LEARN MORE IN LESS TIME!

ACCELERATED LEARNING TECHNIQUES FOR STUDENTS

DR. JOE MCCULLOUGH

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Dedication

This book is dedicated to my two-year-old daughter, Aria. May you never lose your love of learning or your passion for exploring life’s many wonders.

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Acknowledgements

Nobody works in a vacuum. Most, if not all of life's great accomplishments, are achieved with the help and support of others. For me, writing this book was a great accomplishment; one that I had a lot of help and support with. I know you're excited to start learning faster, but I want to quickly thank the people who helped me finish the book you are about to enjoy.

First and foremost, let me thank my amazing wife Tara for her loving support, for her patience, and for her valuable input in editing all parts of this book. I also want to thank my daughter Aria for her super-duper cuteness and playful spirit. And I can't forget my dog Barkley – good boy. I want to thank my mom for her eagle eye in proofreading and Robin McFarland for her useful comments on the brain sections of this book. I also want to thank Tyler Oxford for his excellent coaching and Skye Gentile for our nightly check-ins. And finally, thank you to the many great artists over at www.fiverr.com. I used the talented folks at Fiverr to design my book cover, create most of the book's images, and format the book for publishing.

Introduction

"Success happens not by chance, but because you were given a chance and took advantage of it."

- Kevin Geary

Congratulations! The fact that you are reading this book means that you are a dedicated student who wants to be more successful in school and in life. It's said that 90% of success is just showing up, and that's exactly what you are doing right now. By reading this book, you are taking the first step toward academic mastery. I realize this is a bold claim, and yet I make it without any reservation whatsoever. The accelerated learning techniques presented in this book will allow you to learn more in less time. You will soon have the tools and the confidence to learn faster than ever before, **and** retain more of what you have learned. I hope you're as excited as I am!

From my experience, most high schools and colleges are not currently teaching the skills necessary to learn quickly and efficiently. To make matters worse, most teachers assume that you already know how to study effectively, and how to do well in their course. This is often not the case. Many students struggle not because they aren't smart, but because they have never been taught the skills and techniques presented in this book. Most students have never really been taught how to learn.

This is unfortunate because learning how to learn is one of the most valuable skills you can have. This is especially true in today's rapidly changing technological society. We have entered the information age where knowledge is king. To be successful, you need to be a lifelong learner. The days of having one career for your entire life are long gone. It has been estimated that the average person will hold more than seven different jobs after graduating college – many of them in completely different fields. Even if you are lucky enough to have the same career for your entire adult life, you will need to periodically upgrade your skills and knowledge in order to stay competitive. The faster and easier you can gain that knowledge, the more successful you will be.

Luckily, you are already an incredibly efficient learner. Consider all the things that you have learned outside of a formal classroom setting. You have learned how to walk, talk, swim, ride a bike, play various sports, drive a car, use a computer, cook a meal … the list goes on and on. Every one of these tasks is challenging and difficult, yet you are most likely extremely proficient at each.

Almost everything you have learned was through informal exploration. You learned through fun, play, conversation, and interaction with others. Informal learning is natural and fun, just ask any child. The problem is that formal classroom learning doesn't come naturally for many people. To make matters worse, most teachers have an unconscious tendency to teach using their preferred learning style (more on this

later). If their preferred learning style doesn't match yours, there is a good chance you will find learning from them to be challenging.

Research shows that the current teaching methods used at many formal learning institutions such as high schools and universities do not effectively take into account how the brain works. According to Dr. John Medina, author of *Brain Rules*, *"If you wanted to create an educational environment that was directly opposed to what the brain was good at doing, you would probably design something like a classroom."* As a result, classroom learning (in its present incarnation) usually only works well for a small number of students. For many people, their experience with formal learning has caused them to question their ability to learn at all. In one revealing study, 82% of children entering the school system at age 5 or 6 had a positive view of their ability to learn. By the time these children reached 16 years old, that positive rating had dropped dramatically to 18%!

If you have previously questioned your learning abilities, this book will change your mind. As stated previously, you are already an incredibly efficient learner. In fact, your brain is a supercomputer. Unfortunately, you were not given the instruction manual on how to efficiently use this incredible computer. Well, here it is! The information presented in this book will help you unlock the amazing potential of your brain.

As you will notice, this book is written in a casual, almost conversational tone, rather than the academic tone common in many textbooks. This was done on purpose. Even though I was a dedicated and serious student, I often struggled to read textbooks because of their overly dry presentation. I don't want that to be the case with this book. The information presented within these pages can literally change your life, and I want to make sure that you read all of it! My goal is that you truly enjoy reading this book. You may even find yourself staying home on a Friday or Saturday night because you just can't put it down. Ok, I admit that might be a little far fetched, but I do hope that you have fun while learning how you learn best.

You may also notice that this book doesn't have a lot of "filler" in it. I have made every attempt to make sure that everything contained within this book is essential and relevant to the task at hand – teaching you how to learn more efficiently. I know that you are busy, and I respect your time. Therefore, I made sure to keep this book short enough that you could read the entire thing in a few sittings. It wouldn't make a lot of sense to have a book about efficient learning strategies prattle on and on now would it?

As a final note, I wrote this book using the principles of accelerated learning. One of these principles is the frequent review of material that you want to commit to long-term memory. You will therefore see callouts like the one below interspersed throughout the book. These are used for key points that deserve special emphasis, so please pay attention to any callouts.

Another principle of accelerated learning is testing yourself to see how well you understand the material. At the end of each chapter is a brief ***"Show You Know"*** section with a few multiple-choice, true/false, fill-in-the-blank, or short-answer questions. These are designed to recall and test your understanding of the material presented in the chapter. Please do not skip these questions! Take the time to answer each one before you read the answers that follow. If you get them all correct, give yourself a pat on the back (literally – I mean it), and move on to the next chapter. If you get one or more wrong, please take the time to review the relevant sections before moving on.

What is that you say? Get on with it already!

Alright, without any further ado, let the adventure begin …


Smarter Thinking
NEXT EXIT

Part 1:
The Five Steps of Accelerated Learning

Meet Your Amazing Brain

"The brain is a monstrous, beautiful mess. Its billions of nerve cells - called neurons - lie in a tangled web that displays cognitive powers far exceeding any of the silicon machines we have built to mimic it."

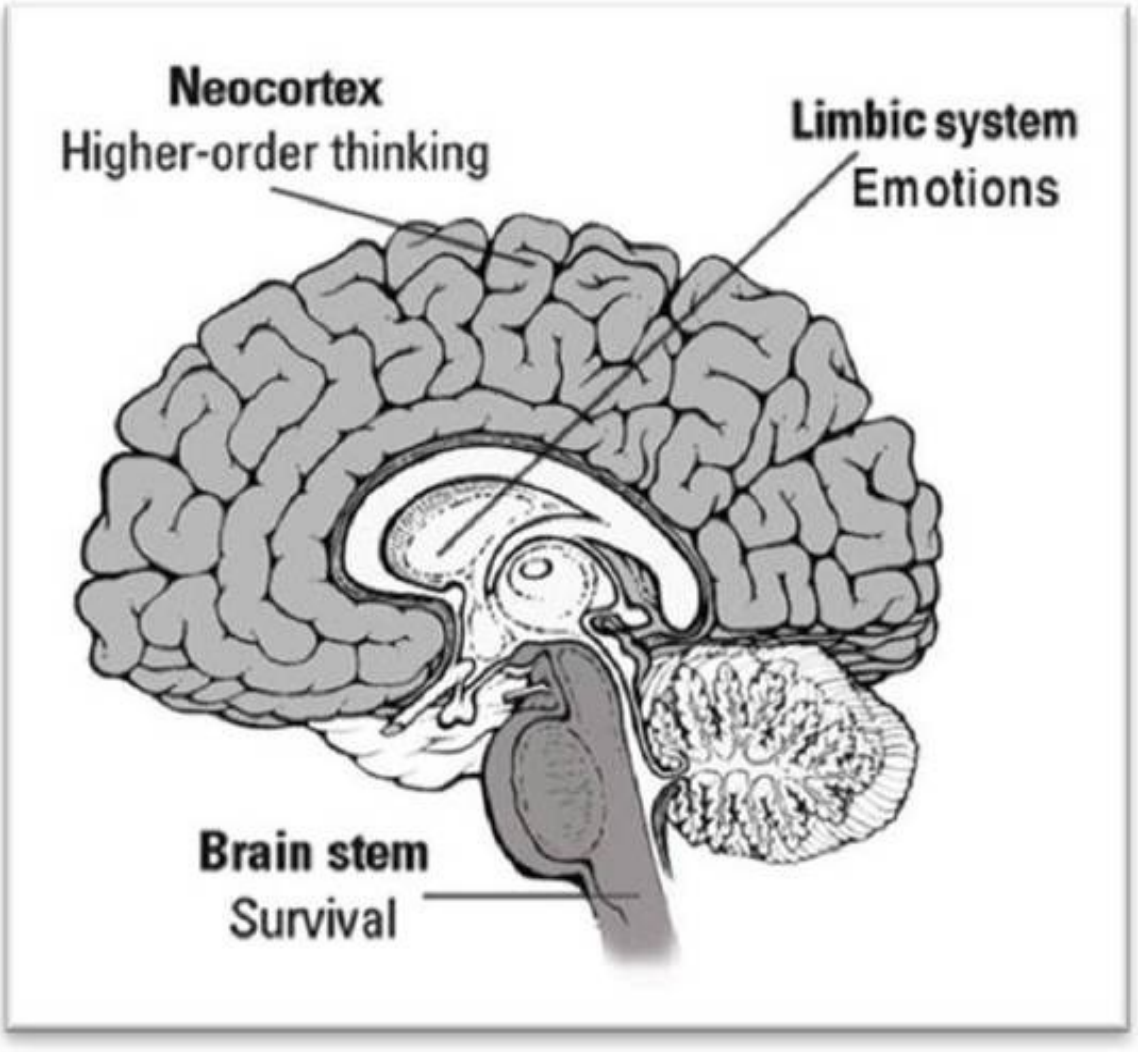
- William F. Allman

Before we jump right into accelerated learning techniques, let's spend a few minutes exploring the most amazing and complex computer ever created – your brain. Since accelerated learning techniques are based upon how the brain processes, stores, and recalls information, it will be a very beneficial exploration. This chapter will provide you with background information that will serve as a foundation for the learning techniques that follow. It is not, by any means, meant to be a comprehensive review of how the brain learns. My goal in writing this chapter was to help you understand the WHY behind the techniques you will soon be learning.

Let's start our exploration with a few basics. First, make a fist with each hand. Now place them together with your knuckles touching like you are giving yourself a knuckle bump. This is a very rough estimate of the size of your brain, with your fists representing the right and left hemispheres of your brain. On average, an adult brain weighs approximately three pounds. Although this is only about 2% of our body weight, the brain consumes about 20% of our body's energy resources. In other words, 20% of the calories we consume on a daily basis go to keeping our brain working properly. This means that what we eat plays an important role in the overall health of our brain and how well it functions. (Brain-healthy foods will be discussed in a later chapter.)

The Triune Brain

The brain itself can actually be considered to be three brains in one, or “the triune brain” as described by neurologist Paul McLean. These three different parts of the brain evolved over time as we ourselves evolved and became human. The triune brain consists of the brain stem, the limbic system, and the neocortex, as shown in the figure on the next page. Let's take a quick look at the functions of each part of the triune brain. We’ll focus our exploration on the functions that are most relevant to accelerated learning.



The Brain Stem or Reptilian Brain

The brain stem is located at the base of your skull. It is the part of the brain that we have in common with lower life forms such as reptiles, so it is also known as the reptilian brain. This is the part of the brain that is responsible for survival and basic vital life functions. The brain stem controls autonomic bodily functions, such as breathing, heart rate, and blood pressure. It also controls instinctive behavior, such as the fight or flight response. It is this aspect of the brain stem that is important to understand for learning.

Whenever we feel threatened or scared, our reptilian brain takes over, and we have very little access to our higher brain functions, such as reasoning and critical thinking. When our fight or flight response kicks in, adrenaline rushes through our body, and our brain downshifts into survival mode. We literally lose access to our higher order thinking skills. This mental downshifting is a survival strategy dating back to prehistoric times. If we saw a saber-toothed tiger out of the corner of our eye, the important thing was to take action rather than overanalyze the situation.

A better name for this behavior would actually be the freeze, flight, or fight response, because that is what we tend to do, in that order, when we sense a threat. First, we tend to freeze, then flee, and finally fight, if there are no other options. While this was a great strategy thousands of years ago, it's not so great now. As a student, it doesn't take a saber-toothed tiger to cause your freeze, flight, or fight response to kick in. Anytime we feel emotions such as fear, anxiety, stress, or threat, this response kicks in to some degree and our higher-order thinking skills become impaired.

If you have ever gone blank during a quiz or exam, it is most likely because you became anxious or stressed for some reason and then literally could not think clearly. You knew the answer to the question or how to do the problem, but you couldn't access the information at the time. Don't you hate it when that happens? Well, don't worry because you will soon have an awesome technique to use in that situation. One of the very first steps of accelerated learning is getting in the optimal mental state for learning, a brain-wave state in which you have maximum access to your higher-order thinking. More on that later.

When we feel fear, anxiety, stress, or threat, we have very little access to our higher-order thinking skills.

The Limbic System or Mammalian Brain

The limbic system is the part of the brain that we have in common with other mammals, which is why it is sometimes called the mammalian brain. It is responsible for more complex brain functions such as regulation of the immune and hormone systems, sexuality, mood, feelings, and emotions. The limbic system also controls an important part of our long-term memory storage. The parts of the limbic system that are relevant for understanding accelerated learning are the thalamus, the amygdala, and the hippocampus.

The thalamus acts like a kind of switchboard for our brain. All of the visual, auditory, and kinesthetic information from our senses enters the thalamus, where it is categorized and sent to different parts of the brain for processing. The thalamus actually sends sensory information in two different directions at the same time. The first direction (the high road) leads to the sensory cortices: the visual cortex, the auditory cortex, and the somatosensory cortex. These are located in the neocortex and will be discussed in more detail in the next section. As shown in the figure below, the second direction in which the thalamus sends sensory information (the low road) leads to the amygdala.

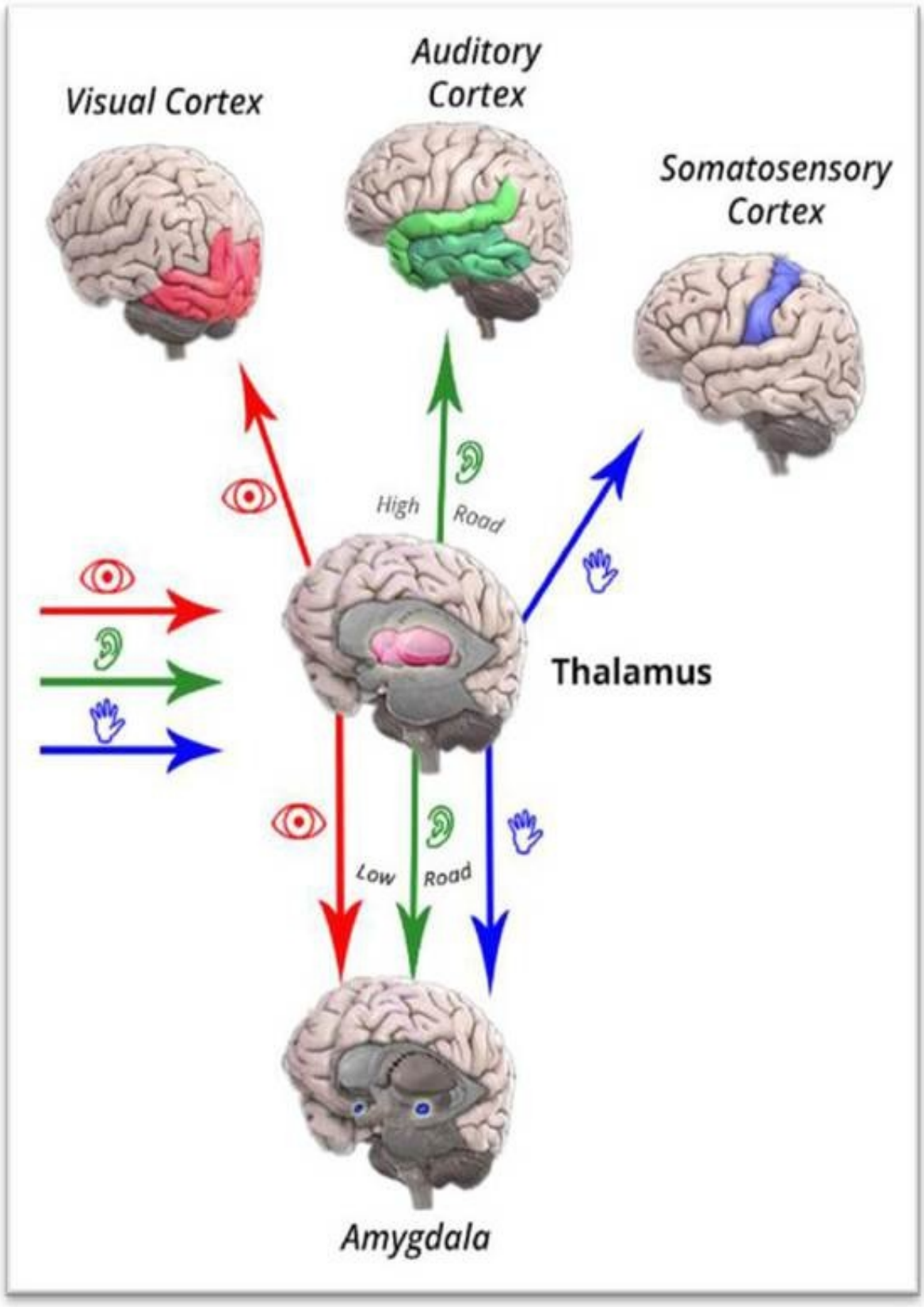


Image inspired by www.quantumlearning.com.

The amygdala is our emotional control center. One of its jobs is to analyze

incoming information for emotional significance and determine if it should initiate a freeze, flight, or fight response. It is the amygdala that is responsible for the mental downshifting that happens when the reptilian brain takes over. Anytime your amygdala senses emotions such as fear, anxiety, stress, or threat (which can be remembered with the acronym FAST), it quickly sends a signal to your brain stem. Your brain stem then activates your freeze, flight or fight response and your higher-order thinking skills literally go out the window. Goodbye learning, hello panic. Learning is virtually impossible in this state. Positive emotions such as joy, fun, and excitement are, therefore, extremely important to the learning process.

The hippocampus is located below the thalamus near the middle of our brain. As with the thalamus and the amygdala, we have one in each cerebral hemisphere. The hippocampus is the memory control center of the brain. It is responsible for storing short-term memories, deciding which short-term memories get encoded into long-term memory, and sending those memories to the appropriate sensory cortices for long-term storage. The hippocampus is also responsible for retrieving those long-term memories when they are needed.

The fact that the limbic system controls both emotions and long-term memory storage has an important implication for learning. Things that involve strong emotions are very well remembered. You can think of emotions almost like post-it notes that tell our brain to pay attention and remember this information. One of the jobs of the amygdala is to attach these emotional post-it notes to memories. The stronger the emotion, the stronger the memory. This is why emotionally rich events, that occurred many years ago, are remembered in much greater detail than mundane events that happened recently. For example, you probably remember your first kiss more vividly than what you had for dinner a month ago. The more positive emotion you can attach to a memory, the stronger it will be stored and the more likely you will be to remember it. Since learning a new subject is, in essence, creating memories of new knowledge and skills, incorporating positive emotions into the learning process can do wonders for your academic success.