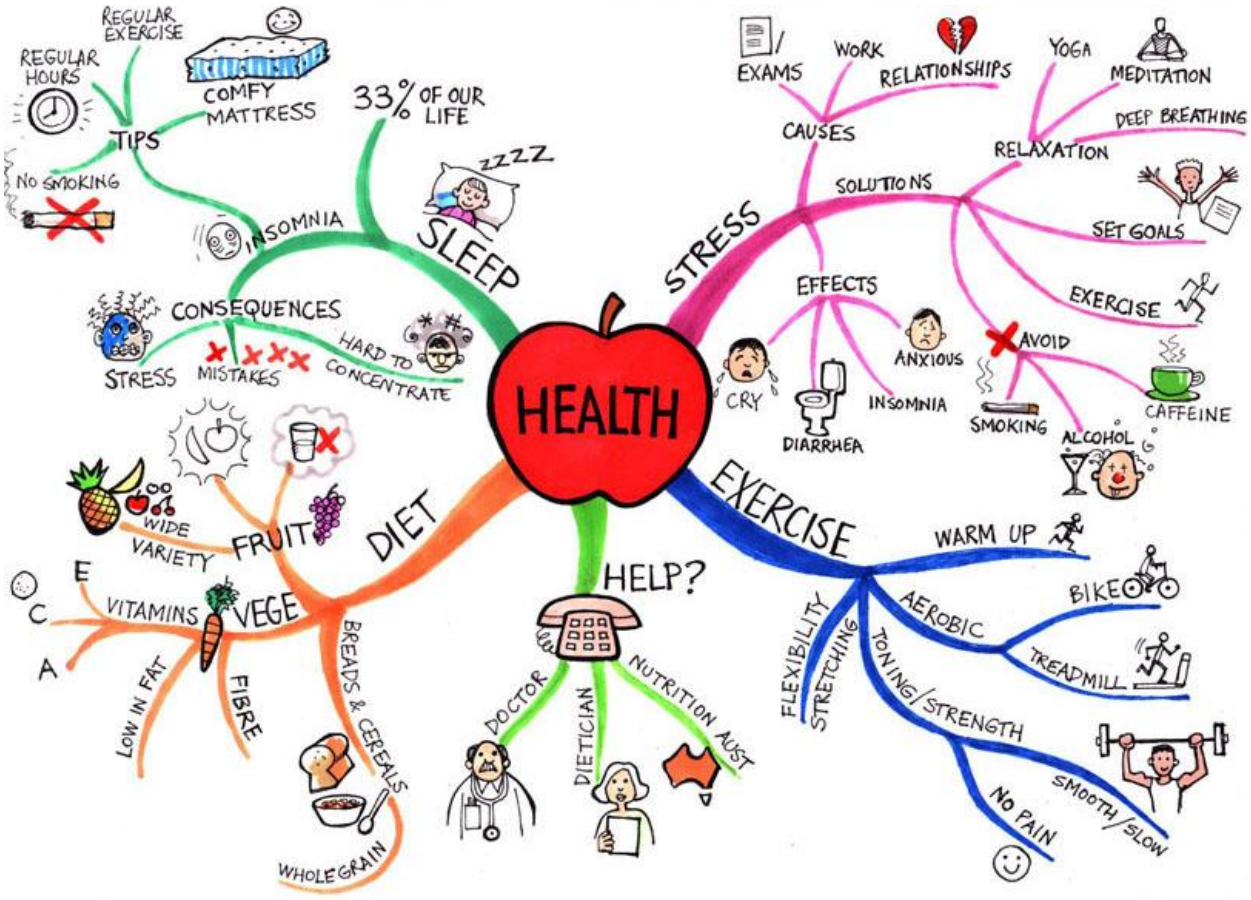
Mind maps can be drawn by hand, either as "rough notes" during a lecture, meeting or planning session, for example, or as higher quality pictures when more time is available.

Mind map Guidelines :

Buzan suggests the following guidelines for creating mind maps:

1. Start in the center with an image of the topic, using at least 3 colors.
2. Use images, symbols, codes, and dimensions throughout your mind map.
3. Select key words and print using upper or lower case letters.
4. Each word/image is best alone and sitting on its own line.
5. The lines should be connected, starting from the central image. The lines become thinner as they radiate out from the center.
6. Make the lines the same length as the word/image they support.
7. Use multiple colors throughout the mind map, for visual stimulation and also for encoding or grouping.
8. Develop your own personal style of mind mapping.
9. Use emphasis and show associations in your mind map.
10. Keep the mind map clear by using radial hierarchy or outlines to embrace your branches.

MIND MAPS EXAMPLE – [MIND MAP OF HEALTH]



Begin your Mind Map!

1. Decide on the topic of your Mind Map – this can be anything at all. You just need a topic to form your central idea. I'm going to plan my holiday.
2. Take a sheet of plain paper and some coloured pens, and turn the sheet so it's in a landscape position.
3. In the centre of this page, draw an image that really represents your topic. For my holiday Mind Map, I'm going to draw the beach.
4. Now label this image for your Mind Map. I'm labelling mine, 'My Holiday Planner'.
5. By starting your Mind Map in the middle of the page, you have given your thoughts the freedom to spread out and go in different directions – this is the way you think naturally and it will increase inspiration and creativity!

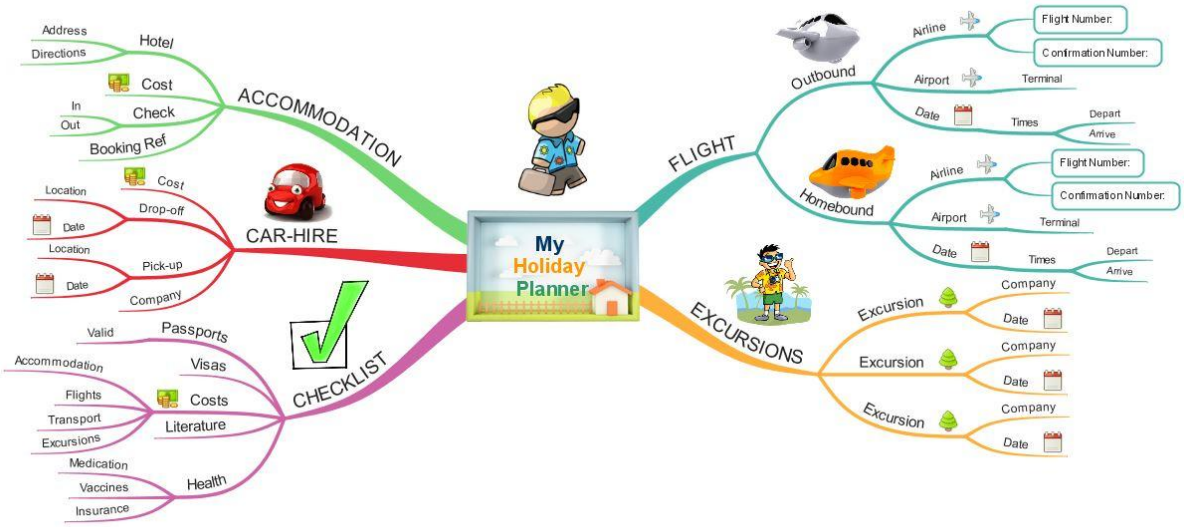
Branch out your Mind Map ideas

Now this is where Mind Mapping gets really interesting, as your Mind Map stimulates your brain to create new ideas, each one connecting to another thought – see how your ideas flow onto the page!

- Make thick, colourful branches spanning out from your Mind Map. Make these curvy, as your brain will be more excited by these than straight, monochrome lines.
- Add your main ideas as you add branches to your Mind Map. To my Mind Map, I'm adding the location of my holiday, how I'm going to get there and where I want to stay. Aim to add 5 or 6 branches.
- Write these Mind Map ideas in bold colourful capitals and add your ideas as single keywords. By using only one word per branch, you multiply the number of possibilities these thoughts can spark!

Get creative when you Mind Map

To get the most out of Mind Mapping, release your creativity! The more imaginative your Mind Map is, the better, as you will engage all of your senses. Try adding colour, wherever you can! Your Mind Map will have coloured branches and keywords, which will stimulate your brain. Also add images and sketches related to your Mind Map ideas, as this will strengthen your memory of your notes. I'm adding pictures of things I will see on holiday to my Mind Map.



Make Mind Map connections

Use your Mind Map main ideas as inspiration to make associations and connections:

- Draw smaller branches stemming from your Mind Map keywords. These will be associated ideas, for example, on my holiday Mind Map, I'm adding 'Summer' as a child branch to my 'Where' branch.
- There is no limit to the number of child branches you can make. Make as many as will fit on your Mind Map page!
- Your child branches will generate further ideas, and many more levels of child branches. Continue this Mind Mapping process until you have exhausted all of your ideas!
- Your finished Mind Map can be returned to whenever you want, and more ideas can be added to it. If you have Mind Mapping software, such as iMindMap, you can save your Mind Maps easily on your computer, print or export them in a number of ways!
  So, you have now finished creating your first Mind Map. You will have produced a map which represents your ideas in an organised, creative and effective way . . So open your textbook and mind map a chapter..Not using color can also do !