



THE SHISHYA JIGYASA ACADEMY

E - B O O K

How to become a superlearner

This short ebook is designed to help you
understand scientific techniques for learning

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Introduction

What is superlearning?

It is learning, but with **superpowers**.

And how does one develop such learning superpowers? This book teaches you the basics.

Over the last few years, I have spent hundreds of hours researching, reading and applying these techniques myself and teaching them to the learners at our school.

I hope this gives you ideas on how to become a better learner yourself, or to help your child.

Best regards,

Rohan Chadha



Why use scientific methods of learning?

Neuroscience now understands how our brain learns, which wasn't possible even twenty years ago. Specific protocols can help us learn better.

In this book, I introduce you to a few simple protocols you can use to make learning more efficient, and in some instances, faster.

Most of these protocols have been extensively researched and are slowly being accepted by schools and educators around the world.

With the pace of change in the world today, one of the most important skills is that of being able to learn new skills quickly and efficiently. As such, knowing 'how to learn' is often touted as the single most important skill in the 21st century.

Knowing how and when to apply these protocols can make anyone a superlearner - all you need is the will to commit and apply these principles to your learning.





Superlearning Principles



IN THE PAGES THAT FOLLOW, WE WILL LEARN ABOUT SPECIFIC PROTOCOLS WHICH ALLOW US TO:

● FOCUS

Visual focus

Mental focus follows visual focus

Alertness

Stimulation and getting in the zone

● LEARN

Repetition

Spacing out study sessions

Techniques

Tools for active learning

● REST

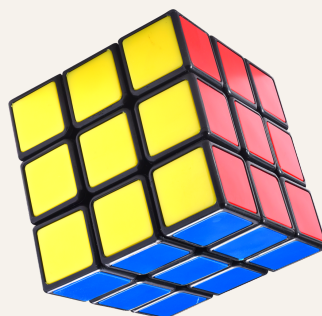
Micro-breaks

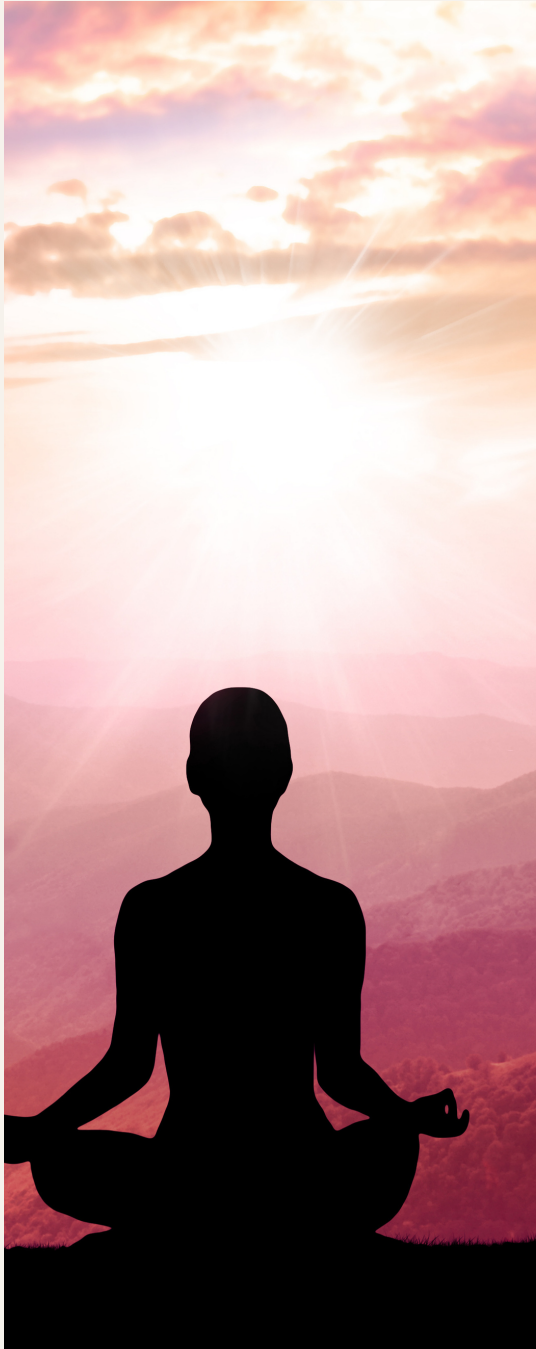
Allow the neurons to recover and assimilate

Sleep

Help the mind run simulations and embed learning

ALL THREE ARE CRITICAL COMPONENTS OF THE SUPERLEARNING FRAMEWORK!





Getting alert

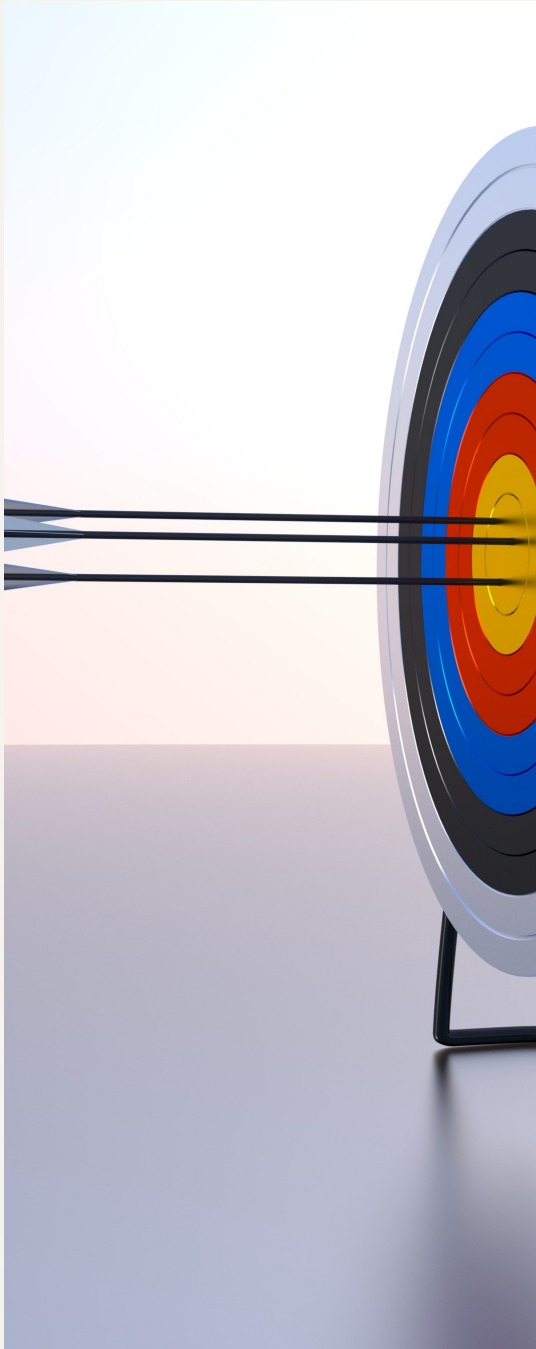
When you first sit down to study, the first task should be to get yourself 'in the zone'.

The aim of getting in the zone is to trigger neuroplasticity - the ability of the brain to form new pathways and change how its circuits are wired. Epinephrine (adrenaline) is critical to neuroplasticity. In order to flood the brain with epinephrine, deep breathing is frequently used.

Doing a simple circuit of 25 - 30 deep breaths is a great way of flooding the brain with epinephrine. Breathe in for 3 seconds, hold for 3 seconds, breathe out for 3 seconds and repeat.

This simple practice also helps get you mentally prepared for a study session, while also ensuring biological preparation for efficient learning.





The Art of Focus

'Concentrate!'

You often hear teachers and parents yelling at students and telling them to concentrate.

But how does one focus?

As it turns out, **mental focus follows visual focus**. In order to get your brain to focus, you must first get your eyes to focus. One way to do this is to look at a fixed point for a few seconds at a time - perhaps 20 or 30 seconds, then letting your eyes rest and then bringing them back to the point of focus.

Doing this for 2-3 minutes before a study session can greatly increase focus. You can also do the same by holding a small ball in front of your eyes and moving the ball, all the while keeping your eyes on the ball.





Spaced Repetition & Retrieval

Memory is the bedrock of learning. By memory, I don't necessarily mean rote learning. I am generally referring to memories which help us build concepts and link different ideas to each other.

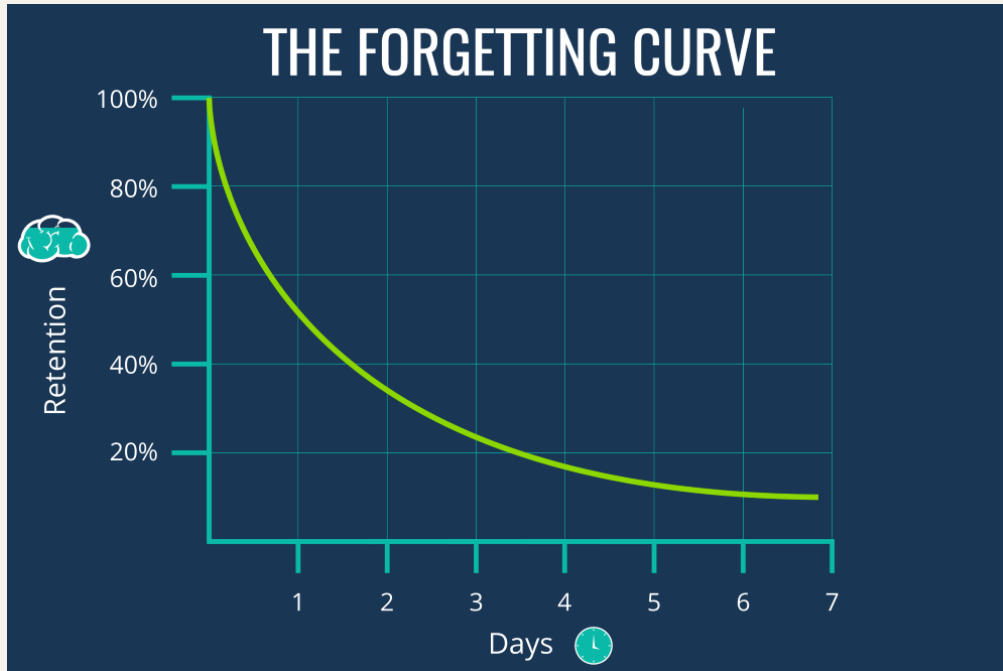
As such, one of the ways to help make learning faster is to engage in spaced repetition. This is where you engage in intervals of learning which are spaced out a few days apart. This is because of a phenomena known as the 'forgetting curve'.

This was a phenomena discovered by a German psychologist called Ebbinghaus. He observed that we tend to forget recently learned facts, and that repeating them in a certain manner helped eliminate this forgetfulness.

The next page explains this phenomena in greater detail.



Why Cramming Doesn't Work



As the graph above shows, when we first learn something, it is fresh in our minds and we remember it well.

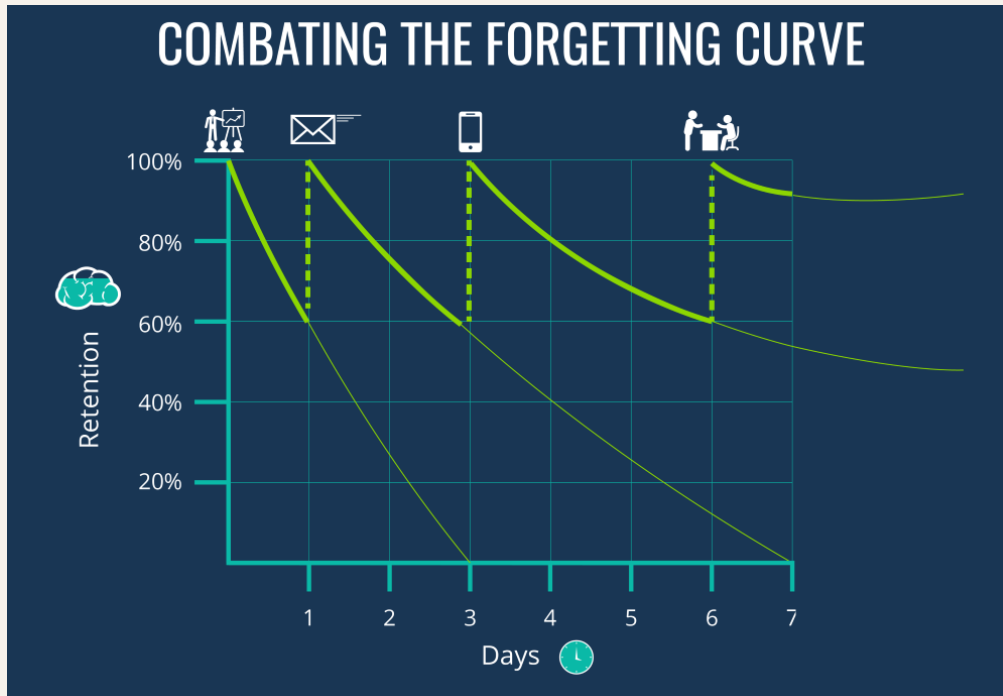
With the passage of time, we tend to start forgetting. One day after learning something, we tend to remember only 60%. 2 days after, this falls to under 40%, and so on.

The only way to reset the forgetting curve is to engage in what is called spaced repetition. This is where we repeat study sessions periodically so that the forgetting curve is reset i.e. it brings the retention back up to 100%. Done a few times in a spaced manner, we eventually remember things so well that they become permanently embedded in memory.

The forgetting curve is the chief reason why cramming (last minute study before exams) never works. For something to permanently be embedded in memory, a series of spaced repetition is required. That is the only way to reset the forgetting curve.



Resetting the forgetting curve



The graph above shows how spaced repetition can reset the forgetting curve. The first time you learn something, retention starts to drop in a day. So the first repetition should be a day later. Thereafter, retention starts to drop 2 days after that. So another study session is required to bring retention back up to 100%.

Now that 2 repetitions are done, it will take even longer for retention to fall. As the graph above shows, the third repetition can happen 3 days after the second session. Over time, retention will fall very less - that is when you know a concept / fact has been committed to memory!



Active Learning



Learning is all well and good, but unless learners are active participants in the learning process, it is not very effective.

So, what is **active learning**?

Active learning is where you are actively engaged in the learning process, and not just a passive recipient. There is a difference.

Reading a book is passive. But if you read, and then engage in discussion with a peer, or write an essay based on your interpretation of what you have read, then that constitutes active learning.

The research on this is clear-active learning greatly increases depth, retention and understanding. I could write a book on acting learning, but I should stop here!

In short, active learning helps a learner explore the depth and breadth of a topic. It makes learners engage with the topic in different ways and from different angles, resulting in deeper, more meaningful learning.



Examples of active learning

There are various ways to promote active learning. Perhaps the most commonly used is that of group discussions and role play. After the teacher discusses a concept, getting learners to engage in active learning would entail dividing them into groups and giving them a task to solve, or having them come up with a presentation on the concept.

Another very powerful technique of active learning is learning by teaching, also known as the **Feynman technique**, named after the Nobel-prize winning physicist Richard Feynman. In this technique, learners solidify their understanding concepts by teaching them to peers. I can vouch that this works very well - it gives learners a sense of agency and also helps them develop other soft skills like presentation and communication.





Optimising for Breaks

When I was young, I remember some friends proclaim that they spent 10, 12 or even 14 hours a day studying. At the time, I marvelled at this display of intellectual stamina. 'No wonder they're doing so well!', I would think to myself.

Fortunately, now I know better. Or the neuroscience community knows better. Most people aren't capable of more than 3 intense study sessions a day. Each of these sessions should last no longer than 90 minutes. That totals under 5 hours of studying a day, at a maximum.

According to Dr Andrew Huberman, a neuroscientist at Stanford, this also means that one must take breaks of at least a few hours between each 90 minute bout.

Personally, I am incapable of a single 90 minute session. I do bouts of 25 minutes and then break for 5 minutes, and keep going until I reach 2 hours. Research has also shown that taking breaks frequently (and at random) helps the brain rehearse that activity, and it rehearses it 10x faster. That means you're actually learning when you're taking a break, and learning at 10x the speed!





Optimising for *Movement*

Movement and learning aren't often spoken of in the same breath.

After all, learning and study often conjure up images of a person sitting and being engaged in deep thought.

However, movement is absolutely crucial to brain activity. The reason is simple - movement of any kind, be it exercise, walking or stretching, increases circulation in the brain and the body. This increase in circulation within the brain has immense cognitive benefits. As a result, taking breaks which involve movement or even just walking around can really help.

Many famous executives now allude to the benefits of walking meetings. The principle is the same. Walking increases circulation, which helps you think better and possibly come up with more ideas. Making sure you move often and enough is possibly the easiest thing you can do to make your learning more efficient.





Sleep



One very relaxing protocol that anybody can use in order to help this process of reinforcing learning is called non-sleep deep rest (NSDR for short). This is a guided meditation you can do while lying down, and usually lasts 10 to 20 minutes. Just search for '10 minute NSDR' on youtube and try it out!

Research shows that doing a NSDR session after an intense learning bout can greatly speed up and solidify learning.

Sleep helps complete the learning cycle. What happened during the day is reinforced and embedded in the brain at night while we sleep.

It was recently discovered that the brain runs simulations of everything that happened during the day while we sleep, thereby helping build connections between different parts of the brain and rebuilding existing circuits (neuroplasticity).

As such, sleep is a vital and often overlooked aspect of learning. Often we hear of people burning the midnight oil to study - this is a bad idea as you are preventing the brain from consolidating learning if you don't sleep!





Superlearning Quiz

There are no right or wrong answers; simply respond as you see fit and see what you discover about yourself.

- Score 2 points for each 'Yes', 1 point for each 'S / Sometimes' and 0 point for 'No'.

	Yes	S	No
1. I regularly do deep breathing before study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I use eye exercises to focus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I have plenty of sleep and feel well-rested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I take regular breaks from study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I incorporate movement when I study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I used spaced repetition to study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I use non-sleep deep rest after study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I engage in active learning regularly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Your total score _____

What did you learn about yourself?



NEED MORE INSIGHT?

Get in touch with me! I run workshops for students, groups and companies on superlearning.



If you would like to discuss either these methods or anything else regarding the school, please get in touch at the details given below.



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