

Improve Your Memory

&

Mind Speed

(Part 1)

PLASTIC



paul raath – course director

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About the Author

If you should ask if I was one of the brightest students in my class, the answer is a definite NO. In fact, I was not even amongst the class average, but way below and used to pass merely by flying by the seat of my pants. I always had a “learning problem” and I was most definitely not “the brightest light on the Ferris Wheel”. As for College or University, I did not even qualify, therefore the furthest thing from my mind.

So, some ten odd years after having left school I realised that if I did not study further, my family and I were going to face a bleak future. I was married, had two kids and only half a lifetime ahead of me to get somewhere in life. I was approaching the 30 year mark and saw that I was being left behind when it came to promotion time. Desperation can do strange things to a person. Well, I got the “wakeup” call, even though it was a bit late in life.

I was again faced with the same frustrations as before and also like most of the students – did not know how to study. I did however have one thing in my favour, and that was more time, as I no longer had to compete against the clock as students in various educational institutions have to.

I started to study for a period of some twenty years plus and obtained numerous qualifications and commendations. Lack of proper learning skills however, forced me into a direction of devising techniques assisting with my studies.

With new, as well as older ideas in technology towards study sessions, I learned all about NLP, brain waves, sound effects that stimulate concentration, mind maps, speed reading, note taking, brain storming, brain dumping, goal setting and time frames, sleep stages, setting ground rules and ideas of mind enhancement along with relaxation techniques.

Over the years, what I had learned, I have compiled into a study course creating something so unique that it is way ahead of other study courses. This course has been taught to university students at classroom level, and due to popular demand, has now been designed and presented as an internet study course.

Twenty years of self-practice, research and development, has benefited many students from a wide spectrum of Schools, Colleges, Universities and other Institutions in accomplishing their goals. It's not uncommon for an increase in results of 20%, and in a lot of cases even more, depending upon the attitude taken by the student towards their studies. The techniques taught in this course are elementary in principle and by following the course format, NLP happens spontaneously without any effort.

From Robin Sharma's book “The Monk who sold his Ferrari”: ‘When the Student is ready, the Teacher appears’

Welcome to Plastic Part 1 – Increase your memory and mind speed!



IMPORTANT!

There is no quick fix solution to any problem, and therefore we recommend that you read through the literature supplied before going onto the various exercises of the study course itself. Not only does it make for interesting reading, but will also help you in the preparation of your actual studies.

Getting back to basics will surely help even the top students perform even better. Read, make notes, revise, concentrate, relax - body - mind - and eyes, think,

assess, plan and execute. All the elements needed - so what is new?

All we now have to do is show you how to structure the aforesaid, which is what this course is all about, and help you, polish up on a few techniques.

This part of the Course contains a lot of informative reading material, but at the same time fills the void of special techniques which is not included in Part 1.

LIFE AND EDUCATION

Education has become an indispensable part of everybody's life. Education is considered important to have enviable social status, best economic status and for a great lifestyle. In our life, we are expected to devote a considerable period of time toward Education.

THE IMPORTANCE OF EDUCATION

During your school / college / university education, you will have to improvise yourself with additional skills apart from your studies. You should be judicious between your studies and other activities, like sports. The one should not interfere with the other.

Study skills are more than just learning.

Your future is going to depend on how sincere and honest you are with yourself, and how hungry you are for success in the next 40 odd years.

Effective study skills must be practiced in order for you to improve. It is not enough to

simply "think about" studying; you actually have to do it, and in the process use information from what you do to get better. Your entire future hangs in the balance.

In putting across a study course of this format, there are certain aspects of the science of studying that must be mentioned, and the most important is an understanding of the brain.

THE BRAIN

Like the rest of the body, the brain is also susceptible to the law of "Use it or lose it". Brain deterioration happens when it is not used, through boredom or lack of self-confidence. Prolonged lack of sleep, exercise or poor diet also drains your mental energy and undermines the co-ordination between mind and body.



Inside the human skull exists a unique system for classification, storage, analysis and recall of information, which outclasses any computer ever designed, in capacity, speed and flexibility.

Synapses

The human brain contains about 50 billion to 200 billion neurons (nobody knows how many for sure), each of which interfaces with 1,000 to 100,000 other neurons through 100 trillion to 10 quadrillion synaptic junctions. Each synapse

possesses a variable firing threshold which is reduced as the neuron is repeatedly activated.

If we assume that the firing threshold at each synapse can assume 256 distinguishable levels, and if we suppose that there are 20,000 shared synapses per neuron (10,000 per neuron), then the total information storage capacity of the synapses in the cortex would be of the order of 500 to 1,000 terabytes.

Of course, if the brain's storage of information takes place at a molecular level, then no-one would be prepared to hazard a guess regarding how many bytes can be stored in the brain. By the age of 50, the average person's brain contains some 70 trillion items of information.

The brain is the storage place of all our experiences and studies we have ever undertaken – it never forgets! No person has been created with more "brains" than the other. Only the technique to

develop the brain differs from person to person. In the same way is there no such thing as a good or a bad memory – merely a trained or untrained one.

Your brain is a thinking organ that learns and grows by interacting with the world through perception and action. Mental stimulation improves brain function and actually protects against cognitive decline, as does physical exercise.

The human brain is able to continually adapt and rewire itself. Even in old age, it can grow new neurons. Severe mental decline is usually caused by disease, whereas most age-related losses in memory or motor skills is mostly simply a result from inactivity and a lack of mental exercise and stimulation.

What you learn and what you use isn't necessary the same thing. Your mind is really the Final Frontier – Use it, don't lose it

The average person in the 17th Century learned about as much as found in one book. A person in the 21st Century can achieve the knowledge contained in a Library.

Imagine what you will know in 30 years



BRAIN POWER VS. COMPUTER

In an experiment designed to simulate the functioning of the human brain, 16,000 computers agree: cognitive cats are the only thing worth downloading. **By RICHARD POPLAK.**

Mountain View, California, is something of an innovation hub. It's the place that brought us the internet search engine, the driverless car, Gmail. Without Mountain View, CA, the world would be unrecognisable. This is where Google lives and where the present morphs into the future, whether we're ready for it or not.

Google X is the relatively creepy R&D department that sets high-paid boffins loose in chase of the next big e-thing. And ever since Alan Turing, the mathematics genius who posited the notion of Artificial Intelligence way back in the 1950s, the next big e-thing has been the thinking, reasoning machine.

We've been warned about the perils of such a construction, but I fail to see how HAL 2000, birthed by dorks in a Cali complex replete with pool tables, pinball machines and fridges full of Coke Zero, is anything close to a great idea.



But humanity has to be wiped out somehow, and if any company is up to the task, why not Google? They've made stalking a fine art, what with Streetview, and have promised to "do no evil" – the sort of utopianism that leads to utter, universal destruction.

Which brings us to Google X's latest innovation. Andrew Y Ng, a computer scientist from Stanford, along with a team of like-minded folk have created a neural network of 16,000 computer processors, boasting more than one billion connections, and sent them into the wilds of the internet. Sans biological mentor, and shorn of the usual programming instruction that helps software do all sorts of tasks humans used to perform at half the price, the neural network has recognised - wait for it - cats.

This is, it must be admitted, no small thing. The human brain is the neural system of neural systems, with millions of tiny "processors" making trillions of connections—those 16,000 computers at Google X are an Adam Sandler fan compared to your average Joe. One of the things the human brain, with all

its manifest limitations, is good at doing is imbibing a YouTube video, and deriving meaning from its constituent parts.

Without the benefit of smell or touch, when we see a calico feline doing something cute on our laptops, we say, "Awww!" That may be a cultural meltdown—surely our time would be better spent reading Ulysses - but it isn't a processing problem: the amount of neural connections that allow us to consume kitties on the net is beyond staggering.

One of the innovations at work here is a piece of software that allows computers to multitask. By doing so, more and more connections become possible. And the more numerous the connections, the more likely the computer system will start "thinking" - or, at the very least, learning. This wouldn't be possible if there weren't vast

farms of computers in data centres, all of them getting cheaper as the price of technology drops.

The idea of one powerful supercomputer running the world is all but obsolete - sorry about that, Hal. Instead, the future is networked. This isn't new, per se. But the scale of it is unprecedented.

The experiment worked thusly: the computers were force-fed thumbnail images culled from 10 million YouTube videos, all of which were selected at random. According to the New York Times, "The Google brain assembled a dreamlike digital image of a cat by employing a hierarchy of memory locations to successively cull out general features after being exposed to millions of images. The scientists said, however, that it appeared they had developed a cybernetic

cousin to what takes place in the brain's visual cortex."

Just like in the brain - or how scientists believe the brain works - individual neurons are "trained" to recognise certain patterns. But Ng cautions against making the leap from the Google X experiment to the human brain. "A loose and frankly awful analogy is that our numerical parameters correspond to synapses," said Dr Ng, encouragingly. The network is still tiny when compared to the human visual cortex, which is about a million times bigger. Go nature!

But, before we imagine all is safe, we'd best remember that when we factor Moore's Law into the equation, we're not that far off from simulating the human neural system. Like, 10 years not that far. But Ng isn't so sure that their math is correct yet - scale

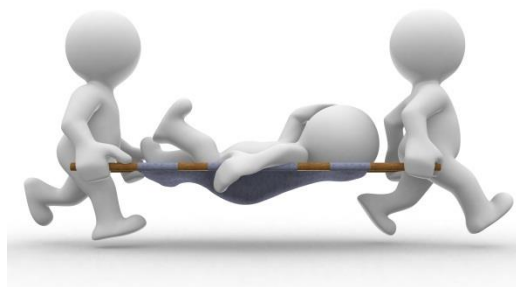
the experiment up, and the algorithm comes undone.

So, perhaps we can stave off the end of the world by another decade or so. Two things come to my biological mind. The first is that it has taken us 60 years of steady computing to get to this point - barely one human generation since Turing came up with the idea of AI.

That said, it never fails to dazzle how complex a species we are, and how incredible the supercomputer that runs our individual mainframes. The only problem is that we're smart enough to build something to wipe ourselves out.

But maybe, just maybe, SkyNet, in the midst of its destructive rage, will pause in flattening the world, to laugh its digital ass off at cute kitty pics. I CAN HAZ CHEEZEBURGER, indeed. **Daily Maverick RSA (29/6/2012)**

HEAD INJURIES



Sports-Related Head Injury

Although sports injuries contribute to fatalities infrequently, the leading cause of death from sports-related injuries is traumatic brain injury. Sports and recreational activities contribute to about 21 percent of all traumatic brain injuries among American children and adolescents.

Traumatic Brain Injury

A traumatic brain injury (TBI) is defined as a blow or jolt to the

head, or a penetrating head injury that disrupts the normal function of the brain. TBI can result when the head suddenly and violently hits an object, or when an object pierces the skull and enters brain tissue.

Symptoms of a TBI can be mild, moderate or severe, depending on the extent of damage to the brain. Mild cases may result in a brief change in mental state or consciousness, while severe cases may result in extended periods of unconsciousness, coma or even death.

Incidents

Included are statistics not only related to sports/recreational activities, but the equipment and apparel used in these activities. For example, swimming-related injuries include the activity as well as diving

boards, equipment, flotation devices, pools and water slides.

The following 20 sports/recreational activities represent the categories contributing to the highest number of estimated head injuries treated in U.S. hospital emergency rooms in 2009: Cycling, Football, Baseball and Softball, Basketball, Water Sports (Diving, Scuba Diving, Surfing, Swimming, Water Polo, Water Skiing, Water Tubing), Powered Recreational Vehicles (ATVs, Dune Buggies, Go-Carts, Mini bikes, Off-road), Soccer, Skateboards, Scooters, Fitness / Exercise / Health Club, Winter Sports (Skiing, Sledding, Snowboarding, Snowmobiling), Horseback Riding, Gymnastics / Dance / Cheerleading, Golf, Hockey, Other Ball Sports and Balls, Unspecified, Trampolines, Rugby / Lacrosse, Roller and

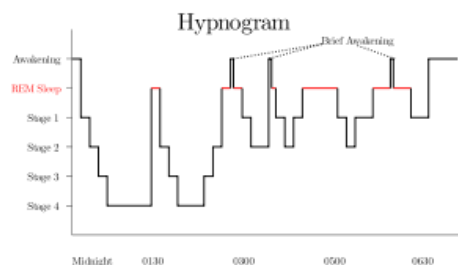
Inline Skating, Ice Skating.

Protection

Marvel of engineering that it is, the human skull is no match for the kinds of insults it faces. Collisions with metal or asphalt, goalposts or someone else's noggin or even sporting equipment, create forces that can severely damage the brain's tender tissues and disrupt its intricate circuitry.

It should be noted that we are not against any type of sport but as we are only equipped with one brain which has to last us for the rest of our lives, extreme care should be taken when participating in any type of sport, especially contact sport, to try and avoid any head injuries.

SLEEP



Luckily, we have a biological process in which we clear this clutter – Sleep. When you sleep, your body rests and restores its energy levels. However, sleep is an active state that affects both your physical and mental well-being. Specifically REM sleep.

Sleep is prompted by natural cycles of activity in the brain and consists of two basic states: rapid eye movement (REM) sleep and non-rapid eye movement (NREM) sleep. However, it's not the most effective clutter clearing process since we only undergo REM during 25% of our sleep time. The other 75% is NREM.

NREM sleep

NREM consists of three stages. There is relatively little dreaming in NREM.

Stage N1 refers to the transition of the brain from alpha waves having a frequency of 8–13 Hz (common in the awake state) to theta waves having a frequency of 4–7 Hz. This stage is sometimes referred to as somnolence or drowsy sleep. Sudden twitches and hypnic jerks, also known as positive myoclonus, may be associated with the onset of sleep during N1.

Stage N2 is characterized by sleep spindles ranging from 11 to 16 Hz (most commonly 12–14 Hz). During this stage, muscular activity as measured by EMG decreases, and conscious awareness of the external

environment disappears. This stage occupies 45–55% of total sleep in adults.

Stage N3 (deep or slow-wave sleep) is characterized by the presence of a minimum of 20% delta waves ranging from 0.5–2 Hz. This is the stage in which night terrors, nocturnal enuresis, and sleep-walking occur. Many illustrations and descriptions still show a stage N3 with 20–50% delta waves and a stage N4 with greater than 50% delta waves; these have been combined as stage N3.

REM sleep

Rapid eye movement sleep, or REM sleep (also known as paradoxical sleep), accounts for 20–25% of total sleep time in most human adults. The criteria for REM sleep include rapid eye movements as well as a rapid

low-voltage EEG. Most memorable dreaming occurs in this stage.

Too little sleep may cause:

- a) Impaired memory and thought processes.
- b) Depression.
- c) Decreased immune response.

Caffeine and other stimulants can temporarily overcome the effects of severe sleep deprivation, but cannot do so for extended periods of time. Sleep deprivation also magnifies alcohols effects on the body, so a fatigued person who drinks will become much more impaired than someone who is well-rested.

Meditation also helps to clear mental clutter as well. Many people who meditate, feel calmer and experience clearer states of minds because of the same reason. However, sometimes you may not be able to do so – say

when you are in class, when you feel too restless to meditate, or when you're too sleepy and may fall asleep during meditation.

SCHEDULES



The value of a schedule

Before you even begin to think about the process of studying, you must develop a schedule. If you don't have a schedule or plan for studying, then you will not have any way of allocating your valuable time when the unexpected comes up. It is

suggested that you make use of the time management schedule presented below.

A schedule saves time

A good schedule keeps you from wandering off course. A good schedule, if properly managed, assigns time where time is needed, but you've got to want to do it!

Making every hour count

A schedule should take into account every class, laboratory, lecture, social event, and other work in which you engage. There are givens such as classes and so on that has to be incorporated. You must focus on the other "free time" available and how you will use it. Make a weekly schedule and block off the 24 hour day in one hour increments. Indicate times for classes, labs, lectures,

social, and work time. Also block off a period for sleeping each day. With what is left over, plan time for study. Again, make use of the time management schedule to plan your study program.

Daily Schedules

There are a variety of time schedules that can fit your personality. These include engagement books, a piece of poster board tacked to a wall, or 3 x 5 cards. Once you decide upon the style, the next step is construction. It is best to allow spaces for each hour, half-hours for a busy schedule. First, put down all of the necessities; classes, work, meals, etc. Now block in your study time (remember the study time formula presented earlier).

Schedule it for a time when you are energized. Also, it's best to review class notes soon after

class. Make sure to schedule in study breaks, about 10 minutes each hour. Be realistic on how many courses to take. To succeed in your courses you need to have the time to study.

If you find you don't have time to study and you're not socializing to an extreme, you might want to consider lightening your load. Tips for Saving Time Now that you know how you spend most of your time, take a look at it. Think about what your most important things are. Do you have enough time? Chances are that you do not. Below are some tips on how to schedule and budget your time when it seems you just don't have enough.

How much time should you devote to studying? So, how much is enough? If you assume that your education is a full-time job, then you should spend about 40 hours/week on it.

Figure that 1 academic credit equals about 1 hour. So, if you're taking 15 credits, then you're spending about 15 hours in class. Subtracting that from 40 gives you 25 hours that you should be spending studying at home (or in the library).



You should spread that out over the week. Suppose you decide to study Sunday through Thursday evenings, taking Fridays and Saturdays off (from studying, that

is). Dividing that 25 hours by those 5 days gives you 5 hours of studying per night. If you think that's too much, then plan on studying in the afternoons, too, or some of Saturday.

The above are just rules of thumb. If you're taking a 3-credit independent-study course, but you meet with your instructor only 1 hour/week, then you should add the extra 2 hours to your at-home study time. If you're working to earn some money, you should subtract your work hours from your *free time*, not from your study time! (If you don't want to do that, then you should consider quitting your job or reducing your course load.)

If that still seems like a lot, consider the difference between high-school courses and college/university courses. The typical high-school course meets every day, for about 5

hours/week. But the typical college/university course meets only about 3 hours/week, yet is supposed to be more intensive than its high-school counterpart.

That's because you're expected to put more of your own time into studying.

One of the key ways to tackle a full load of classes or school-related projects is to handle study time management effectively.

It is recommended sectioning out time to make sure you do not miss anything, overlook anything or leave any work until the last minute. The idea is to create long-term schedules, short-term or weekly schedules and even daily must do lists.

The time scheduling recommended also extends to personal life. It includes study

time management, of course, but making sure a proper amount of down time is included in the mix can be important, as well.

Too much cramming and work can burn students out no matter their age or their personal desire to learn.

Not Perfect but achievable

Nobody can be perfect. Difficult tasks usually result in avoidance and procrastination. You need to set achievable goals, but they should also be challenging.

Tackling big projects or a lot of information is best handled by spacing out the effort; this means that if you break up assignments into smaller, more manageable parts it can help you avoid last-minute cram sessions.

Small breaks are generally very good to include as long as they do

not become too frequent or too long.

Learn to say No

An acquaintance would like you to see a movie with him tonight. You have made plans for tomorrow with your friends and tonight you were going to study. You want to say no, but you hate turning people down. Politely saying no should become a habit. Saying no frees up time for the things that are most important.

Prioritize

Prioritizing your responsibilities and engagements is very important. Some people do not know how to prioritize and become procrastinators. Draw up a "To Do List" in sequence of importance and stick to it. Study hard subjects first. Each night (or day) when studying or doing your

homework, do those subjects first for which you need to be alert and energetic. Leave the easier, or more fun, subjects to later.

Combine activities

Combine several activities into one time spot. While commuting to school, listen to taped notes. This allows up to an hour or two a day of good study review. While showering make a mental list of the things that need to be done. These are just suggestions of what you can do to combine your time, but there are many others, above all be creative, and let it work for you.

TIME MANAGEMENT



Do a Personal Time Survey

To begin managing your time you first need a clearer idea of how you presently use your time. The Personal Time Survey will help you to estimate how much time you currently spend in your

activities. To get a more accurate estimate, you might keep track of how you spend your time for a week.

This will help you get a better idea of how much time you need to prepare for each subject. It will also help you identify your time wasters. But for now complete the Personal Time Survey to get an estimate.

The following survey shows the amount of time you spend on various activities. When taking the survey, estimate the amount of time spent on each item. Once you have this amount, multiply it by seven. This will give you the total time spent on the activity in one week. After each item's weekly time has been calculated, add all these times for the grand total.

1. Number of hours of sleep each night $\text{___} \times 7 = \text{___}$
2. Number of grooming hours per day $\text{___} \times 7 = \text{___}$

3. Number of hours for meals/snacks per day - include preparation time $\text{___} \times 7 = \text{___}$

4a. Total travel time weekdays $\text{___} \times 5 = \text{___}$

4b. Total travel time weekends ___

5. Number of hours per week for regularly scheduled functions (clubs, church, get-togethers, etc.) ___

6. Number of hours per day for chores, errands, extra grooming, etc. $\text{___} \times 7 = \text{___}$

7. Number of hours of work per week (part time) ___

8. Number of hours in class per week ___

9. Number of average hours per week socializing, dates, etc. Be honest! ___

Add the totals: ___

Subtract the above number from 168 (hours in a week)

$$168 - \text{___} = \text{___}$$

The remaining hours are the hours you have allocated yourself to study.

Study Hour Formula

To determine how many hours you need to study each week to get A's, use the following rule of thumb. Study two hours per hour in class for an easy class, three hours per hour in class for an average class, and four hours per hour in class for a difficult class.

For example, basket weaving 101 is a relatively easy 3 hour course. Usually, a person would not do more than 6 hours of work outside of class per week. Advanced calculus is usually considered a difficult course, so it might be best to study the proposed 12 hours a week. If more hours are needed, take away some hours from easier courses, i.e., basket weaving.

Figure out the time that you need to study by using the above formula for each of your classes.

Easy class credit hours

_____ x 2 = _____

Average class credit hours

_____ x 3 = _____

Difficult class credit hours

_____ x 4 = _____

Total _____

Compare this number to your time left from the survey. Now is the time when many students might find themselves a bit stressed. Just a note to ease your anxieties. It is not only the quantity of study time but also its quality. This formula is a general guideline. Try it for a week, and make adjustments as needed.

Conclusion

When scheduling becomes a habit, you can adjust it to suite yourself. It's better to be precise at first. It is easier to find something to do with extra time than to find extra time to do

something. A time schedule that is not personalized and honest is not a time schedule at all.

If you have a "real" job after school that you do just for fun (or for some extra spending money), or if you participate in extra-curricular activities (whether school-related or not), keep your priorities in mind: Your education should come first!

If you must work (in order to make ends meet), you should realize the limitations that this imposes on your study time.

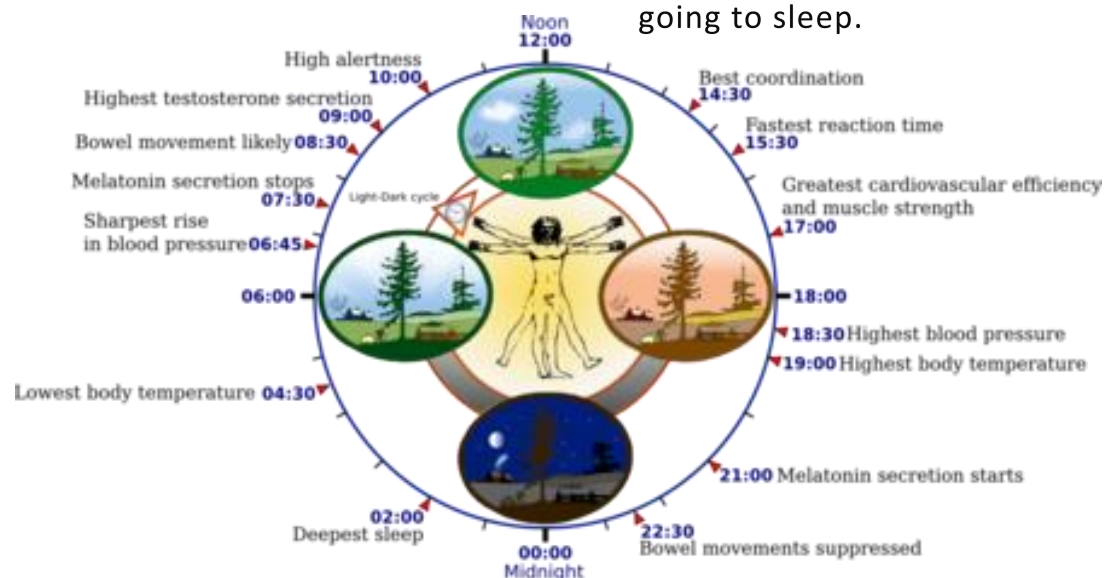
WHEN TO STUDY

The problem of when to study is critical. Last minute studying just before a class is usually a waste of time.

When should you study or do your homework?

It's tempting to put off your homework to the last minute. There are at least two good reasons to do your homework as soon as possible and not put it off till the evening, when it's not daylight (although you should certainly take a break between the end of the educational day and before starting your homework/study time): Keep in mind your time management program.

It's better to get it done and over with, and to leave yourself enough time to do it all. If you put it off, you may find that you have an assignment or two that are going to take you a lot longer than you thought they would. If you start early and get your work done before you relax, you'll have enough time for even those hard assignments. You're more awake during the daytime or after relaxing for, say, an hour or so after classes end, than you will be at the end of the day just before going to sleep.



Making and revising a schedule

Don't be afraid to revise your schedule. Schedules are really plans for how you intend to use your time. If your schedule doesn't work, revise it. You must understand that your schedule is to help you develop good study habits. Once you have developed them, schedule building becomes easier.

THE PROCESS OF STUDY

How to use your time

Time is the most valuable resource a student has. It is also one of the most wasted of resources. The schedule you develop should guide you in how to allocate the available time in the most productive manner.

Sticking to your schedule can be tough. Don't dribble away valuable time. Avoiding study is the easiest thing in the world. It's up to you to follow the schedule you prepared. A good deal of your success in high school or college depends on this simple truth.

Where to study

You can study anywhere. Obviously, some places are better than others. Libraries, study lounges or private rooms are best. Above all, the place you choose to study should not be distracting. Distractions can build up, and the first thing you know, you're out of time and out of luck. Make choosing a good physical environment a part of your study habits.

Study sessions are deemed by most students as an unpleasant task. For this reason is it vital that our study area be made as

comfortable and attractive as possible. This creates a better mental condition and a more relaxed atmosphere. This in turn improves perception, and assures a general expectation of well-being.

It is important to make use of natural light as much as possible. It places less strain on the eyes, which in turn will feed the brain with more accurate information.

For night studies, it is recommended that a desk lamp, illuminated with a 60 Watt "Day Blue" globe, be used. The light should not shine into the eyes, but shine only onto the area of study, or from some position behind the head. Try and avoid bright light shining onto your study books. Although Fluorescent light gives off clear light, it puts a lot of strain on the eyes, and should be avoided.

The brain relies heavily on oxygen and therefore the importance of fresh air cannot be stressed enough. Extremes in room temperature also cause deviance in concentration.

Never study directly after a heavy meal has been consumed. Alcohol or drugs should never be taken prior to studies as it impairs brain function.

Students often prefer to study with background music. The music should for all intent and purpose be Baroque music (60 beats to the minute), which stimulates the brain waves and increases concentration. It should not be turned up loud causing a distraction. Never tune to a radio station, but rather play CD's or cassettes as this does not disturb the study rhythm. Never study for more than 60 minutes at any one time as concentration starts declining

rapidly hereafter. Take a 10 minute break just walking around or drinking a glass of water, but move away from the study desk.

The secret of successful studies lie in the creation of a pleasant surrounding and the planning of correct study timing.

Studying more effectively

Studying is different from other kinds of reading because you have to remember the information for purpose of recall at a later stage. You want to retain the overall outlines of your reading, but most often need to recall for only a finite time until the test has been completed. Studying involves:

Learning

Memorising

Recalling

SKILLS AND STRATEGIES

Thinking skills



Everybody has thinking skills, but few use them effectively. Effective thinking skills cannot be studied, but must be built up over a period of time. This was the reason, this course was developed - not only will you remember, but your way of thinking will also change. Good thinkers see possibilities where

others see only a dead-end. If you're not a good thinker, start now by developing habits that make you ask yourself questions as you read.

The SQ3R method

The SQ3R method has been a proven way to sharpen study skills. SQ3R stands for Survey, Question, Read, Recite, and Review. Take a moment now and write SQ3R down. It is a good slogan to commit to memory to carry out an effective study strategy.

Survey - get the best overall picture of what you're going to study BEFORE you study it in any detail. In the event of your knowledge including a good understanding of the book indexes that you are studying, the greater the understanding of what you are about to study. It's like looking at a road map before

going on a trip. If you don't know the territory, studying a map is the best way to begin.

Question - ask questions for learning. The important things to learn are usually answers to questions. Questions should lead to emphasis on the what, why, how, when, who and where of study content. Ask yourself questions as you read or study.

As you answer them, you will help to make sense of the material and remember it more easily because the process will make an impression on you. Those things that make impressions are more meaningful, and therefore more easily remembered.



Don't be afraid to write your questions in the margins of textbooks, on lecture notes, or the printed note taking sheets of the course.

Read - Reading is NOT running your eyes over a textbook. When you read, read actively. Read to answer questions you have asked yourself or questions the instructor or author has asked.

Always be alert to bold or italicized print. The authors intend that this material receive special emphasis. Also, when you read, be sure to read everything, including tables, graphs and illustrations. Often times tables, graphs and illustrations can convey an idea more powerfully than written text. Refer to the notes on paragraphs in tips and tricks.

Recite - When you recite, you stop reading periodically to recall what you have read. This is not relevant when using the \NLP technique. Try to recall main headings, important ideas of concepts presented in bold or italicized type, and what graphs, charts or illustrations indicate.

Try to develop an overall concept of what you have read in your own words and thoughts. Make notes and try to connect things you have just read to things you

already know. When you do this periodically, the chances are you will remember much more and be able to recall material for papers, essays and objective tests.

Review - A review is a survey of what you have covered. Here it is a good idea to make use of the NLP method of recall. It is a review of what you are supposed to accomplish, not what you are going to do. Rereading is an important part of the review process. Reread with the idea that you are measuring what you have gained from the process.

During review, it's a good time to go over notes you have taken to help clarify points you may have missed or don't understand. The best time to review is when you have just finished studying something.

Don't wait until just before an examination to begin the review

process. Before an examination, do a final review. If you manage your time, the final review can be thought of as a "fine-tuning" of your knowledge of the material.

MEMORY

When we first learn something, information is processed into the brain to form a neural trace. This trace first enters your sensory memory, and then, if you're paying attention, to your Short Term Memory, or STM.

If you keep working to process the information and adapt it correctly it then moves to your Long Term Memory, or LTM. The information processed into your LTM is more or less permanent; with occasional reviewing you will not forget it. The trick is to adapt the information you really need into your LTM as quickly as possible. Your STM has a small

capacity and a short duration; you may learn something very quickly, but in 24 hours you will lose 80% of that information. The STM is fast and easily accessed, the LTM is slower but larger. The key to learning something well is repetition; the more times you go over the material the better chance you have of storing it permanently.

READING



A primary means by which you acquire information is through reading. In college you're expected to do much more reading than in high school. Don't assume just because you've

"read" the assignments that is the end of it.

Think about the piles of printed material that you have to work through every week. The flood of information threatens to drown us. The more textbooks we have to study, the shorter the time becomes to the end of the year when final examinations have to be done.

As most of your studies will be done from textbooks, you have to understand how the authors of these books have structured it, and what is behind the logic of such structuring.

To give a better understanding of the textbook, it is worth going through the table of contents, chapter heads, graphics, glossary, summaries and abstracts.

Topic sentences

Specific sentences will tip you off to the contents of the passage. By focusing on those key sentences, you will be able to adjust your reading speed to pick up the most information in the least possible time. These sentences are called Topic Sentences, and it explains the contents of the paragraph, and they explain, show or tell what will follow. These are not specific details.

Finding these sentences will show you where to spend the most time reading, and where to spend least time.

Topic Sentences can be placed anywhere in a paragraph, but are most often placed first in paragraphs in informational articles and textbooks.

By underlining the Topic Sentences and reading them only, a clear understanding can be

made of what the author is talking about, and will give you the information you need without slowing down your reading pace.

Begin by skimming the material you have to study. Allocate about 15 – 20 minutes for this – no more. The purpose of studying is to learn the material, not the text layout, so skim only what you need to know to get the orientation of the material.

Read the text at your most comfortable rate. Look for information that most directly relates to the subject of the upcoming text. Mark important places with a pencil. Be sure to isolate those that will require additional study.

A good way to strengthen your comprehension skill is to make a quick summary of your reading. Just look up at the end of each

page and summarise what you have read in a few phrases or sentences. It is best to jot down your summaries on paper, for purpose of exam revision.

Getting the Main Idea



Getting the main idea in reading is central to effective studying. You must learn what the author's central idea is, and understand it in your own way. Every paragraph contains a main idea. Main ideas are perfect for outlining textbooks. Make it a habit to find

the main idea in each paragraph you read.

Extracting Important Details

Extracting important details means that you locate in your reading the basis for main ideas. There is usually one important detail associated with every main idea. The more important details you can identify, the easier it will be to review for examinations because you have made a link between an idea and information that supports it. The more links you can make between details and ideas, as well as ideas themselves, the more powerful will be the efforts of your study.

Don't Read Aloud to Yourself

Generally, reading aloud to yourself does not help you study more effectively. If you move your lips while you read, you're

not reading efficiently. If you read aloud or move your lips while you're reading, you are reading slowly, so stop moving your lips. Try putting a finger over your lips. Your finger will remind you not to move your lips.

Make an effort to read faster and retain more - after a while, you'll be surprised how little effort it will take. Here it is also suggested in making use of the speed reading techniques included in the lectures.

The average reading rate for untrained readers is between 150 and 400 words per minute with a comprehension rate of 70%. This is about a sixth grade reading rate.

The lack of concentration, sporadic eye movement and not non-comprehension of study materials attributes to the biggest part of failures in the fields of education.

The problem may seem insoluble. It is not. You can learn to read faster, retain more and have a better understanding of what you are studying, by following the tips included in this course.

READING SPEED

The average reader throughout his life will remain with a reading speed of about 350 words per minute, due to reading softly at the speed he would normally talk. This is called sub vocalisation.

Our eyes are lazy and jerky when we read, and tend going back over areas already read. Often the whole line. Not only does it slow you down, but also reduces your understanding of what has been read.

As we have become accustomed to looking only at a tiny section of

the page and often only one word at a time, peripheral vision is not used.

MEASURING YOUR INITIAL READING SPEED:



Before you can increase your reading speed, you have to have to measure your initial reading rate.

Get an alarm that will allow you to set for a period of one minute.

Set it to ring one minute after you begin reading, or get someone to time you for one minute.

Use any paperback storybook, and select a paragraph, which you will use for this test. The type of text should be easily read and understood. These books normally have an average word rate of 10 TO 12 words per line.

When the alarm rings, stop reading. Determine the number of lines you have read. Multiply the number of lines with 10. This indicates your initial reading speed.

INCREASING YOUR READING SPEED:

One of the best ways to improve your reading speed and comprehension is by training

your hand and eye movement to work as partners.

The hand co-ordinates the eye movements leading your eyes down the page with smooth, rapid motions and becomes the pace setter moving at a steady pace.

The hand forces the eyes to move across the page preventing you from overlooking important words.

The hand forces the eyes to move on to new text lines eliminating re-reading the same lines, especially if the text was understood the first time.

The hand forces your eyes to read faster than your ability to vocalise the words. This allows you to read at a visual rate instead of a vocal rate.

In Primary School, we were

taught to read by using our finger underneath the words. It is a pity that teachers did not understand that this principle is the basis of speed reading, and we were forced to stop this practice when it was actually vital to continue.

2 BASIC TECHNIQUES FOR SPEED READING:

By following the next steps, you can immediately greatly increase your reading speed with no loss in comprehension. The two techniques described below are based on preferential choice and have the same effects.

TECHNIQUE 1

The first objective would be to train our eyes to move fluidly across the sentences doubling your reading speed with immediate effect without

forfeiting comprehension.

Place your finger under the line that you are reading (centre of the page)

Having completed the line, move the finger down to the next line (again the centre of the page)

TECHNIQUE 2

For the purpose of this exercise, we will use the technique, which can be either the left or right hand, whichever is more comfortable. The same hand can be used for turning the pages.

Use the pointer and middle finger, or all four fingers of either hand to guide your eyes across the page.

Using your finger as a guide, trace each line of type from left margin to right margin, focusing your eyes above your finger. The

speed at which the hand moves should be slightly faster than that of the eyes.

At the end of the right margin, swing your finger slightly to the right. This will prevent you from sudden stops. The idea is to give a sweeping motion of the hand. Continue the full motion, even if you come to an incomplete line. Continue the secure hand movements until you have reached the bottom of the page.

SPEED READING TEST:

Now follow the same procedure as in the initial speed-reading test. The results will be an immediate improvement over the first test.

What has happened is that the hand guided the eyes, and prevented the eyes from stopping at mid-sentence.

Comprehension may not have been up to standard, but with more practice, comprehension is increased. In time the hand movement will no longer flow across the full-page width, but with shorter strokes across the page, the same effect is possible.

STUDY MATERIAL

You probably found as you increased the number of lines you read at a time, your comprehension of the material decreased. Do not grow despondent, as this is not unusual at the beginning of such an exercise.

Book placement

For future purpose, it is wise to try and remember where a book is removed from in a library - e.g. which area in the library and from which shelf. This forms a vital

part in searching for information during any examination. What I am trying to explain is that if you can visualize the book, where it is kept, the mind's eye will also reveal the content which was studied.

Outlining Textbooks



First of all, don't underline. Use a highlighter. Experience has shown that text passages highlighted are more easily remembered than the same passages underlined. In outlining a text, don't just read along and

highlight what seem to important words. That technique rarely works. The act of outlining works much better.

TAKING NOTES

Like reading, note-taking is a skill which must be learned and refined. Almost invariably, note taking, or the lack of it, is a constant deficiency in the study methods of many high school and college students. Learning the ingredients of good note taking is rather easy; applying them to your own situation depends on how serious you are in becoming a successful student.

Where to Keep Notes

You must learn to keep notes logically and legibly. Remember, if you can't read your own writing a few days after taking notes, they are of little use. By all

accounts, the best place to keep notes is in a loose-leaf notebook (Lever arch file). Use dividers to separate the different classes you take. Make it a habit of using your notebook to record ALL your notes.

If you're caught without your notebook and need to take notes, always have a supply of loose-leaf paper with you. Insert your note papers into the notebooks as soon as you can.

Be sure to buy a good notebook, as it will get a lot of wear and tear. It is suggested to get lever arch files with loose plastic pockets where each and every subject is stored. The suggestion of loose plastic pockets is to enable you to add notes to the relevant sections of the subjects. Your class notes are your record of what your teacher covered.

One of the best ways to help anyone learn how to study well involves developing good in-class skills.

It is important to take good notes in class. Taking written notes almost forces you to concentrate on what the teacher is saying. Your notes will help you prepare for tests and will give you clues as to what your teacher thinks is most important for you to know. Further, your notes will contain information that may not be in your textbooks.

Note taking is often the backbone of effective studying. Students can maximize their note-taking potential by working to stay focused in class and writing down all relevant information discussed during the course of a typical class session.

Asking questions to clarify anything not understood is

important, too, and it can help students stay on task. Many students find shorthand or a personal form similar to it can be helpful for good note taking.

This is especially so if a teacher or professor moves too quickly through a lecture. Just make sure whatever shorthand is involved is a form that can be deciphered later.

Rewriting notes out fully after class is also a good idea. This can help fill in that shorthand, enable early reviewing of the discussion and concepts and can even be beneficial for solidifying the information in one's mind.

This process might also bring to light concepts or facts that previously were not understandable but now can bring answers to questions that remain.

Here are some tips that can help you take good notes.

- **Use a loose leaf notebook for taking notes** - You can then remove pages as needed. You cannot do this if you use a spiral notebook.

- **Write your notes on the front side of pages only** - This will allow you to lay the pages side by side when reviewing your notes for a test.

- **Write the date at the top of each page of your notes and number the pages** - This will help you to keep your notes in the proper sequence.

- **Keep your notes for each class separate from your notes for other classes** - You can use different colour tabs to help you do this.

- **Be selective in what you write** - On average, the speaking

speed of teachers is five to six times faster than is the writing speed of students. Quite simply, do not try to write everything your teacher says.

- **Use abbreviations and symbols** - to increase your note taking speed, but ensure that you remember your coded symbols.

- **Don't be too concerned with spelling and grammar** - These notes are for your use and will not be graded.

- **Ask your teacher to repeat** - something you think you may have missed.

- **Translate the points into your own words** - As you write points made by your teacher, translate them into words that make sense to you. Doing this will increase your understanding of your notes and your ability to

remember the information they contain.

- **If your teacher provides a definition for a word** - write that definition in your notes word for word.
- **Write legibly** - You will have to read your notes later on.
- **Include in your notes** - information your teacher writes on the board.
- **Stay especially alert during the last few minutes of the class** - Teachers sometime use the last few minutes of a class session to cram in everything they wanted to cover but didn't.

Note Taking Techniques

The most comprehensive note taking systems require attention on your part. You must be alert

enough in class to take legible, meaningful notes. You can't rely on "writing everything down" because a lot of information in a given lecture won't help you actually learn the material. If you have problems determining the specific relevant points in a particular class, you can always ask the professor to clarify them for you.

The 2-6 Method

The 2-6 refers to the way you divide the space on your notepaper.

Make two columns, using the red line on the left of the page as your border. Then, when you take notes in class, use the 6th column for the notes and the smaller 2 column on the left as a highlighting system.

Write main headings and important points on the left, including material you think you will be tested on. When you're finished, you should have a comprehensive page of information that you can quickly scan for important points.

It is advisable to use the draft documents to assist you with your note taking. Make copies of them and insert the notes into your various subject files. Read your notes as often as possible as this will refresh your memory, especially just prior to the exams.

Note taking sheets.

Prepare a list of all the subjects you will study this year. Indicate the main subjects under the alphabetical values, and the breakdown under the numerical values. It is advised that the subjects be prioritized from

weakest to strongest, in order to improve the weakest subjects first.

This exercise is vital in the process of filing studied information in the correct way.

Copy the sample pages indicated as “Semester Subjects” and “Subject...” in Plastic Part 1.

Taking Lecture Notes

Surveying, Questioning, Listening

Taking accurate and concise lecture notes is essential. Develop the habit of taking notes using appropriate methods described earlier in the SQ3R technique. For example, when you listen to a lecture, formulate questions as you listen. Your

main job in taking lecture notes is to be a good listener.

To be a good listener, you must learn to focus and concentrate on the main points of the lecture. Get them down, and then later reorganize them in your own words. Once you have done this, you have set the stage for successful reviewing and revising. Do not sit at the back of the lecture room, as this tends to divert concentration.

Reviewing and Revising

As you prepare for examinations, tests, or other assessments, you should spend time reviewing and revising your lecture notes. Begin the process by reviewing your notes right after a lecture. If you wait too long, you may discover that the notes just don't make sense. Don't hesitate to revise your notes based on the review process. Try and read your notes

three times soon after a lecture - this enhances the long term memory.

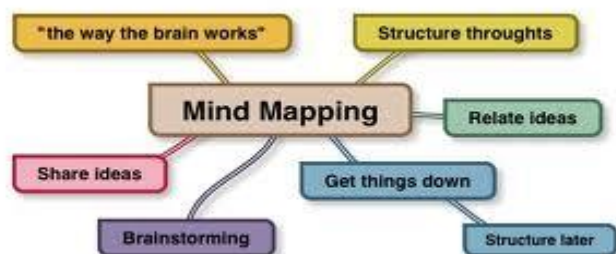
Research Notes

Any form of note-taking that requires compilation of information by categories, rather than in narrative form is best done using index cards. You can sort, edit and arrange index cards to suit your particular study needs. The most important point in using cards is to indicate the correct reference or topic at the top of the card. Use the cards for study, review, to help organize information for papers, reports, or projects. An even better idea, if you have a personal computer, is to organize your categorical information in a database.

Once you set it up, finding, updating and adding new information is quite easy. If you

have a printer, you can print out your notes in a variety of ways. This is also where the mind mapping techniques come into their own.

MIND MAPPING



What happens in your brain when you taste a ripe fruit, smell flowers, listen to music, watch a stream, touch a loved one, or simply reminisce? The answer is both simple and amazingly complex. Each bit of information entering your brain, every sensation, memory or thought, which incorporates every word, number, code, food, fragrance, line, colour, image, beat, note and texture can be represented as a central sphere from which

radiate tens, hundreds, thousands, even millions of hooks. Each hook represents an association, and each association has its own infinite array of links and connections. From this information processing ability and learning capacity, derives the concept of intense thinking from which stems the Mind Map.

Mind maps are an effective way to link ideas and concepts in your brain, and then see the connections firsthand. Mind mapping is a technique of expressing information in a way that shows you how various pieces of information fit together. "A picture speaks a thousand words", and mind maps create an easily-remembered picture of the information you're trying to remember. We do not say that you have to remember the picture you have drawn as a Mind Map, but merely know how to do a Mind Map.

This technique is very useful to summarize and combine information from a variety of sources. It also allows you to think about complex problems in an organized manner, and then present your findings in a way that shows the details as well as the big picture.

The mind map itself is a useful end product. However, the process of creating the map is just as helpful for your memory. Fitting all the pieces together, and looking for the connections, forces you to really understand what you're studying – and it keeps you from trying to simply memorize.

A mind map is often created around a single word or text, placed in the centre, to which associated ideas, words and concepts are added.

Drawing a mind map is as simple as 1-2-3:

Start in the middle of a blank page, writing or drawing the idea you intend to develop. I would suggest that you use the page in landscape orientation.

Develop the related subtopics around this central topic, connecting each of them to the centre with a line and circle

Repeat the same process for the subtopics, generating lower-level subtopics as you see fit, connecting each of those to the corresponding subtopic.

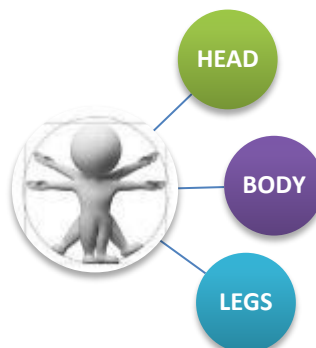
The five essential characteristics of Mind Mapping

- The main idea, subject or focus is indicated in a central image.

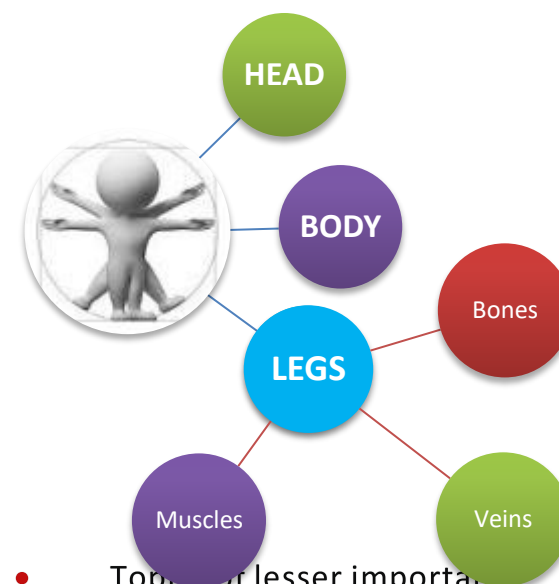


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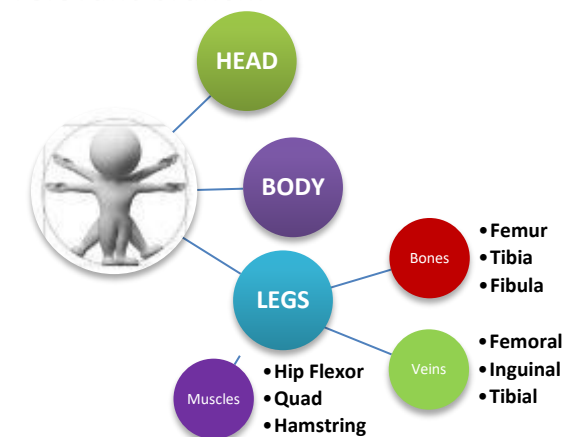
- The main themes extend from the central image as branches.



- The branches comprise a key image or key word drawn or printed on its associated line.



- Topics of lesser importance are represented as twigs on the relevant branch.



- The branches form connected structures.

Students of all ages have discovered the advantages of applying Mind Maps to their studies. Whether you are note taking from a lecturer, a book, a computer or a video, or making notes for an essay, a report, or for whatever reason, collection of the key data facilitates the processes of learning, thinking, ordering, creating and remembering. Remember, all subjects and textbooks can be Mind Mapped.

Mind Maps are also brilliant route-maps for the memory, allowing you to organize facts and thoughts in such a way that your brain's natural way of working is engaged right from the start.

Traditional note taking methods

- obscure the key words and information
- are not easily memorable
- waste time with the quantity of connecting words
- are not using all the cortical skills, and so do not creatively stimulate the brain

Mind Maps

- assist with the brain's ability to concentrate
- allow the essence of the material to become evident
- make visually apparent the relative order of information
- make connections between ideas easy to see
- boost our confidence in our ability to learn

As you come across new information, link it in to the Mind Map appropriately.

A complete Mind Map may have main topic lines radiating in all directions from the centre. Sub-topics and facts will branch off these, like branches and twigs from the trunk of a tree. You do not need to worry about the structure produced, as this will evolve of its own accord.

British psychology author Tony Buzan has made a claim to the origin of the Mind Map. Tony Buzan has several registered trademarks on Mind Map and Mind Mapping. Mind Map® and Mind Maps® are registered trademarks of The Buzan Organisation.

People have been creating maps using an image-centred radial graphic organization technique for centuries. It might have been called by different names, though the concept is the same.

A mind map is a diagram used to represent words, ideas, tasks, or other items linked to and arranged around a central key word or idea. Mind maps are used to generate, visualize, structure, and classify ideas, and as an aid to studying and organizing information, solving problems, making decisions, and writing.

The elements of a given mind map are arranged intuitively according to the importance of the concepts, and are classified into groupings, branches, or areas, with the goal of representing semantic or other connections between portions of information. Mind maps may also aid recall of existing memories.

By presenting ideas in a radial, graphical, non-linear manner, mind maps encourage a brainstorming approach to planning and organizational tasks. Though the branches of a

mind map represent hierarchical tree structures, their radial arrangement disrupts the prioritizing of concepts typically associated with hierarchies presented with more linear visual cues. This orientation towards brainstorming encourages users to enumerate and connect concepts without a tendency to begin within a particular conceptual framework.

The mind map can be contrasted with the similar idea of concept mapping. The former is based on radial hierarchies and tree structures denoting relationships with a central governing concept, whereas concept maps are based on connections between concepts in more diverse patterns. However, either can be part of a larger personal knowledge base system.

REMEMBER: When all else fails and you cannot remember what

to write, draw up a mind map. You will be surprised as to the information that can be derived from the mind map.

BRAINSTORMING

This is a creativity technique in which ideas are generated in order to solve a problem. The main result of a brainstorm session is a solution to a problem. The solution can be an idea, which is a complete solution to the problem. It can be a list of ideas, leading to an approach to a subsequent solution of the problem. Or it can be a list of ideas resulting into a plan to find the final answer. Brainstorming was originated by Alex Osborn.



A good brainstorming diagram (which is nothing other than a Mind Map) is an excellent tool to help your team arrive at the best ideas and plans. Brainstorming diagrams help you develop any system of related ideas or information by showing interrelationships among topics in a hierarchy. They improve clear

associative thinking and communication, which encourages creativity and problem solving.

Osborn's method

Osborn claimed that two principles contribute to "ideative efficacy," these being "1. Defer judgment," and "2. Reach for quantity." Following these principles were his four general rules of brainstorming, established with intention to reduce social inhibitions among group members, stimulate idea generation, and increase overall creativity of the group.

1. Focus on quantity: This rule is a means of enhancing divergent production, aiming to facilitate problem solving through the maxim *quantity breeds quality*. The assumption is that the greater the number of ideas generated, the greater the

chance of producing a radical and effective solution.

2. Withhold criticism: In brainstorming, criticism of ideas generated should be put 'on hold'. Instead, participants should focus on extending or adding to ideas, reserving criticism for a later 'critical stage' of the process. By suspending judgment, participants will feel free to generate unusual ideas.

3. Welcome unusual ideas: To get a good and long list of ideas, unusual ideas are welcomed. They can be generated by looking from new perspectives and suspending assumptions. These new ways of thinking may provide better solutions.

4. Combine and improve ideas: Good ideas may be combined to form a single better good idea, as suggested by the

slogan "1+1=3". It is believed to stimulate the building of ideas by a process of association.

Applications

Osborn notes that brainstorming should address a specific question; he held that sessions addressing multiple questions were inefficient. Further, the problem must require the generation of ideas rather than judgment; he uses examples such as generating possible names for a product as proper brainstorming material, whereas analytical judgments such as whether or not to marry do not have any need for brainstorming.

Brainstorming groups

Osborn envisioned groups of around 12 participants, including both experts and novices.

Participants are encouraged to provide wild and unexpected answers. Ideas receive no criticism or discussion. The group simply provides ideas that might lead to a solution and apply no analytical judgement as to the feasibility. The judgements are reserved for a later date.

Individual brainstorming

"Individual brainstorming" is the use of brainstorming in solitary. It typically includes such techniques as free writing, free speaking, word association, and drawing a mind map, which is a visual note taking technique in which people diagram their thoughts. Individual brainstorming is a useful method in creative writing and has been shown to be superior to traditional group brainstorming. Research has shown individual brainstorming to be more

effective in idea-generation than group brainstorming.

Caught with a problem you cannot solve? Need new ideas and solutions? The process of brainstorming requires you to think out of the box that is keeping you in the problem.

Here are some brainstorming techniques you can use to get out of the situation you are in.

How would you deal with this if you were in a different time period? 10 years ago? 100 years ago? 1,000 years ago? 10,000 years ago? How about in the future? 10 years later? 100 years later? 1,000 years later? 10,000 years later?

What if you were facing this problem in a different place? Different country? Different geographic region? Different universe? Different plane of

existence? How would you handle it?

How would you think about this if you were a different gender? Age? Race? Intellect? Height? Weight? Nationality? Your Sanity? With each attribute change, you become exposed to a new spectrum of thinking you were subconsciously closed off from.

What would you do if you were someone else? Your parent? Your teacher? Your manager? Your partner? Your best friend? Your enemy? Etc?

Great tool to work out as many ideas as you can in hierarchical tree and cluster format. Start off with your goal in the centre, branch out into the major sub-topics, continue to branch out into as many sub-sub-topics as needed

Do a SWOT Chart of your situation – What are the Strengths? Weaknesses? Opportunities? Threats? The analysis will open you up to ideas you may not be aware before.

Focus on your key question such as 'How can I solve XX problem?' or 'How can I achieve XX goal?' and meditate on it in a quiet place. Have a pen and paper in front of you so you can write immediately whatever comes to mind. Do this for 30 minutes or as long as it takes.

As brainstorming is time consuming, it is not recommended to make use of this technique during exam times, but rather just make use of the mind map technique, using existing knowledge of the subject. Brainstorming helps when busy with a thesis when time is not a major factor.

UN-CLUTTER YOUR MIND



This is a simple exercise used to quickly get mental clarity. You will find this very useful for different purposes.

- 1. Clearing your head -** (especially if your mind is feeling cluttered)
- 2. Calming yourself down -** from a restless, troubled or stressed state
- 3. Freeing up mental energy -** (if you are feeling tired)

It's also the same exercise recommended to clear up mental blockages.

Imagine your brain as a computer. Every computer has RAM which determines its processing capacity. The more applications the computer is running, the more RAM is used and the slower your computer gets therefore closing unwanted applications frees up RAM for vital programs currently being used.

Likewise, our brain has its own RAM too. This RAM is used for all kinds of brain work, from thinking, recalling, analyzing, to the subconscious actions. You want to have as much free RAM as possible to function at top capacity of your brain.

However, not all our RAM is available when we want them. At least half is occupied with mental

clutter – thoughts running in the background.

What are these thoughts about? Anything, really – whether its some task we have to yet to do, some issue we are facing, some advertisement we just saw on TV just now, music we just heard in the mall, etc.

Majority of the clutter is triggered by external stimuli. From the second you wake up in the morning, to when you sleep for the night, you are exposed to many stimuli in your environment. The more active contact you have with the world, the more stimuli you are exposed to.

It's never obvious how much of these stimuli impact us until we stop to observe our mental activity, say through introspection or meditation.

Think of this clutter as the unimportant programs and applications running in your computer. You don't need them for your computer to function.

BRAIN DUMPING



The term brain dump can also be used in an educational context. For example, someone preparing for an exam might perform a brain dump by writing out as much information as they can remember about something they've studied.

This is known as a brain dumping exercise, since you are dumping the contents of your mind via writing:

1. Pick a medium of writing –

Either pen/paper or a word processor

2. Type whatever comes to mind.

For example, if you are looking at the paper and thinking “wow, this looks so white”, then write that. If you don’t know what to write, then just write “I don’t know what to write”. Basically just get whatever is on your mind down. There’s no need to over think this. It’s just to get down what you are thinking.

3. Just keep doing this for the next 15 minutes

or however long it takes for your mind to feel clearer. Sometimes just 10 minutes is sufficient.

Here, you’re using writing to clear the clutter in our mind. It’s a more effective way of processing clutter than sleep or meditation. With sleep, you have to wait till REM before clutter is processed. With meditation, the thought is processed as it “floats” around and out of your head. With this exercise though, the speed you write determines how fast it gets processed. If you type fast, you can process a lot of clutter really quickly.

It’s interesting to read back at what you have written after the 15 minutes. Usually you will notice your thoughts jumping from all places. One moment you may be thinking about what you had for breakfast, the next you may be thinking about your meeting with your teacher last week, then the next you may be thinking about your vacation for next holidays. As random as they may be, as queer as they may

seem, these thoughts have always been on your mind – the exercise merely brought them out so they’re now cleared from your mind. The longer you spend on this exercise, the more clutter you can clear, and the higher your mental clarity.

Since you will always be exposed to stimuli, you need to repeatedly do the brain dumping exercise to maintain this mode of increased mental clarity. Just like bathing, eating, or sleeping, you need to do this frequently as part of the clearing/up keeping process. Do this often, and you will feel a greater sense of mental clarity. You’ll also feel calmer as well. This is a great exercise particularly closer towards exam times, as it clears the brain of unwanted clutter.

As for the contents of what you wrote, delete or trash them. There’s no need to keep them

unless certain things gave you new insights and you want to keep them as an evaluation process.

Have fun doing this exercise! It works very well and I'm sure it'll be very useful for you.

TRICKS, TIPS & EXERCISES



We have tried to place these tips in order of importance, but however all play an intricate roll in the life of the student and in the success of his studies.

OVERCOMING EYESTRAIN.

When the eye muscles become tired, vision becomes affected by blurring and you often find yourself squinting to see clearly. Overall tension and stress levels increase and lack of concentration takes place.

Using the experiment of focussing on an object against the wall, the object may seem blurry. After having done the given exercise, focus on the same object again.

By making use of the following exercise, the tension in the eyes as well as the whole body is greatly reduced and improves the level of clarity and focus.

Support your elbows on the desk or table where you are studying. Cup the palms of your hands over your eyes by blocking out any light, with firm contact between the face and palms and without

touching the eyelids.

Close your eyes and relax your eye muscles, at the same time, relax the muscles in the face, neck and shoulders by dropping them down to a comfortable position.

Remain in this position for 2 to 3 minutes, keeping the eyes closed.

Now open your eyes and focus on the object you have selected. Much clearer than the first time?

General eye vision can be improved by following this exercise a few times every day. As we use our eyes on an average of 16 hours plus every day, the eye muscle activities are of the most highly used muscles in the body, but the least cared for. It is no wonder that so many people need to wear spectacles.

OVERCOMING DISTRACTIONS



It is very easy to become distracted from reading or studying, especially if the text is not interesting. Concentration can help people accomplish difficult tasks more easily. Biofeedback techniques can teach people how to lower their blood pressure, relieve stress and relax.

In helping you to stay focussed, make use of the following exercise when you find that you become easily distracted. Sit in a comfortable chair in a

quiet room.

Close your eyes and think of any one-digit number.

When your mind begins to wander, think of another single-digit number

Continue this exercise for 15 minutes

One of the best ways to stay focused on text is to use the hand motion method that you will be taught. The hand movement across the page helps to avoid visual distractions.

BREATHING FOR MINDPOWER

A basic breathing exercise which is especially helpful if done immediately before any situation where a challenge is faced e.g. a critical meeting, exam or speech.

Exercise: Inhale over a count of 8, hold your breath for 12 counts then slowly exhale for a count of 10. Repeat 10 Times. This will

help you to think more clearly and also steady the nerves. Tests have indicated an improvement after a few minutes on average, an increase of 10 to 20 points in an IQ test. Better oxygen supply to the brain improves thinking ability.

SENSORY ACUITY:

All incoming information is processed through our sensory channels. These are a) visual, b) auditory, and c) kinaesthetic (feeling). For our purposes, the other two, taste and smell are included in the kinaesthetic group.

Sensory acuity is the ability to tune into ALL channels at the same time.

For the purpose of the course, we will make use of visual, auditory and kinaesthetic methods to enhance learning power. As we were born with these

channels and have used it all our lives, it is nothing new to us. We merely have to refine the knowledge we already have, and use it to our advantage.

VISUAL ACUITY:

Firstly look around you. Try to take a 'mental' photograph of what you're seeing. Now close your eyes and try to recreate that photograph in your mind's eye. How successful were you?

Do not be discouraged if you were less successful than you expected to be. Now turn around, look in another direction, and do the exercise again. This time, your 'mental' photograph was probably more detailed. Keep it up and very soon you will be totally amazed at your visual acuity. For now, all you need do is open your eyes and practice using them.

AUDITORY ACUITY:

Close your eyes for the moment and shut out everything except the sounds you can hear. Listen to all the sounds that are close to you as well as those in the background. How many separate sounds can you identify? How many different voices? Perhaps you hear the sound of birds chirping, traffic, dogs barking and air conditioners humming. Tune into all these sounds and become aware of just how exquisite your sense of hearing really is.

Listen when people are talking to you. Concentrate on the speed, pitch and volume of the voice. All we are looking at right now is developing auditory acuity.

KINAESTHETIC ACUITY:

This is often the easiest of all to work with. Exactly where you are sitting, close your eyes again for a moment. Become aware of the

temperature around you. Is it hot, cold or just right? If it's hot, is it very hot or just a little? If it's cold is it very cold or just a little? Feel the seat that you are sitting on. Not with your hand, but with your bottom. Is it hard or soft? Does it have a rough or smooth texture? Perhaps you smell a fragrance...something burning.....newly cut grass. Become more aware of your ability to feel things with your hands, your skin and, in fact, all parts of your body.

As with any skill, practice is the key. We all tend to be mildly 'sensory-sterile'. It is not that we don't know how to tune our senses, but rather that we are not always consciously aware of our incredible, innate ability to see, hear and feel. It's more a question of tapping into the enormously rich and complex tapestry of information with which our senses provide us and

honing our skills to ‘tune in’ rather than learning anything new. A very good attitude to carry around with you for a while, as you develop your sensory acuity, could be: What are you NOT noticing right now?

TIPS

The following tips have proven to be extremely powerful guides for organizing, thinking, studying, and learning in college/university. They represent the best advice of successful students. They can also work for high school students.

Study Space

- Your study space should be as quiet and comfortable as possible. Avoid studying in noisy places such as cafeterias, recreation rooms, or lounges.
- When studying, keep a waste basket handy.

- Have a consistent place for everything, and above all, keep it there!
- Have everything needed for studying handy beforehand. Don't waste valuable time looking for books, notes, or other information. After you have assembled the items you need, put them where you can reach them easily.

Study Habits

- Begin studying no less than 30-90 minutes after a meal.
- Never study within 30 minutes of going to sleep.
- Prioritize! Make a list of what you intend to study, prioritize the list, and stick to it!
- If possible, study no more than 40-60 minutes at a stretch. Many students retain more by studying for short periods with breaks in between. It all depends on what you're trying to study,

but generally, after a period of study, take a break.

- Take study breaks away from your desk or wherever you are studying. Let the break be a time to think about other things. Use some break time to reflect, not constantly review what you have just studied.

The Classroom

- Distractions in the classroom are deadly. To help avoid distractions, sit near the front of the class. You're less likely to miss something important, and there are far less distractions at the front than any other location.
- Think! Thinking is one of the most important things you can do in class. If you just sit there passively, and not think, class can be deadly. Think about what the teacher is saying **BEFORE** writing down anything. Writing down each word is a

WASTE OF TIME. Reorganize in your mind what the teacher says, and then write it down. This way you will be connecting the teacher's words with HOW you think. If you do this, your notes will make a lot more sense later on.

- Pay attention to the course outline or syllabus. Generally, important points and materials are referenced here and repeated. Don't be afraid to ask the teacher if there is something you don't understand. Most teachers will be glad to clarify for you.

Preparing for Class

- Efficient students do not underline! Underlining is not a productive way to emphasize textbook material. It's best to use a highlighter.
- Read the table of contents of your texts carefully. If the textbooks have chapter

summaries, read them first! If you don't understand the material from the summaries, go back and highlight. Take notes on what you have highlighted and review your notes.

- Break study material into short segments of length dependent on its difficulty. Remember, concise notes are more powerful than copious notes. Think about the material! Then take notes on what you don't know or are not sure of.

Test Taking



- For essay examinations, try the "memory dump" technique. If permitted, write down everything you've memorized - facts, names, dates, ideas, and

events, and so on **BEFORE** you do anything else. Sometimes reading through the essay questions can distract you from what you've studied. The "memory dump" technique requires that you write down everything possible **BEFORE** you begin writing essay answers. This way, you are less likely to forget something important. You can also do a Mind Map, as this stimulates the brain to help it put things in perspective.

WRITING THEMES AND REPORTS

Reviewing the Topic

Students usually have some freedom to choose the subject of themes or reports. When you make this choice, be sure that the topic is acceptable to the teacher, and is as interesting to you as possible. Another consideration is that of

availability of resource material. Your task is made much easier when there is a good amount of reference and resource material available. A mind map will also help in structuring the topic - make sure that you are allowed to do this in the examination room. Ensure that you have clean blank sheets.

Using Correct Punctuation and Grammar

As in writing essays questions, good grammar and punctuation are a must. Most students use word processors to write papers. Be sure to use the spell checker that almost all word processors have built in. Many word processors also have some sort of grammar checker. Learn to use a grammar checker, as it can point out serious flaws in your writing and help you become a better writer. Most grammar checkers

explain the grammar rules that apply to the suggested corrections to your writing.

Gathering Materials before You Write

Before you begin writing, assemble the materials you will need. Use index cards, notes, bibliographies, summaries, reports and reviews as part of your preparation process. Using index cards for references is an excellent way to organize your materials. Computer database programs can also help you classify and organize reference materials.

Preparing an Outline and Writing the Paper

Once you have your topic, have gathered and organized your materials, it is time to outline your paper. Put your outline on paper! - Mind Maps work well at this stage. Don't make the

mistake of trying to keep everything in your head. Make your outline in the form of main headings or ideas with sub-headings fleshing out the flow of the paper.

Using the outline as a guide begin writing begin by asking yourself what the paper is going to say and what conclusions you want to reach. Doing this ahead of time will help keep you focused and prevent you from straying from the purpose of the paper. Making up the outline as you go along almost always results in a less than satisfactory product. Writing is important in high school and is a key to success in college and in many professions.

Become a good writer by writing, revising, and reviewing your work. Don't be afraid to ask other students to critique your work. Try to write in your own natural style, be aware that most good

writers go through many revisions, and be prepared to do the same. Writing and test-taking are the end results of developing good study skills. There is no magic formula for success. If you follow the suggestions in this guide, apply them and think about them, you'll have taken a giant step toward becoming a successful student.

TAKING EXAMINATIONS

Objective Examinations

Surveying

Survey any objective examination to find out what types of questions are being asked. Surveying helps you to know what to expect. If you can obtain old exam questionnaires, it will give an idea of how the questions are formulated, as well as the importance of certain areas of the subject.

Knowing the Ground Rules

Always read directions! Indicate your answers exactly the way the directions state. Make sure your answers are clear. Determine what the scoring rules for the test are and follow them to your advantage. For example, if wrong answers are penalized, don't guess unless you can reduce the choices to two.

Picking out Key Words

Objective examination questions usually contain one or more key words. A key word or group of words is those on which the truth or falsity of a statement hinges. Learn to spot the key words in the statement that define the meaning. If a statement contains two clauses, one of which is false, the whole statement is false. Usually, two-statement true-false questions are either true or both false.

Reading Multiple-Choice Questions

Multiple choice questions are essentially true-false questions arranged in groups. Usually, only one alternative is correct. Your



job is to pick the alternative that is more nearly true than the others. Read multiple-choice questions the same way as for true-false. Eliminate obvious false choices. Multiple choice questions often results in a negative point marking system. If this be the case, do not guess the

answers as it will give you negative marks for that question.

Reading Other Types of Questions

The methods used to answer true-false and multiple choice questions apply to matching questions as well. Always scan the entire list of alternatives before matching any. As in the other types of questions, try to identify key words in each list and test them.

Completion questions require you to provide a word or phrase. When you encounter completion questions, choose your words carefully. If you don't know the answer, give it your best guess, as often times such responses get at least partial credit.

Essay Examinations

Planning your time in answering essay questions is more important than in objective type tests. The general rule is not to get carried away on one or two questions to the extent that you cannot answer those other questions in the time allowed. Read through the entire examination first. Get a feel for the questions you are expected to answer. If the exam allows you to choose from a number of questions, be sure to number your answers exactly to match the questions.

When you follow directions for an essay exam, pay attention to the key words the instructor has included. Such words as "list," "describe," "compare and contrast," and "outline" have special meaning. Don't "write around" the question but answer it directly. If a question asks you to list something, don't write a narrative about it. Answering

essay questions directly is always the best policy.

After scanning the list of questions to be answered, choose the ones you know most about. A good idea is to prepare an outline of your answers. The outline will help you remember important ideas and facts to be included in your response. Another technique is to do a "memory-dump" or even a mind map.

Good handwriting is an absolute essential. If your cursive writing is very hard to read, try printing instead. Most instructors value clear handwriting. Grammar, punctuation, and spelling also count.

Well-written grammatically correct answers almost always receive higher grades than poorly written grammatically incorrect answers, even though the answers themselves are the same.

DETER Test Strategy

To do well in a test, it is useful to have a strategy. DETER is the acronym for Direction, Examine, Time, Easiest and Review. The following is the DETER strategy broken down into its parts.

D – Directions: The first thing you should do when starting a test is to read the directions carefully. Make sure you understand the questions. Many students who have a good knowledge of the information being tested receive bad grades because they neglected to carefully read and understand what was being asked, before answering the test questions.



Conduct a memory **Dump**. Jot down important information you may forget like formulas, dates, memorized words, etc. If time permits, do a quick mind map.

E – Examine: Review the entire test before you start answering questions to see how long the test is and how much work you have to do. Only when you know how much you have to do can you break the test down into manageable parts. Many well prepared students do not do well in tests because they do not finish. Examining the entire test

before you start, this will help you determine how much time you can dedicate to each question. Read directions carefully. Ask the lecturer to explain any part of the directions you do not understand.

T – Time: Once you have examined the entire test, you need to decide how much time to spend on each question. It is always a good idea to allocate the most time to those questions that are worth the most points. Dedicate the least amount of time to those questions are not worth as much. Decide how much time you should spend answering each item on the test. See how many questions are on the test and how many points each one is worth. If you stumble over difficult questions for too long a time, you may not be able to complete the exam.

Remember: Spend the most time answering the questions that are worth the most points.

E – Easiest: Answer the easiest questions first. Once you've answered all the easy questions you move on to the more difficult questions. By answering the easiest questions first you ensure that you don't run out of time before answering the easy questions. Make sure that you number the questions properly.

Begin by answering the items which are easiest for you. Then answer as many of the remaining questions as you can. Be sure to answer all the questions, if time permits, even if you have to guess, if there is no penalty for wrong answers.

R – Review: Whenever possible leave yourself enough time to review your questions before handing in your test. This will

help you make sure that you answered each question completely and accurately. Having a good knowledge of the information being tested combined with the DETER strategy for test taking. This will help you get the best grade possible in every test you take. Make sure you followed the directions to the letter.

Before you do anything, write your name on the test sheet!

BRAIN EXERCISE

Again as a reminder, the brain works like the rest of the body – if you don't use it you lose it. Below is a website to visit which assists with brain exercises. The following are a few paragraphs taken from www.luminosity.com



Challenges Change Your Brain

Not all puzzles are good challenges

Many people use games like crosswords and Sudoku to sharpen their minds. But the more you repeat these activities, the less challenging they become: doing them only traces **over-learned pathways** in the brain.

To actually get smarter, scientists figured out that your brain needs activities that are both **challenging** and **adaptive**.

By exposing your brain to constant, fresh stimulation, you'll create **new neural pathways** and change existing ones - part of a concept called neuroplasticity.

Discover and navigate new neural pathways with Lumosity
Drawing on the science of **neuroplasticity**, Lumosity training is designed to give your brain the unique challenges it needs.

The Lumosity training program exercises your brain like a muscle. As your brain gets stronger, Lumosity introduces new and more difficult exercises that force your neurons to **adapt** and change. Like any good

trainer, Lumosity always pushes your brain to be better.

The more you train, the stronger your brain.

Training is an ongoing, limitless process. Each time you improve, you'll move up to the next level of challenges, and the next. Soon, you'll overcome obstacles greater than you ever dreamed of.

Lumosity is uncovering the secrets of brain performance — with a little help from our friends. [The Human Cognition Project](#) is a groundbreaking research effort to bring together a network of scientists from 25 of the top neuroscience programs in the world, including Stanford, Berkeley and Harvard. Our goal is to use Lumosity as a platform for learning about cognitive enhancement and brain performance.

Did you know? “The human brain continues to create new neurons throughout life. Exercise and cognitive stimulation can impact the number of new cells created in your brain.”

Research has shown that training with spatial recall tasks can improve working memory and attention.

Train today to start your journey down new neural pathways - you'll be amazed at what you discover with the **right plan** to guide you.

For more information go to: www.lumosity.com

A Final Word

The study skills presented here depend on one thing, and that is your willingness to WANT to improve and do well. If you really don't want to make the effort and sacrifice, no amount of suggestions, ideas, or outlines can help much, let alone this

study course. You are the one who is responsible for your

education, and effective study skills can help you. To that end,

one last word of advice -- work smart, not hard.

Thank You!

I hope you enjoyed reading this eBook and I hope this will assist you as much as it did all my other clients. Thank you for your continued support of the Plastic brand and I look forward to bringing you more great ways to help yourself in future.

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