The MASTER

For 21st Century Education

Individualized Learning Revolution

Six Essential Skills for Lifelong Learning

Excellent for all Students Parents and Teachers

Lee Jiang

The

MASTER

For 21st Century Education

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Preface

If you are interested in a successful university experience, career and life, the key question you should consider is "How do I give myself the best chance at being successful?"

The focus of this book is to answer this question. Whether you are studying Mathematics, Science, Economics, History, or any number of other disciplines, this book provides the mindset required to be successful in the 21st Century.

In the 21st Century, education has been changed dramatically; one of the major changes is student-centered learning, also known as learner-centered education. It is quite challenging for most students. Parents and students want to know how to handle those changes and what study skills are required.

In order to help students and their parents face these challenges and to manage their study more actively, efficiently and professionally, the MASTER study model was created.

The MASTER is a mnemonic acronym, listing all key components for effective self-study:

- "M" stands for "Management"
- "A" stands for "Attitude"
- "S" stands for "Skills"
- "T" stands for "Technology"
- "E" stands for "Effort"
- "R" stands for "Review"

I have been running a seminar called "How to study in the 21st Century" to introduce the MASTER study model. As it has been well received by students, I wrote this book hoping that this model will benefit more people. For those unable to attend my seminar, this book serves to provide background information on the current education environment, systems, changes and learning methods. For those who can attend the seminar, there are group activities with more examples, interactions and discussions, with the help of an instructor to gain a better understanding of study methodologies.

No matter how you choose to use this book, it will help you rethink and improve your study mindset.

Acknowledgments

First, I would like to thank my supportive family, who gave me the energy and time to write this book.

I would also like to thank all my students and their parents who gave me the opportunity to introduce and practice the MASTER model. Their feedback and comments were extremely valuable as I developed the MASTER model.

This book is a collation of work from academics and online sources. I have merely collected the material from these authors into a single source, in the hopes that this information can now be more readily digested by my students. For anyone seeking further detail or links to the original sources, please refer to the References at end of this book.

A special thanks to Robert De Martin, Elske Revilla de Witte and Helen Blefari for their advice and encouragement.

Chapter 1 Introduction

A good education is often seen as the key to getting ahead in life. Not only does it help individuals develop the skills they need to improve their livelihoods, but it also generates productivity for economic growth of the nation.

The question today is, will education that students receive today adequately prepare them for the future they will face? If not, what constitutes a good education?

Before the 21st century, we could simply go to school, graduate, and start our career. Generally speaking, we did not need additional education to live well because one job was sufficient for us until we chose to retire. In the other words, the education learned in school was all we needed for a lifetime.

However, one job per lifetime is no longer the norm. Recent reports have shown (see the section 1.1 of The Labor Market) that the average length of a job is now less than four years. Many well-educated people are facing the same economic difficulties as the less-educated. They repeatedly find themselves having to get additional education and training in order to satisfy their job requirements.

Another problem is that many retirees are facing the realization that they have to not been adequately educated for the new world that they now face. They are inconvenienced as

they often lack necessary technical abilities, such as using computers, smart phones and online applications.

In the 21st Century, everything changes so fast, not limited to technologies, economics, living norms etc. It requires everyone to keep up to date with change. Hence, **lifelong learning** is the way that education should go. A good education will not only pass knowledge to students, but will also cultivate their study abilities, particularly their self-study abilities, so that they can adapt to and dominate the changes around them.

This book is introducing the M.A.S.T.E.R. (briefly written as MASTER), a holistic-approach study model that provides a set of methods to improve a student's self-study abilities, which will in turn help them to reach their full potential. It is a powerful tool to help one master self-study.

1.1 The Labor Market

A recent labor market survey reported the following data: [1.1][1.2]

- Currently the average Australian stays with their employer just 3 years and 4 months – only a third of employees worked longer than 10 years. If this plays out in the lifetime of a school leaver today it means they will have 17 separate employers in their lifetime.
- More than 50 per cent of younger workers believe their qualifications are not very relevant to their work. About 40 per cent of university education employees have a degree outside their primary areas of work. That shows more and more people keep learning after university.

- Almost one third of employees said changes in technology are most likely to drive job change.
- Two in five said they were uncertain or nervous about their employment future.
- In the next 10 years, three in five expect to work in a different industry or role.

The report summarized the following points:

- A job for life just doesn't have a place in our modern society.
- Each of us needs to recognize that our skills set, if left un-nurtured will quickly become obsolete.
- Individuals need to ask themselves what skills they'll need to succeed in an automated society.

The report posed the following questions:

- Whether school curriculums were up to the task of teaching "transferable skills and a different mindset about the future world of work".
- A generalist set of skills may be more useful in a rapidly changing labor market. Should these generalist skills be emphasized more in the formal education system, or can they be imparted in the workplace?

The conclusion is that the nature of skills development more broadly will become an increasingly important consideration for employees in the future as the interaction between skills, employment and careers becomes more fluid.

In association with job market changes, the education system is moving from teacher-centered learning to student-centered which aims to elevate students' study skills, such as their 21st century skills.

1.2 21st Century Skills

21st century skills are a set of abilities that students need to develop in order to succeed in the information age. [1.3] The Skills are grouped into three types:

Learning Skills:

- Critical Thinking
- Creative Thinking
- Collaborating
- Communicating

Literacy Skills:

- Information Literacy
- Media Literacy
- Technology Literacy

Life Skills:

- Flexibility
- Initiative
- Social Skills
- Productivity
- Leadership

New Skills for New Jobs

These skills have always been important for students, though they are particularly important in our information-based

economy. In able to get and hold job in current industry, students need to have some other skills, such as knowing a trade, following directions, getting along with others, working hard, and being professional—efficient, prompt, honest, and fair.

To hold information-age jobs, though, students also need to think deeply about issues, solve problems creatively, work in teams, communicate clearly in many media, learn ever-changing technologies, and deal with a flood of information. The rapid changes in our world require students to be flexible, to take the initiative and lead when necessary, and to produce something new and useful.

1.3 Lifelong Learning

In the old days, change was slower. What we learnt from school was valuable for a long period of time. By now, what we know would outdate very quickly. What we learnt is important, but not as important as how fast we can learn, change and adapt to new knowledge. Hence, education should teach students more lifelong learning abilities to handle the fast pace of change. [1.4]

Lifelong learning may be broadly defined as learning that is pursued throughout life: learning that is flexible, diverse and available at different times and in different places. Lifelong learning crosses sectors, promoting learning beyond traditional schooling and throughout adult life. This definition is based on four ‘pillars’ of education for the future.

- Learning to know – mastering learning tools rather than acquisition of structured knowledge.

- Learning to do – equipping people for the types of work needed now and in the future including innovation and adaptation of learning to future work environments.
- Learning to live together, and with others – peacefully resolving conflict, discovering other people and their cultures, fostering community capability, individual competence and capacity, economic resilience, and social inclusion.
- Learning to be – education contributing to a person's complete development: mind and body, intelligence, sensitivity, aesthetic appreciation and spirituality.

This is underpinned by "Learning to Learn".

Lifelong learning has life wide dimensions that transcend narrow economic and vocational aspects. It has four broad and mutually supporting objectives: personal fulfillment, active citizenship, social inclusion and employability /adaptability.

W. B. Yeats said it this way: "Education is not the filling of a pail but the lighting of a fire."

In this case, the lighter of the fire is the MASTER study model, as it lights the fire for lifelong learning. It covers the methods of learning to learn.

1.4 Self-Study

For lifelong learning, it is not enough to only depend on a formal school education. Self-study will play the key role for learning, working and living in the future. [1.5]

Advantages of self-study are:

- Time: It's always available 24x7, so you can study whenever you want,
- Place: It's an open space, so you can study wherever you want.
- Contents: It's free to choose, so you can study whatever you want.
- Schooling: You will learn much faster and become more efficient in your study.
- Work: You will learn new skills and knowledge to satisfy new job requirements and to strengthen your competencies in work place. You can become an expert in more than one field.
- Life: You can keep learning new material throughout your entire life. This will ensure that you keep up with changes in technologies, finances and living conditions.

The disadvantage of self-study is that students miss having a good teacher around to help them go through study. This is not an obstacle for self-learners because they can easily find help from online teaching and tutoring.

Naturally, not everyone knows how to self-study. Many people have tried it, but most them came short and could not keep going deep enough. The reason is that self-study is a capability which requires a learned set of skills to make study more effective and fruitful Once learned, the self-study skills need to be kept up through practice and practice.

The MASTER study model identifies the need for self-study and has grouped all the skills into six areas which can guide a self-learner to become a MASTER learner.

1.5 Who Is This Book For?

I have taught many students who have had all sorts of study problems. These have included low motivation, difficulty concentrating, poor memory, struggle with time and lack of study management. It is not an issue regarding their talents; it is the lack of self-study skills and abilities. After trained, they have been able to overcome their study problems.

This book is written for students who want to:

- Change their study attitudes
- Take responsibility of their studies
- Manage their study effectively
- Learn more self-study skills
- Resolve their study issues
- Improve their study habits
- Achieve better results

I have met many parents who were worried about their children's academic results and future careers. It is becoming increasingly difficult for parents to guide their children to success in these areas, as the requirements for various careers have already changed dramatically, and will continue to change.

This book is written for parents who want to:

- Take an active role in their child's education
- Help their child to choose their school, subjects and career

- Understand the education environment
- Learn how to identify their child's study problems
- Correctly approach any study problems in order to help their child overcome them

If you are not a student or a parent, self-study is still an essential skill for you to know, so that you can improve your career and life.

This book is written for everyone who wants to:

- Power their learning abilities
- Prepare their future career
- Keep up with new technologies
- Start a new hobby
- Help the learning of others
- Improve learning skills

This MASTER model is not limited for study use only. It can be extended as a platform to build any kinds of skills.

1.6 How This Book Is Organized

Education is more important than ever before because things will be changing faster than we have ever seen before.

This book is written in four parts:

Part I is a review of the key values of education. It shows the history of the value changes and gives insight into what the new values are.

Education is moving forward from passive-learning (teaching-centered) to active-learning (student-centered). The purpose of the movement is to promote these new education values.

The values are the qualities that people expect to gain from education. Some values can give you short term gains, such as entry into a well-respected school and the start of a good career. Some values offer you long term benefits, such as improving your ability to work with others, self-learning, being able to keep up with changes, and achieving a fulfilled life.

Those values serve as a starting point to your thoughts, to decide what you really want from education. This then leads you to your next step, which is what action you should take to gain those values.

Part II is an overview of the education systems, schools, programs and subjects. It outlines how education value is applied in education systems. The aim of this Part is to help students and parents choose the right education for themselves.

In Part II, the differences between the Western and Eastern education systems are discussed. This includes showing the distinctions between "Eastern" and "Western" cultures, and these distinctions impact the priorities of the values of education.

It then compares private and public schools. The results of this examination demonstrate that the values of education are different between them.

This Part then lists the key components of the IB program and the NSW HSC, showing that the teaching contents and methods are different on this level too.

It also guides students on how to choose subjects or courses.

Part III discusses the core concepts of the MASTER study model. This study model has six essential components of self-study.

It is similar to a human body. As we know, the human body is comprised of several different systems that must work together to carry out the various processes necessary for good health. Each component of the MASTER plays a different role in study, but they have to work together to achieve the study goal effectively and efficiently.

The following steps give you a guide as to how to use it.

Steps:

1) Go through each component of MASTER. Understand the role of each component.
2) Check your study skills, to see if any component is missing. If there is a component missing, you will need to add it in to your skill set.
3) Check your study skills, to see if any components are unbalanced. If unbalanced, you will need to balance them out.
4) Start training yourself with regards to each item and component, one by one.
5) Start practicing it on your study technique.

The whole purpose is to change your bad study habits and build new, effective study habits.

Don't worry about the speed in which you learn it; focus on the improvement. It is lifelong learning.

1.7 In Conclusion

I have been coaching and tutoring for the past 8 years and have helped many students and their parents solve learning problems. Based on those experiences and cases, I found that the self-study skill was not properly addressed, nor taken as seriously as it should be taken.

Self-study is becoming a basic survival skill in modern society. Without it, it seems impossible to do well in study, work and lifestyle. Hence, one's capability in self-study differentiates lives, from person to person.

The MASTER study model is the power tool to help you build or rebuild your life. First, it emphasizes the power of attitude, which drives one's desire and motivation. Secondly, it explains all the methods in order to achieve the goal.

I have introduced the **MASTER study model** to my students and parents. Many students found that it boosted their confidence and lifted their performance both within and outside of school. Many parents used it to change their children's motivation and study habits. Many of my students achieved 99+ ATAR scores.

Chapter 2 The Value of Education

Education is the process of passing knowledge, skills and abilities from one generation to the next generation. Education has evolved over time to reflect changes in societal values. This has occurred in three stages.

2.1 The Purpose of Education

No matter where we are in the world, it is accepted that we want our kids to have the best educational experience possible. The problem arises when we try to determine what start to the best educational experience actually is. In coming to this determination, differences become apparent. We soon realize that there are varying ideas about what we want for our kids when it comes to their education as well as education's purpose. [2.1]

Looking back at history, there are three broad stages of educational development.

Stage 1.0 – Individual Survival

Even before any records of historical practices were documented, adults have taken on the role of educating the next generation. Originally, it was survival instincts that drove people to take on this role. Skills and knowledge were passed on to children so that the species may continue to thrive. Survival skills were essential then, just as they are now, although they are far more formalized and codified now.

Life was extremely tenuous in the earlier days, which meant that additional life luxuries like social mobility and self-actualization were lowered on the priority list. You lived to fight. Nowadays, you have the capability to stretch yourself both physically and academically.

Stage 2.0 – Societal Survival

Somewhere along the line, education became formalized and was entrusted to professionals. The focus moved from survival of the individual to the accumulation of knowledge and skills, as well as developing literacy and the ability to effectively manipulate numbers. The family continued to play an important role in the education of their children, but at some point education was outsourced to those with academic expertise.

While Stage 1.0 identified an educated person as one who was able to survive, Stage 2.0 introduced the notion that education is synonymous with academics.

The most significant shift that distinguishes Stage 2.0 from Stage 1.0 is the emphasis on serving society. Rather than simply learning how to survive, Stage 2.0 requires knowledge of how to be a good citizen. The purpose of education thus becomes to produce contributing citizens. The focal point between the two stages has demonstrated a gradual shift from the individual to the group.

For example, here is a list of the goals of the public education system:

- To prepare children for citizenship

- To cultivate a skilled workforce
- To teach cultural literacy
- To prepare students for university or college
- To help students become critical thinkers
- To help students compete in a global marketplace

As you can see, the emphasis of the above items is on serving society, either through work or further education. The goals are more commercially-oriented, with the ultimate intent of helping society flourish prosperously.

Stage 3.0 – Fulfillment

The earliest humans were rightly preoccupied by survival and educated their children with this is mind. Subsequent generations conceptualized education as a means to support the existing society. While the focus shifted from the individual to the social group, both Stage 1.0 and Stage 2.0 are rooted in the drive to survive.

We have entered a new era. Society's living conditions have changed dramatically from its earlier days. People realize that they need more in their lives, something to aspire to. They study and work for something more meaningful which can portray their full potential. To be relevant, education needs to develop beyond the requirements of individual or societal survival. The following are additional goals for education in Stage 3.0:

- To help students develop their individual talents and abilities
- To help students reach their potential

- To help students develop into happy, responsible members of their community
- To help students understand and appreciate the interconnectedness of all people
- To help students respect the environment
- To help students create and live a meaningful life

Education should be continuously evolving. Subsequent stages incorporate and build upon previous stages, rather than simply replacing them. Humans have moved beyond a simple quest for survival – both on a personal level and societal level – to a quest for fulfillment. The best educational practices are those that support all students as they strive to create satisfying, purposeful, fulfilling lives.

To meet these new demands, education is moving from passive learning to active learning.

2.2 Passive Learning

Passive learning is a method of learning whereby students receive information from the instructor, often through some form of memorization learning. [2.1]

This style of learning is teacher-centered. The learners may quietly absorb information and knowledge without typically engaging with the information received or the learning experience. They may not interact, share their insight or contribute to it.

Passive learning is a traditional method which still dominates world education. An estimated 60 percent of people are passive learners.

Advantages

Advantages of passive learning include:

- Instructor-controlled education material and consequently an instructor-controlled classroom
- The ability to clarify course material
- The ability to ensure the completion of study tasks
- Presentation of a large amount of information in a short amount of time
- Instructional materials can be prepared in advance
- Important concepts and content can be identified and presented in an organized, structured, and meaningful manner
- The potential to facilitate large-class communication

Disadvantages

Disadvantages of passive learning include:

- Rote learning
- Repeating information without reflecting or demonstrating an understanding
- Surface processing at the sacrifice of deeper learning
- Minimized ability to use what is learned
- Limited opportunity to assess how well students are learning content
- Students feeling reluctant to ask questions in class
- The study being deemed irrelevant by the students
- Less opportunity for application of the knowledge
- Learning merely for better examination results

Things have changed dramatically in our current era. Student study abilities have become the major focus of education rather than the knowledge taken.

2.3 Active Learning

Contrary to passive learning, active learning is a method of learning in which students are actively or experientially involved in the learning process. It is learner-centered. [2.3]

Students are given more responsibility for their own study. They are encouraged to get and stay engaged in class discussions and exercises and are compelled to read, speak, listen, think, and solve problems.

This relates to the three learning domains referred to as knowledge, skills and attitudes. In particular, students must engage in higher-order thinking tasks as analysis, synthesis, and evaluation.

Active learning engages students in two aspects – doing things and thinking about the things that they are doing.

Active learning transforms students from passive listeners to active participants, and helps the student understand the subject through inquiry, gathering and analyzing data to solving higher-order cognitive problems.

Advantages

Advantages of active learning include:

- Interactive engagement
- Collaborative learning
- Problem-based learning which develops a positive student
- Increased student engagement and understanding
- Better attention (breaks between lecture segments)
- Increased student ownership of learning process
- Greater enjoyment of course material
- Greater retention

Disadvantages

Disadvantages of active learning include:

- May be difficult to organize active learning experiences;
- Requires more time and energy
- May be stressful to adapt to new ways of learning
- High adaptability and teaching skills required for instructor
- May require more advanced technologies
- May cost more
- Less time and topic coverage
- Takes longer to finish tasks
- Lack of individual accountability

Active learning has made a huge impact on the role of education. The key values of education have been changed to better suit personal development. It helps students develop necessary self-study skills as will be explained in this book.

2.4 The Key Values

To enable students reach their full potential, there are a number of educational elements successfully used in Western education, such as encouragement, creativity, interest, balance, creating a desire to help others, practicality and choice. The following section discusses each of these in detail.

2.4.1 Encouragement

Western education instills the belief that providing compliments to students is important in encouraging them to excel in education. For instance, compliments are often given when students score well in their examinations. However, even when students do not do so well in their studies, compliments will also be given to them as an encouragement for them to work even harder in future. Western education believes that by providing such encouragement to the students, they will not give up easily and will continue to put extra effort into their education.

In Australia, at the end of each school year, on Speech night or its equivalent, there is often an award for the student who has improved most in his or her academics. This serves as great encouragement for those kids. The award lifts their spirits as well as their confidence, encouraging them to continue on that path of improvement.

As encouragement is non-judgmental, it is more effective than praise in guiding children's behavior. [2.4]

Here are some reasons why we should try to encourage students:

- Encouragement focuses on effort. It serves to acknowledge their hard work or how much they have improved. This helps children build pride in their own work.
- Encouragement lessens the peer pressure. Everyone is different and everyone's abilities are different as well. Encouragement implies that each child is successful within their own ability threshold. This means that children are not compared to each other, lessening the peer pressure that may have otherwise affected them.
- Encouragement teaches children to evaluate themselves on their own merits. When adults provide children with feedback about what they are doing, the children learn to evaluate themselves without comparing their efforts and successes to those of others. Children who are encouraged learn that what they think about themselves is more important than what others think.

Education is an ongoing, long-term process in our lives. Continuity is crucial. Encouragement is the key to lifting a student's confidence in their studying abilities. This motivates them to study further, ensuring the continuity. This is because encouragement:

- Respects the student's participation during any given study period
- Understands the individuality of every student
- Recognizes the efforts that the student has put into their study

2.4.2 Creativity

Creativity is highly recognized as a talent in Western schools. This is quite different from some Eastern educational systems that quantify talent with the test results. Western schools are often seen encouraging students to do things in their own way. New ideas are vocally appreciated.

New research demonstrates the importance of creativity in career-based success and the growing belief that creativity is not just a personality trait, but a learned skill.

1) Creativity is Key to Career Success

More than nine out of 10 professionals strongly agree that creativity is required for economic growth, and is valuable to society (96%). Additionally, 78% say that it is important in their career and wish that they actually had more creative ability. When asked to define creativity, the majority of respondents (66%) say they associate creative thinking with "thinking out of the box," or "the ability to come up with innovative ideas." [2.5]

2) Education Concerns

The study above exemplifies that there is a growing desire by professionals to be more creative. Consequently, it is clear to see why creativity and creative thinking deserves a bigger role in education. 91% agree that simply learning subjects at school is insufficient preparation for success, and 82% wish that when they were students, they had more exposure to creative thinking.

In this study, it was discovered that 57% of professionals believed creativity would be important to their career while they were in college, compared to the 78% who believe it is important to their career now. 72% say they were more focused on course subject material when they were in school than on creative thinking.

Therefore, there is still a gap for schools to develop into. Creative thinking evidently deserves to be considered a much higher priority within educational curriculums.

2.4.3 The Interest

Interest is an element that is central to a student's success in learning. In other words, a student's interest in a topic is a mental resource that enhances their ability to learn, which in turn leads to improved performance. Indeed, some research has demonstrated that both situational and individual interest promotes attention, recall, task persistence, and effort. The relationship between interest and performance was examined, with studies concluding that individual interest was correlated with both academic and laboratory performance. From this perspective, interest appears to play a very important role in learning and academic achievement. [2.6]

While interest plays a large part in enhancing performance and achievement, it must be acknowledged that interest, in its own right, is critical. Indeed, one of the primary goals of school education is to help students discover their true interests and chart a life course based on interests developed and nurtured in school. Thus, when it comes to life adjustment en route to happiness, interest may be viewed as essential.

When career path decisions are relegated to advisers and mediators, which largely intends to simply motivate and enhance the performance of students, the strength of a student's interest is lost. Health psychology researchers have found that life satisfaction and happiness are significant components of a person's well-being. It is noteworthy to acknowledge the extent to which pursuing activities and topics that we find interesting plays a role in helping us feel fulfilled with our lives. When we don't follow our interest, we are often left feeling disillusioned, discontent or uneasy. As such, academics endorse the perspective that interest is an important outcome, and that it is a crucial component of success in not only academics, but other areas of our lives as well.

2.4.4 The Balance

School education has multiple purposes. Some include: preparing future citizens to participate in society, ensuring that students can take their place in the world of work, and encouraging personal development and a sense of wellbeing in each student. Despite this supposed balance, studies have shown that cognitive learning is usually over-emphasized, compared to other domains of learning such as the social and affective domains. Sacrificing these other domains can be detrimental to children, and schools should ensure that they do not lose sight of their purpose to develop all aspects of the child. It is recommended that schools should develop models and strategies that will enhance students' learning while also preparing them more effectively for living and working in society. [2.7]

1) Extracurricular Activities

While they are often pinned against each other as competing time-users, academics and extracurricular activities are actually complementary to each other. This can be proven by research that indicates that students who engage in extracurricular music activities are more adept at math. These complementary benefits are not uncommon, which is why schools should place an emphasis on teaching our students how to effectively balance both, such as time management, prioritization skills and the ability to ask for help etc.

Time management translates to success

Time management is one of the core skills that we should teach our students. Effective time management between work and leisure, to many professionals, is considered a key element of future success and overall happiness.

What's Necessary and what's not

It is beneficial for students to step out of their comfort circle, and try new activities that they otherwise wouldn't normally engage in. However, once a student has decided which activities he or she wants to pursue, it is recommended to eliminate activities that he or she is less passionate about. Some academics regard it as critical to narrow down which of these activities deserve the majority of time — versus which activities are simply fillers, and to drop the activities that fall into the latter category.

Seeking help

If students find that they have problems finding this balance, they should seek help from peers or teachers. This is also a good opportunity for them to learn the appropriate time and priority management skills.

2) Relational Pedagogy

To assist in finding the balance, the relational pedagogy is also a good model to changing school and classroom culture. Relational pedagogy suggests the three following practices:

Reflective behaviors

Behavior management is increasingly an issue in classrooms due to the simple fact that children have a growing deficit of emotional skills. The reflective behaviors approach to teaching and learning aims to reverse this trend by empowering students to control their learning environment and take responsibility for their learning. The approach dictates that at the end of each day, students take part in a reflection of their collective and individual behaviors. This provides them with an opportunity to focus on making positive changes. Studies show that a culture that is highly conducive to student-centered learning yields extremely positive results for students in these environments. It is important in this process, that the teacher ensures that it is only the behaviors that need to be changed, not the students themselves.

Class meetings

An additional strategy that complements reflective behaviors is to hold class meetings with students. Perhaps a class captain

can be nominated to inspire leadership, responsibility, and group synergy. Problem-solves and students of actions are developed in this way. Class meetings also teach the principles of democracy and co-existence, and help students learn and develop their interpersonal skills.

Student-centered learning

Student-centered learning (SCL) is a concept that has been used by more and more educators. The idea is not simply to make students do more group work, but rather, it encourages a dynamic relationship between the student and the teacher where both can take on teaching and learning roles at different times (or even at the same time). By nature, SCL requires a relational pedagogy.

Once combining SCL with the WIPS model (Whole class instruction, Individual instruction, Paired work and Small group work) and encouraging student interaction, teachers are effectively giving students the opportunity to discuss formulate clearer understandings through peer-to-peer interaction. By using these techniques, a teacher becomes a true facilitator of learning rather than solely an information-sharer. As a result, the teacher is able to develop the child in a more wholesome way, which helps students transition into a rapidly changing society.

2.4.5 Helping Others

"It is not true that nice guys finish last. Nice guys are winners before the game ever starts." – Addison Walker

In Australia, it is very common for senior students to help or coach juniors, through peer mentoring or a buddy system. This occurs not only on a secondary schooling level but also at university. It is a win-win situation. Through teaching, senior students enhance their knowledge of the subject matter as well as their communicative skills. Additional benefits include improvement of their leadership capabilities, and developing their responsibility, management, communication, and problem solving skills that are arguably far more important in their future life.

From an emotional and philanthropic point of view, our greatest successes in life are often found in helping others succeed. Our most lasting and fulfilling achievements are often earned by helping others fulfill theirs.

It is incorrect to think of the world as one giant competition. Within that thinking, there are a set number of winners and losers. If somebody else wins, that's one less opportunity for you. It assumes that there is a finite sized pie – that one more success in another's life equals one less success in yours. This thinking is not only wrong, but it is also harmful. In reality, the size of the pie is not finite; the pie keeps growing. Another's success does not mean that you have less opportunity. In actuality, another's success should actually be considered your success if you had the opportunity to enable, encourage, and promote them along the way. The benefits can be received in many ways: [2.8]

- The receiver has reached a far greater potential than they could have on their own

- The world has been bettered and has been given a life-giving model to emulate
- The giver is remembered fondly and is thanked (privately or publicly) for their contribution
- The cycle begins again. A healthy, contributive society is thus created

2.4.6 Practical Approaches

What form should education be delivered in? Education is significant in that it must be acquired by all in order to gain knowledge and learn skills. Education is the only key that can develop a whole generation of responsible human beings who can absorb good teachings and impart it to others.

For all, having an education opens up a vast variety of career options which one does not have the luxury of, if uneducated. However, the question at hand is what type of education we should emphasize more on. Education can be imparted in a theoretical way or in a practical manner. Out of these two, it is left to analyze which is more beneficial to students, and which we should we value more.

Most schools across the world include both theory and practical exercises in their academic curriculum. However, different educators have different views regarding which is more efficient. Some might think that practical education does not sufficiently educate students on the roots and reasons for practice and that we should stick to theoretical teachings, while others believe that practical education must be given more importance as it allows students to understand material better, and is more useful once the student has left school.

Given the constant and rapid change in economics, one must be multi-skilled to adapt to the changes quickly enough. On this point, there are 8 good reasons why educators should place more emphasis on practical learning. [2.9]

1) Interactive education creates a deeper impact

Practical education is way more interactive. Interactive sessions and exercises as well as participatory experiments are typical features of practical education which ensure the involvements of students, making them learn and understand more. It ensures that teachers are not just spilling out knowledge at complete disregard of the student's understanding of the concepts. In practical teaching, the student's input is not only invited, but also necessary.

2) Practical education can motivate team work

Most activities within an actively practical education involve team projects or programs where students are required to work in a group or as a team. First, it improves a student's ability to interact with his/her fellow students and encourages them all to work cooperatively and effectively to achieve better results as a team. Additionally, it makes the learning process more fun as students are able to grasp more while interacting with others and creating memorable discussion. They tend to have fun in each other's company and the whole teaching process becomes less boring. It is indisputable that you are able to remember more when having fun.

3) Interesting content is easier to learn

This is pretty obvious. When you find something interesting and have got your heart in it, the content does seem easier. When learning through practical sources (for example, field trips, projects, and experiments) instead of conventional theoretical ones, the learning process does become comparatively easier due to more senses being triggered and thus more memory cues being created. So why not put more resources into practical teaching? When learning or doing something practically, the brain is able to interpret, process, remember and apply this information more effectively for future use.

4) Involves application and deals with real life situations

Learning about facts and theories are not really of any use unless you are aware of their application in a real life situation. For example, many students wonder about the purpose of learning how to solve trigonometry equations. However, upon further investigation, the value of trigonometry becomes apparent when applied to architecture and its related fields. So, unless you applying theoretical teachings to real life situations through practical applications, the theory simply won't hold as well in a student's memory.

5) Improves skills

Skill enhancement is also an evident result of practical education. An example of this is training and exercise, which cannot be obtained through just theoretical knowledge. Theory can provide one with plenty of expertise and proficiency but it can never deliver the kinds of results and improved skills that one can get from practical education.

6) Requires practice

Reading a lesson over and over again is of little help. However, the actual performance of activities or experiments based on these theoretical lessons will improve your learning in a significant way. This indubitably involves practice. Try reading a manual for a new language without actually speaking the language out loud, and you will see no progress. Have another go reading the manual, but this time use the language by trying to converse with other people, and you'll see the difference. It is near impossible to not improve if using the practical approach. Sitting in the corner with a book or passively listening to a lesson will bode weak results, compared to getting involved and attempting practical applications. Theoretical teaching has a far higher success rate if it is converted into practical activity.

7) Develops a better understanding

Could you have ever understood the science behind the reflection of light had you not seen a mirror? Just by reading about a phenomenon like this one, a student would struggle to interpret the lesson into a visual. This is the case, even if the theory is explained in the best manner. You need to actually see it happening in front of your eyes. Hearing it in somebody else's words is simply not enough. This concept applies to a variety of fields, from understanding the phenomenon of physics to dwelling in literature.

8) The retention of knowledge in our minds

When we are cramming for a test, our brain tends to remember the relevant information for a short time only. This period of time may be shorter than the duration of time until your test. Thus, cramming can entirely fail to serve its purpose. Despite all efforts to learn a theorem or a word-for-word explanation by heart, our brains are often guilty of forgetting something. In contrast, when undertaking practical applications such as experiments, real life projects or educational trips, the knowledge obtained and the whole learning experience tends to stay in our minds for far longer.

The choice

Everyone is different. Some people have naturally developed logical thinking abilities. Others have a powerful memory. Some are lucky enough to have both!

In order to maximize the potential of various educational techniques, students should have the opportunity to discover which methods of teaching are best suited to their learning style, and which skills they wish to be capable of.

From a self-revelation point of view, opportunities for flexibility and choice assist learners in finding passion, voice, and revelation through their work.

Learner Choice can be facilitated through: [2.10]

- Giving the learner a choice in how they want to learn content including through videos, text-based resources, podcasts, hands-on modules, or human interactions;
- Giving the learner the opportunity to show what they already know – whether they learned it from writing a

paper, from creating a multimedia presentation, or from creating a performance artwork;

- Giving the learner a choice to study topics based on their personal interests;
- Being a tour guide of learning possibilities – showing learners a range of possibilities and then getting out of the way so that they can find independently find their answer;
- Giving the learner an opportunity to use their unique voice to show what they know and what they have learned;
- Giving the learner options to use their voice in a way that works best for them. Some may want to write, some may want to use art, photos, videos, and others may want to talk;
- Helping the learner find authentic audiences with whom they can share their voice; and
- Giving the learner a say in how their school and classroom operate – being part of a democratic process.

Chapter 3 The Education Choice

Education is the best investment. Well-educated people have more opportunity to secure a good job, in turn allowing them to achieve a level of satisfaction. For this reason, many parents are keen to ensure that their children get the best possible education to prepare them for the future.

In the 21st Century, education has become a global investment market. As a result, parents find that they have the luxury of many school choices for their children. This decision is critical, as parents try to choose the right education for their children.

In this chapter, I have divided education into its four levels to discuss separately. The aim of this chapter is to help parents make the correct decision for their children.

The first all-encompassing level is the nationwide education system. Every country offers different education systems. There are major differences between Western and Eastern education systems. If parents are considering an overseas education for their children, it is essential that they know the differences between the various education systems.

The second smaller-scale level is the school. A survey showed that mid-range private schools are generally affordable for the average family in Australia. Evidence also points to an increasing number of middle class parents who are choosing private school education for their children.

The third even-narrower level is the study program undertaken at school. In Australia, some schools offer two different education programs for students to choose from. For example, in NSW, some private schools provide both the HSC and IB programs for their high school students.

The fourth and final level is the subjects or courses chosen within any of these study programs. Schools provide a large range of courses for students. For example, there are over 100 HSC courses for HSC students to choose from in year 11 and year 12 in NSW, Australia. As each student can only pick 4 to 6 of these subjects, it understandably becomes quite a challenge to select the right ones.

3.1 Western vs. Eastern Education

3.1.1 Student Involvement within Classroom Activity [3.1]

As a foundational value of the Western attitude, Westerners stress the importance of active learning, whereas for the most part, Easterners prefer passive learning. Since ancient Greek times, Western philosophers such as Aristotle, Plato and Socrates encouraged rational thinking. Contrastingly, Easterners largely obtained their knowledge directly from their teachings of religion, such as through Islam, Buddhism, Confucianism, Hinduism and Taoism. This is more of a one-way transmission of knowledge. Wherever the belief or religious teaching prepared them with rules and regulations, these were applied to their lives.

Students of the Western education appear to be more active learners in the classroom, as teaching and learning processes

are less teacher-centered and are more learner-focused. It encourages students to be active in giving and sharing ideas, in turn maximizing their role as students, and minimizing the weight on the teacher to create and monitor an effective learning and teaching activity. For instance, they are highly encouraged to think of and voice their views whenever they are involved in group discussion or carrying out the given assignment. Students are then often asked to present learned knowledge to the entire class. This enables them to develop presentation and teaching skills within the safe environment of the classroom, but also facilitates the continued use of these ongoing learning abilities outside of the classroom.

Additionally, students are also given the opportunity to demonstrate and refine their abilities to independently analyze and solve problems. Through the initial effort of teachers organizing assignments and preparing research topics for each lesson, students are given the chance to hone in research and presentation skills. In fact, the problem solving process becomes one of the bases upon which children develop their foundation for critical thinking. Thus, it can be said that educational development in the West (including the pursuit of critical analytical, problem solving and communication skills) has been integrated into the Western philosophy itself.

On the other hand, the teaching and learning process within Eastern education relies on major outcomes being delivered by the teachers. This means that teachers are fully responsible for the effectiveness of any given class. They can improve the likelihood of this effectiveness by preparing and planning all the activities for their students. In other words, students are

not required to prepare anything, as all class materials are given by the teachers. In accordance with this system, students are not required to carry out any research on the topics that are to be discussed in the next lesson; their only responsibility is to receive and comprehend content from their teachers. Additionally, students are not trained or encouraged to voice out their own individual views and perspectives. In certain cases, students are not even allowed to respond to the questions posed by the teacher as the questions by nature are rhetorical or only have one correct answer. One of the reasons why teachers are rarely implementing various innovative teaching strategies in the Eastern educational framework is due to the excessive attention on theory rather than practical learning.

3.1.2 The Ways of Teaching Process

Within the Western education, the role of the student is not only recognized but honored. Students are given rights and respect within the teaching and learning process itself. They have the freedom to take charge of their own learning. Therefore, the teacher's role is adjusted into that of a facilitator, rather than a knowledge producer. Teachers have the responsibility to help and guide students in their respective learning processes, rather than teaching them exactly what to do. In this way, students are given the opportunity to take control and determine their own learning pathways.

Furthermore, schools of Western education also support and encourage students to self-manage and control their own learning process. This is where teachers come in to lead and guide the students by giving them guidelines and suggestions

to do so. In the classroom, children undertake more responsibility in their learning process. Evaluations and assessments are then conducted to assess their capability and their ability to apply their learning to various questions. Teachers within Western education play an important role in guiding students to discover and develop their abilities, as well as their potentials.

Contrary to Western education, Eastern education holds on to the teacher role. Teachers are often the sole source of knowledge teachers inside the classroom. As such, the process of knowledge-consumption by students can be quite rigid. In this context, a good teacher must be hard working and must effectively deliver ideas and maintain good relationships with their students.

3.1.3 The Expression of Learning Process

People in the West believe that quality education structures can help build a crucial cultural foundation for societies, whereby children are raised to be open minded and to contribute ideas. They will critically evaluate ideas and concepts rather than simply memorizing them. Thus, within Western education, students learn by understanding. They do not memorize what they have learnt but rather understand what they are learning. This gives students the opportunity to understand the topic that they are learning in a deeper way. In addition, they also have more time to have group discussions with their fellow classmates and also to do some research on the topic assigned. The lifeless textbook is replaced whenever students are asked to take notes directly from the teacher's lesson and class discussion.

Nevertheless, within Eastern education, students practice the concept of memorization. This mainly focuses on book learning and rote learning within the teaching and learning process. The system of education is exam-oriented, and teachers have to rush through the textbooks to prepare students for their tests. Due to these time constraints, students tend to memorize the facts in the textbooks rather than understanding them. In addition, through repetition, the Eastern community has emphasized that scores and certificates reflect the respective ability of students. This creates healthy competition among the students, and acknowledges the effort that they have each put in to overcome any struggles and obtain a good score in their examinations.

3.1.4 Capability of Students

Western education encourages individualism and creativity. As students are given freedom to express their creativity, they are not afraid to be different or make mistakes, as Western education addresses students' mistakes positively and as a stepping-stone in the learning process.

Contrary to Western education, Eastern education emphasizes conformity. Students have more school rules to follow and the main aim of these rules is generally to produce perfect students. Eastern education prefers that students absorb good manners and provides moral support to the children in order to familiarize the children with rules. In a schooling concept, it is the teachers' responsibility to be examples or role models for the students.

3.1.5 Encouragement for Students

Western education instills the belief that providing compliments to students is important in encouraging them to excel in education. For instance, compliments are often given when students score well in their examinations. However, even when students do not do so well in their studies, compliments will also be given to them as an encouragement for them to work even harder in future. Western education believes that by providing such encouragement to the students, they will not give up easily and will continue to put extra effort into their education.

On the other hand, the Eastern education philosophy is stricter and is arguably lacking on encouragement front. Students will be criticized whenever they fail to achieve an expected result in their examination. Students are criticized because Eastern educators believe that criticizing serves as a motivator to students to work hard, concomitantly preventing students from being arrogant or lazy. However, in actuality, over-criticism can lower students' motivation, unless they have developed abilities to turn criticism into information for self-improvement. These students are also likely to be brave in the sense that they can even face various types of negative admonitions.

3.1.6 Relationship between Teachers and Students

Western education encourages student-teacher relationships to be open, so that students are willing to talk to their teachers. In this way, the teacher can refine their techniques and improve their effectiveness if students are more overt with

their responses and even feedback. Teachers in Western education are often more friendly and caring, assisting children towards success rather than insisting success upon them.

In Eastern culture, the teacher in a teacher-student relationship has more of a position of trust, in which the teacher is an authoritative figure and the student is obligated to comply with the legal directives of the adult. Teachers are meant to be respected and at times students may find themselves bearing a teacher's bad temper. In fact, teachers often act as boss figures who do not consider talking to the workers (students) a vital part of their role.

3.1.7 The Appraisal towards Western and Eastern Education

The differences between the East and West education systems come down to their fundamentally different cultures. It is my position that this indirectly exhibits the strengths and weaknesses of both cultures. Upon reviewing both philosophies, it can be seen that each has its own roots and principles. They agree that education is essential to developing and producing a qualified and superior society, however their approaches are vastly contrasting. Their agreement in education's purpose in a civil society is in one part founded on the role of knowledge as an explanatory and informatory function, but in addition, that knowledge has emerged as the primary medium for influencing, developing and shaping the zeitgeist of a nation. Starting from a human level, education can have significant influences on full societies.

As has been explained earlier, Western education emphasizes active learning, student-centeredness, meaningful learning, creativity, compliment-giving and a close teacher-student relationship. On the contrary, the features in Eastern education are totally opposite to the Western education philosophy. Despite being in their own extremes, both education philosophies provide their followers with unique advantages.

To start, Western education philosophy emphasizes active learning. This involves active participation by students in class and group discussions. Such education builds up students' confidence to speak in front of their respective classes, which results in creating outspoken and confident individuals who do not fear voicing their thoughts. Additionally, it trains students to tolerate and accept others' opinions, as well as develops their interpersonal skills as they exchange ideas with each other. In this way, students listen to each other's ideas, which lead them to also learn from their peers. On the other hand, active learning is a time-consuming process and may cause teachers to struggle to complete the teaching of the entire syllabus, although this can be combatted with the argument that giving alternative kinds of exercises to children is even more beneficial for them.

As for Eastern education, teachers are fully responsible in organizing and performing effective lessons. This philosophy implements a passive learning structure in classes. The teachers do not encourage the students to voice out in giving their opinion while the teaching and learning process is happening. This may cause students to become demotivated and lose interest in the lesson. As students have limited

opportunity to voice their thoughts through their schooling process, it is no wonder that self-consciousness and fear often hinder their confidence when speaking in public. Some even prefer to maintain their silence and refuse to speak at all. I believe that a good education philosophy requires an active process, but that this should always accompany with good time management.

Furthermore, in Western culture, most students are given the right to manage and take charge of their own learning. Such education focuses on the development of an individual's soft skills, by encouraging the students to be proactive, independent and responsible for their own learning process. However, it may be abused by both lazy teachers and students. For instance, teachers may not teach, but rather let their students explore the knowledge on their own, without any advice or guidance.

On the other hand, teachers in Eastern education are seen as "knowledge providers" and students act as "knowledge receivers". This is in contrast to the idea that learning should be student-centered and reliant on self-discovery. This situation creates challenges in the formal system for teachers who want to increase the participation of children in the learning process. As a result, students are highly dependent on teachers, less proactive, and timid to make their own decisions or generate new ideas. Nonetheless, teachers are more responsible, as they make sure their students are well-equipped with sufficient knowledge and skills in preparation for the future. In addition, Eastern education is more systematic with standardized syllabuses and timetables.

Having said this, it is necessary to acknowledge that to avoid lack of progress or spoon-feeding, neither education philosophy can be fully relied upon. I recommend a wiser approach for institutions and teachers – that being using a hybrid of the two systems based on its suitability to their situation.

From another view, Western education emphasizes understanding (meaningful learning), whilst Eastern education emphasizes memorizing (rote learning). Thus, within Eastern education, students may learn an abundance of knowledge, but they may have no idea of their learning purpose. Since their education involves pure memorizing, there is no construction of a schemata network that links their previous knowledge with new knowledge. Unable to merge their two knowledge sources, this process takes a toll on students' ability to develop the concept of knowledge and ideas in their brains. As a result, the new knowledge they obtain usually does not last long. In this sense, I believe it is obvious that meaningful learning is better than rote learning. However, just like rote learning, the issue of time-limitation in memory is not entirely avoided.

Moreover, it is extremely difficult and unwise for teachers to explain everything to students, as it may be beyond their level of understanding. For instance, a physics or mathematics formula may need certain knowledge in order for students to understand how it is derived. To avoid students from being more confused, teachers usually ask the students to memorize the formula and following that, will teach them how to apply it in problem-solving. To achieve effective teaching, teachers

have to use both methods wisely, after analyzing the existing level of the knowledge and the students' ability.

Creativity is highly encouraged in Western education. As students are given freedom to express their creativity, they are not afraid to be different or make mistakes. In fact, they develop confidence in expressing new ideas and discoveries, which may provoke objection or sneering from others. They become adventurous and gain the quality of self-discovery. Eastern culture emphasizes conformity, which stifles creative thinking. Education philosophies must help cultivate and treasure genius, which is the foundational element of any student's capacity to make new discoveries and new creations. By sticking to originality and conformity, it's hard to produce students who are genius and novel. Without these students, society reverts to empty repetition. However, Eastern students are more disciplined and have higher morality, as they often conform to rules and religious teachings. Hence, conformity builds morality, but hinders the development of a student's intellectual framework. Therefore, a good education should encourage conformity to the school's rules, but at the same time, encourage creativity in the learning process.

Besides, Western culture believes in complimenting the child to motivate them to work hard. This is a good initiative to be implemented into education systems as it helps build positive self-reception and boosts self-confidence among students. With positive self-reception, students will have more positive thoughts about themselves and the world. Once they believe that they can do it, they will work hard to achieve their goals. Due to self-fulfilling prophecies, such students will stand a

high chance to succeed in life. Nevertheless, it must be noted that frequent complimenting will decrease the effect of the compliment. When it is repeated too often, students begin to distrust the praise of teachers, seeing them as a fake method to motivate. Over-complimenting may also result in over-confidence, which is also known as arrogance. As a result, students may become lazy, thinking that they are perfect and need not work hard anymore. It is likely that due to this exact reason, Eastern culture believes in downgrading the child to motivate them to work harder. This is implemented into Eastern education, where the teacher criticizes their students when they are wrong but seldom praises them when they do something right. The intention is to give the students the belief that they are not good enough and must work harder. However, such an act will also cause students to have negative self-reception, which often results in them having inferiority complexes. Students may become demotivated, not interested and even rebellious. Thus, a teacher plays an important role in deciding the suitability of giving compliments and criticisms, as it will directly affect the development of an individual.

Furthermore, in Western society, students often have a good rapport with their teachers. This is highly encouraged, as a trusting relationship between teacher and student minimizes antagonism and maximizes mutual understanding. The more intimate the relationship between teachers and students, the more intense the commitment of the participants to the project of learning. Good interpersonal relationships will influence students' learning outcomes and enhance the quality of learning. Thus, teachers should treat students as friends and

show their love and concern, which will cause students to love them in return. However, a possible drawback to this is that Western students may not learn how to adequately respect their teachers. As they see everyone as friends, not practicing the levels of respect upheld by Eastern traditions, this may lead to a lack of knowledge on social etiquette, which could be jarring when they speak to adults or the elderly. For instance, some Western students have no qualms calling their teachers, parents and elderly relations by their first names. While this demonstrates friendliness, it can also be interpreted as impolite. Unlike these Western norms, there is a large power gap between Eastern teachers and their students. More often than not, students are afraid to ask questions or even interact with teachers. As a result, teachers lose access to students' minds and feelings, forcing them to become ignorant to the problems faced by their students. These problems can range from academic to emotional. Thus, teachers in the Eastern education systems should consider changing the way that they deal with their students, to widen communication streams and build more friendly rapports.

In conclusion, the Western and Eastern education systems each have their own positives and negatives. They sit on either sides of the spectrum, conflicting on core issues like the role of the teacher, discipline, and power boundaries. However, as both have benefits as well as drawbacks, neither can be considered entirely better than the other. Both approaches should be analyzed and applied to classrooms in hybrid moderation. Moderation is the key to success.

3.2 Private vs. Public School

The core difference between private and public schools is their ownership.[3.2] The private schools, inclusive of independent schools, are privately owned and operated while public schools are managed through the Australian government education system. This causes them to have several major differences.

The cost

This is the deciding factor for many parents. Private schools are much more expensive with tuition alone typically costing well over $10,000 per year throughout high school. At public schools, however, tuition will generally only cost a few hundred dollars per year. Even the least exclusive private schools still cost several times as much as public schools. If you are unable or not prepared to spend this much on a private school then the decision is easy and you can start looking for the top scoring public schools in your area. If you're still unsure, then you should also examine the other costs. Other than tuition, here are some of the other expenses to consider when deciding between public and private schools:

School essentials: The cost of textbooks, stationery, laptops and other school supplies can add up. You will typically be spending more on these options at private schools, particularly when purchased through the institution, and more of them may be mandatory for students. Many private school parents are caught off guard by these costs and do not budget for them. At public schools there will still be school essentials expenses, but they are generally much more manageable.

School uniforms: Some public schools do not require their students to wear uniforms. When they do, the uniforms are usually quite basic, practical and cost-effective. Meanwhile, at private schools there will almost always be uniforms and they may be much more expensive and elaborate. A single private school uniform blazer can cost upwards of $200, not including dry cleaning costs over the years.

Tours and excursions: Private schools usually have many excursions and field trips for their students, both to local areas and more far-flung overseas destinations which involve airfare and accommodation costs. Public schools have excursions too, but they are usually inexpensive, optional and affordable.

When comparing the cost of education at private school versus public school, it is worth bearing in mind that tuition costs are just the beginning. Private schools usually involve more numerous and more expensive financial commitments in all areas for the entirety of your child's education.

The Facilities

Both public and private schools can have a wide range of differences in facilities available to students. There are no hard and fast rules here, as some public schools might have excellent facilities which other private schools lack. Overall however, private schools typically offer better facilities, while public schools need to rely on limited government funding to provide for students. If your child has a particular interest or talent you might want to look for a school with the facilities to properly cultivate it.

Libraries: Better school libraries will likely have more computers to use, stay open longer outside of school hours, and have a better range of books and more permanent staff to help your children.

Laboratory facilities: Is your child keen on science? Private schools are more likely to have modern laboratory facilities and additional equipment to assist students with a passion to excel.

Sporting and athletic facilities: Private schools typically have more sporting facilities than public schools and can accommodate a wider range of athletic interests.

Music rooms: It's a popular interest, but there often aren't enough facilities to go around. Private schools are more likely to have multiple dedicated music rooms, more instruments and even specialized extracurricular ensembles.

Art: Private schools are more likely to have a wider range of accessible art supplies and extracurricular activities to foster a student's interest in art.

Classroom quality: Does the heating and air conditioning work? Do the desks rattle and the chairs fall apart? Private schools are generally more likely to have newer and nicer classrooms to facilitate learning.

The admissions process

The admission process in public schools is simple and straightforward. If you live within the vicinity of a particular public school, they may be required to grant admission to

your child upon fulfillment of some basic entry criteria, such as proof of address, child's age and their current level of education. Note that you're not automatically guaranteed a place at the nearest school to you, so apply early.

Private schools, on the other hand, are allowed to be much more demanding. Many private schools will interview both the prospective student and the parents for suitability and "fit" before accepting them.

Private schools may require potential students to sit exams and tests prior to entry. Selective public schools will also do this.

Private schools are allowed to differentiate between students on the basis of their ethnic and religious backgrounds, such as in the case of a dedicated French-speaking school, or a Catholic private school. Public schools are not allowed to do this and cannot turn away students on these grounds.

Being able to afford the high cost of a private school is no guarantee of admission.

Class size

The class size is the average number of students per teacher. Private schools typically have significantly fewer students per class, and more teachers overall. Since public schools are often governed by state laws, they cannot generally refuse admission to students within their district, so over time they may have more students without any corresponding increase in funding. Private schools, however, may be as restrictive as they like to keep numbers down. This is one of the reasons

many parents will put their children on private school "waiting lists" years in advance to secure a place.

Smaller class sizes mean students tend to get more individual attention at private schools. Private school teachers generally get to know students better and can more easily identify particular areas of improvement.

Private schools are generally more likely to have specialized teachers and coaches, such as singing teachers, football coaches and computing teachers, while public schools are more likely to have teachers working outside of their specialty area.

Teaching and curriculum

Public schools are required to follow specific state guidelines and the defined curriculum, while private schools have more freedom to create their own courses and curricula as long as it meets certain standards. Whether or not this results in a higher standard of education will differ from school to school.

Some private schools may offer specialized curricula for students to excel at HSC or International Baccalaureate (IB) testing.

Private schools may go beyond the state curriculum by offering extra classes such as religious education, multiple languages and similar programs, while public schools rarely will.

Religious education

Some parents might like their children to get a religious education during their time at school. While this is not typically available as a core part of public school curricula, many private schools around Australia are affiliated with specific religions. Catholic private schools are relatively common in Australia.

You can find private schools which have integrated varying levels of religiosity into their curricula. For example, some might have a chaplain and offer occasional optional church services, while others might have mandatory prayer sessions every day and intense religious instruction.

Selective schools

Selective schools are institutions which require all students to pass entry exams before enrolment. Their goal is to cater to particularly gifted and talented students who achieve great outcomes in the classroom. Consequently, they typically achieve outstanding academic results. There are both public and private selective schools, each with their own entry requirements.

Gaining admission to a selective school usually requires a student to be unusually gifted or hardworking. Public selective schools can be a good way to achieve a very high standard of education at standard public school prices. Private selective schools will generally have fees comparable to other private schools.

Many selective schools will be outstanding in particular areas, such as mathematics or languages. However, not all areas of Australia have public selective schools.

Scholarships

Scholarships are only offered by private schools, not public schools. Scholarships may be awarded to particularly outstanding students by the school and various organizations. These might partially or entirely cover a certain number of years of tuition costs, and can also include funds for uniforms and school supplies. Usually they will partially cover tuition and not include any extras, as they are often intended to help parents and children decide on one private school over another.

3.3 IB Diploma vs. NSW HSC

The core difference between IB Diploma and NSW HSC is their respective standards.[3.3] The IB Diploma is measured against international standards while the NSW HSC is measured against state wide standards. This makes them very different in the following ways.

Course structure

IB Diploma has the following features:

- 6 academic subjects studied over two years
- Theory of Knowledge (TOK)
- Extended Essay (EE)
- Creativity, Action and Service (CAS), with a minimum 150 hours

- Mandatory studies in a native language, a second language, individuals and societies, science and mathematics

NSW HSC has the following features:

- Year 11 Preliminary Course: subjects studied to the value of a minimum of 12 units and preferably 13 units
- Year 12 HSC Course: a minimum of 4 subjects, representing a minimum of 10 units with mandatory study in English, though 11 or 12 units are preferable

Styles of learning

IB Diploma:

- Critical and high order thinking and analytical skills
- University level essay writing skills
- International in outlook and focus
- Encourages inter-cultural understanding
- TOK threads run through all academic subjects
- Opportunity in the EE for in-depth research beyond the confines of the syllabus
- 3 subjects studied at Higher Level and 3 at Standard Level;
- Co-operative learning through the Group 4 project
- Immersion second language study
- Prepares students very well for the demands of university study

NSW HSC:

- Opportunity to narrow the focus of academic study

- Opportunity to explore strengths and interests via the extension courses in Mathematics, History, Music and Continuers languages
- Foundation preliminary course in Year 11
- The examinable course content/assessment in Year 12 allows for the development and application of skills and the development of individual maturity
- Opportunity to study more than one subject in the Arts
- Opportunity to study vocational subjects
- No mandatory study of a foreign language, science or mathematics

Method of assessment

IB Diploma:

- Up to 35% Internally and 80% Externally assessed components across all academic subjects
- Internal assessments either integrated into the teaching programme or completed by mid-Term 3 Year 12
- Wide range of types of internal assessment which are internally marked and externally moderated
- Oral presentations in all languages and TOK
- TOK essay and EE completed at the end of Term 2 or early Term 3 of Year 12 to allow for maturity and experience to be incorporated into the finished works
- All subjects contribute equally to the final Diploma score allowing for a true measure of academic achievement
- Criterion referenced assessment with performance measured against well-defined levels of achievement

consistent from one examination session to the next and applied equally to all schools
- Graded on a 45 point scale, minimum requirement of 24 points for award of Diploma, subject to additional regulations

NSW HSC:

- 50% School Based and 50% Final Examination in all subjects
- The school based assessments are spread across Year 12 and encompass a wide range of types of assessment in every subject
- Oral/aural assessments in continuer and beginners languages
- Independent studies are required in most subjects
- All subjects contribute equally according to their unit value to the NSW HSC credential
- Final marks in each subject are standards referenced against defined levels of achievement consistent from one examination session to the next and applied equally to all schools
- The NSW HSC credential is achieved by all candidates who have met the basic course requirements in and have satisfactorily completed at least 10 units of study including 2 units of English

Student requirements

IB Diploma:

- Likes to be challenged and to question

- Willing to participate and become an active learner
- Willing to develop independent learning, good time management and organizational skills
- Willing to develop as a well-rounded individual and an engaged citizen of a multicultural world

NSW HSC:

- Willing to follow the prescribed course of study with diligence and sustained effort
- Willing to develop independent learning, good time management and organizational skills

University entry

IB Diploma:

- IB Diploma score of 24-45 converted to an ATAR for entry to NSW universities, a scale between 70.00 and 99.95
- Provides direct and recognized entry to universities worldwide including Australia.

NSW HSC:

- Scaled by UAC so that the best 2 scaled units in English and the best 8 scaled units in a student's remaining subjects are combined to calculate the ATAR, a scale with a minimum of 0 and a maximum of 99.95
- Provides direct access to Australian universities and recognized entry to many universities worldwide

In general, the IB requires harder work from students compared to the NSW HSC. Considering the amount of study time required and the sheer mass of content over the two year IB course, the study requirements are nearly double the amount required by the NSW HSC. However, the reward is really high. In 2015, one in 30 IB students in NSW received the perfect score of 45, which translates to the top ATAR of 99.95, while only one per thousand HSC students received a perfect ATAR score of 99.95.

3.4 The Subject Selection

There are two major educational decisions you have to make while at school.[3.4] The first concerns your career choices. The second will be the subjects you choose to support these career choices. These decisions are very important as they affect the type of job or tertiary study you can pursue when you leave school. Your course selections also directly affect your happiness and success while at school.

3.4.1 Rules

The golden rules of subject choice are:

- Choose what you are good at
- Choose what gives you skills, knowledge, and attitudes which are useful in your life
- Choose what interests you
- Choose the subjects you really *need* to have completed for further study at the tertiary level or for your future career

This may sound easy but it should involve a lot of thought, discussion, and research. You need to find out about the

different types of subjects and, in many cases, think further about career choices. Never assume you know all about a subject at a higher year level because you have not done that subject before.

3.4.2 Choosing for the wrong reasons

Many students choose subjects for the wrong reasons and as a result are not happy at school or can't follow their career choice later. Do not take (or avoid) a subject simply because:

- One other person says it is a good or bad subject
- Your friends are, or are not taking it
- You think it is easy or difficult
- You like or dislike the teacher
- Everyone else seems to be taking the subject

3.4.3 Choosing your subjects

Think about careers

Some schools or organizations run career or education planning programs which will provide you with some ideas for career choices. If there is no such program in your school, you have to do a bit of research and discuss it with your teacher/s and parents. It is better to consider a few careers, not just one. Try to choose courses that will keep your career options open, unless you have a particular passion.

Be realistic

Remember, however, that there is no point in taking subjects for particular careers if those career choices are completely

unrealistic. Similarly, avoid subjects you find too hard. If you really need to do a subject just so you are prepared for a course at University, but you don't like that subject or do not do well at it, you should reconsider your tertiary choice first.

Check prerequisites

Be aware of these important distinctions: some subjects are essential for further careers; others are not essential but are still highly recommended; others are useful because they give a general background or involve some of the same skills. Please note that many subjects cannot be taken up for the first time if they don't meet the pre-requisites, so having a good understanding of the pre-requisites is vital in selecting your subjects.

Make a table or list

Make a table for all subjects you are contemplating selecting. Then, for each subject, list your strengths, areas you need to work on and opportunities open to you. This table will help you make decisions and also you can use it as a reference point when you discuss your choice with your teacher/s and parents.

Do not be afraid to ask

Remember that your choice of career is only one of the aspects to consider when choosing subjects. Don't avoid subjects just because they are not related to your chosen career. Good performance in any subject will improve your results and help you gain employment.

If you need more help then seek it. Talk to your parents, your teacher/s, or school Officer.

3.5 An additional consideration

As discussed above, there are many differences between education systems, schools, programs and subjects. Consequently, it is a real challenge to make the right choice on every level of education. To ease this process, I recommend thinking about it successively from the top level downwards.

3.5.1 Globalization

Education is undergoing constant change under the effects of globalization. The effects of globalization on education include:

- Combining education systems, taking the best traits from each and learning effective methods from different systems
- Bringing rapid developments in technology and communications which are foreseeing changes within learning systems across the world as ideas, values and knowledge
- Changing the roles of students and teachers
- Producing a shift in society from industrialization towards an information-based society

We can see the trends in the following areas:

- There are more and more overseas study and performance opportunities. Students have increased chances go overseas to study or holiday.
- More and more students study in different countries during their study paths due to increased migration and exchange opportunities.
- More and more international schools have been established.
- More and more languages are available for students to choose in school.
- "International Studies" has become a popular course at some universities.

The benefits of overseas study include:

- Getting to experience life in another country: This allows you to experience what it is like to live and learn in another country, which, for many, is an eye-opening, once-in-a-lifetime experience.
- Language skills: It provides an opportunity for students to immerse themselves in another language and develop their skills in a foreign study environment.
- Educational benefits: It enables you to add to the knowledge that you are learning in a different cultural context.
- Career benefits: The skills, attributes, international experience and new cultural perspectives that you will gain studying overseas will look great to future employers locally and internationally. It will serve you well in many aspects of your life.

3.5.2 School Information

During school selection, it's a good idea to do some research into various school that might interest you. In particular, you may wish to compare the quality of education offered by different schools, or look at how results vary between public and private schools.

In Australia, there is a very easy way to do this. Use the Australian government *My School* website to check the details of individual institutions. This website provides information about schools including:

- Number of students
- Number of teachers
- Its financial situation
- Student backgrounds
- Average attendance
- Graduation rates

It also provides detailed NAPLAN results for every school. This refers to the National Assessment Program - Literacy and Numeracy, an annual test taken by all students in years 3, 5, 7 and 9. It assesses essential core skills including reading, writing and mathematics. To compare public and private schools by their NAPLAN results, simply select the institution you want to look at on the *My Schools* website, and then select the NAPLAN option. This shows you exactly how well students at that school performed, and how much better or worse it is than the average results for similar schools, giving you a comparative overview of all schools Australia-wide.

3.5.3 School Program

The IB is recommended for all-rounded students, as it requires picking subjects from six groups which covers a significantly wide range of the curriculum. In contrast, HSC students can benefit by just choose their strongest disciplines.

IB also has a few "extra" subjects, including TOK (Theory of Knowledge) and CAS (Creativity, Action, Service). You must present a TOK essay and have completed a set number of CAS hours by the end of the IB. On top of this, there is an EE (Extended Essay) due at the end of the year, which can be written in any subject but must be 4000 words. In contrast, the HSC is entirely core subject based.

There are a couple advantages of the IB that benefit students during their study:

- It is not rankings based. There is no competition between students. Hence, students are more inclined to study in groups and help each other.
- The results are presented in grades (1 to 7), rather than specific marks out of 100. Grade 7 (the highest grade) can be achieved by obtaining approximately 80% or above in marks, although this exact figure changes depending on the subject. That means that you don't have to be perfect to get the top score. This is really helpful for all-rounded students to achieve the highest mark possible.

3.5.4 Subject Selection

In the HSC, students in Year 11 normally take on around 12 or 13 units worth of subjects. They undertake more subjects than necessary to complete the HSC requirements, so that they have the flexibility to drop a subject or two that they don't enjoy or are not excelling at. Students are known to drop subjects closer to Year 12 or during Year 12.

For the IB, students must do 3 Higher Level (HL) subjects and 3 Standard Level (SL) subjects. It is suggested that Year 11 students choose 4 Higher Level (HL) subjects instead 3. This way, students can drop one HL subject to SL in Year 12.

In my experience, I have noticed that students that drop from HL to SL normally do very well on the standard level, as they enter SL with broadened knowledge. Many students use this tip to secure the top mark in their subject.

3.6 In conclusion

The rapid expansion of educational opportunities may cause parents to become anxious when trying to find the best fit for their children. The growth in choice has been both a benefit and a challenge. Hence, this books aims to ease the decision making process, acknowledging how critical it is for students and parents to make the right choice.

Whilst it is a positive step for parents to do all the research and make sure that the choices are a good fit for your children, however, this does not guarantee good study results. A highly reputable school can provide a good education environment

and adequate support, but students must work hard to take the advantage of it.

Chapter 4 The MASTER

A good study method (also considered a model, skill, guide or strategy) is critical to success in school. Its applicable is essential for acquiring good grades, and is continually useful for learning throughout one's life.

To be a successful student, one requires desire, dedication and a lot of hard work. If you want to be successful in school and have effective self-study skills for your future, the “MASTER” is a powerful study method to help you achieve your goals.

MASTER is a mnemonic acronym, listing all key components necessary for effective self-study.

- “M” stands for “Management”
- “A” stands for “Attitudes”
- “S” stands for “Skills”
- “T” stands for “Technology”
- “E” stands for “Effort”
- “R” stands for “Review”

In English, the word ‘master’ means someone who has acquired a complete set of knowledge or skills, and has gained control of it. This exactly reflects the aim of the MASTER study model. The relationship between the acronym and the meaning of the word should make it easier to remember.

There are many great study methods around the world, but they are each dispersed and non-centralized. It is not easy for

students to manage and apply them systematically and consistently.

MASTER absorbed nutrition from many existing models, skills, guides and strategies. It centralized a range of study methods into six easy-to-follow components, which will help students manage their study more effectively.

Since education has moved to student-centered learning, training oneself in study skills has gradually become as important as learning the knowledge itself. MASTER can be used as a training guide for students to improve their self-study abilities, adequately preparing them for a lifetime of learning.

The best way to learn the MASTER is:

- Always remember that the six MASTER components are bound together and must be used together
- Practice and practice, as often as you can
- Keep trying to improve, no matter how small or slow your steps forward may seem
- Try to turn your application of MASTER into a habit

4.1 Management

Success in school does not just come down to how much a student studies. In fact, what's more important is how students go about getting their work done and completed on time. It is crucial that students develop skills in self-discipline and improve their ability to manage their things, tasks and time.

As kids grow, they become more independent managers of their things and their time. This is undeniably an important life skill. However, school curriculums barely touch on management skills, compared to the academic element.

Why is so important to talk about management now?

In the old days, education was primarily teacher-centered; study and knowledge-acquisition was entirely managed by teachers and the school. Students needed only to follow what their teacher told them to do. I consider that type of study 'passive study'.

In modern times, education is moving from teacher-centered to student-centered. Students and parents are now given lots of freedom to choose different ways of studying:

- There are different types of schools to select, such as private, religious, public or selective schools.
- There are different study programs to choose, such as the HSC (Higher School Certificate) and IB (International Baccalaureate).
- There are different subjects to select. Within just NSW, there are hundreds of subjects to choose from.

- Within subjects, there are different levels to choose from. For example, there are 4 levels of HSC Mathematics.
- There are different futures to select, such as between different universities, careers and alternative goals.

Once school finishes, there is even more freedom for parents and students to do what they would like to do. However, these freedoms do not come at no cost. Students and parents have to take more responsibility for their choices. They have to be highly involved in the management of their study program and study time. I call this type of study ‘active study’.

Currently, no one knows exactly future education looks like. However, there has been a few identified trends, such as the curriculum being more transparent for parents and students, study programs being more flexible to suit different individual needs, and teachers being less dominating in study processes, playing a more coordinator or mentor role.

The responsibility of success in studying has slowly been shifting from schools and teachers, to parents and students.

When students do not perform well in the school, some students and parents still blame the school or the teachers. These parties are evidently unaware of the shift of study responsibilities. To prevail in this changing time, students have to cope with this change, and actively take more responsibility for their study. It is no longer merely the teacher’s problem or the school’s fault.

Therefore, developing management skills is becoming an integral component of a student’s success in study.

Here are some management skills that students can use to improve their chances of success in school, and later on in life.

4.1.1 Getting Organized

The first step of study management is to get organized, which sets up a good environment for study. Let me share three quotes about organizing:

- "For every minute spent organizing, an hour is earned." – Benjamin Franklin. This shows that organizing is far from a time-waster, and that it is in actuality a big time saver.
- "Organizing is a journey, not a destination." – Anonymous. This should inspire us to treat organizing as a continuous action, and to keep doing it regularly.
- "The only difference between a mob and a trained army is organization." – Calvin Coolidge. This emphasizes the power and value of organizing.

There are many ways to organize things, such as putting things in order, simplifying processes, and removing things that you don't use, just to name a few.

Students are encouraged to organize study-related things, such as:

- Study materials, such as textbooks, notes, projects, pencil cases, calculators, and bags: You should consider what you need to bring to school, and what you need to bring back.

- Study places: Students should set up a proper study place and desk. It is not good practice to study on a bed.
- Study time: Allocate and control proper time to study. It's not healthy to study too late into the night.

4.1.1.1 Create a Study Zone

It is important to create a study space that promotes focus.

Multi-tasking is a myth. You get more done when focusing on one task at a time. It is simply smarter to minimize the amount of time it takes to get your head into the correct study mentality for each topic.

Create a study environment that promotes focus for your child. Some students prefer to study in silence, while others focus better with music in the background. Some kids will be able to sit and work independently whereas others will need gentle reminders to go back to their work.

If your child isn't completing homework in an appropriate amount of time, re-examine and adjust his or her working environment.

4.1.1.2 Choose the Right Study Materials and Tools

It is very important to choose the right textbook and reference book for each subject. If you don't know which book to choose, discuss it with the teacher.

As humans, we use a mixture of visual, auditory and kinesthetic approaches to learn, and likely have a preference for one over the others. Intuitive-to-use touch screens are

appealing to young users, especially those with a preference for kinesthetic learning. Learning can take place more quickly if the teaching methods and tools suit how the student likes to learn.

It is getting popular for students to use calculators, computer and internet study programs in school and at home. There are many internet study programs that are well designed, and specifically appropriate for different age students. Lots of school teachers are starting to use these programs to assign homework for students. Therefore, schools must be active in keep these tools and their computer systems updated. Internet usage should be considered in this algorithm.

There are many exam preparation books in book shops. This makes it difficult to choose one. Here, it's a good idea to check online, such as through online blogs, for comments and recommendations from past or senior students.

4.1.1.3 Sort Things in Order

Edmund Burke once said, "Good order is the foundation of all things."

For example, when we go to the supermarket, we can see that all items are put on the shelf in a specific order, with similar items groups together. This way, customers can quickly and easily find what they want from thousands of goods. Without order, it would be an impossible task.

Many students spend lots of time packing their school bags as they find it difficult to find the particular textbook, or set of notes and papers that they will use on a specific day. Despite

trying to be organized, they may still miss or forget something. I recommend keeping things in good order so that you may increase efficiency and save time when packing your bag.

A.A. Milne said, "Organizing is what you do before you do something, so that when you do it, it is not all mixed up." In a studying context, putting study tasks in order will significantly improve a student's ability to complete homework and assignments efficiently. This way, one can ensure that their tasks are under control, so that they know what to do next.

The skill of ordering is an important skill for students to learn and practice. Not only does it assist one's study efficiency, but it also benefits most other aspects in one's life.

4.1.1.4 Maintain Simplicity

Mother Teresa said, "The more you have, the more you are occupied… but the less you have, the more free you are." If you are looking at student bedrooms, you will find that some of them are really messy, with things thrown all over the floor, making it hard to even put a foot in. Without good organizational skills, it appears that those with more things are messier.

Mies Van Der Rohe correctly said, "Less is more." Maintaining simplicity will not only give us more space, but will also create more free time for us. Having less means our life clutter will be easier to control and manage.

For the things around you that you don't use or need, let it go. It's a good habit to regularly remove these clutters.

4.1.2 Set Goals

Bill Copeland said, “The trouble with not having a goal is that you can spend your life running up and down the field and never score.” This quote demonstrates that we can achieve very little without setting goals.

4.1.2.1 The importance of goal setting

It is crucial to understand the importance of goal setting. The following three reasons help with this understanding: [4.1.1]

1) Goals motivate you to move forwards

Having a goal written down with a set date for accomplishment gives you something to plan and work for. A written goal is an external representation of your inner desires; it’s a constant reminder of what you need to accomplish.

Having goals that you can focus on and visualize helps you better connect yourself with your inner desires, and give you the motivational energy. However, the focus, desire and energy will inevitably to wane after a period. You need to work through that period.

2) Goals transform mountains into walkable steps

Most of us have big dreams that seem impossible to accomplish. It is easy to feel discouraged when you’re starting at a massive, seemingly insurmountable mountain.
Proper goal setting can help break larger, intimidating aspirations into smaller, more achievable stepping stones. Planning towards smaller goals not only makes it easier to

formulate a definite plan of action that can be worked on right away, but in addition, hitting smaller milestones generates satisfaction which provides real motivation and greater contentment.

3) Goals can increase our self-confidence

Setting goals for yourself is a way to fuel your ambition. Goal setting isn't just about creating a plan for your life and holding yourself accountable, it is also giving you the inspiration necessary to aim for things you never thought were possible. Every day, as you work towards achieving the goal and see yourself slowly making progress, you will gradually build up the confidence to accomplish the goal if you lacked it before.

4.1.2.2 How to set a study goal

There are three types of goals that need to be setup. They are long-term goals, middle-term goals and short-term goals.

The long-term goal is a goal which could take a few years or longer to accomplish. These goals can include what you want to be, what job you want to do, or what university or school you want to go to for the next stage of your education.

To be able to achieve that long-term goal, you have to work out what tasks you need to do in the next few months, the next academic term, or over the next year. We called those tasks middle-term goals.

Next, you have to break down the middle-term goals into specific and clear tasks, which can be measured to take action on. These are called short-term goals.

The “7 Habits of Highly Effective Teens” is a good book for reference. There is a chapter entitled “Begin with the End in Mind” which discusses how to set up goals in detail.

4.1.3 Manage your time (Create a Study Plan)

Antoine de Saint-Exupéry once said, “A goal without a plan is just a wish.” Winston Churchill also said, “Fail to plan, plan to fail”. These quotes highlight the importance of planning.

Planning can be used for everything we do. In this section, we will discuss study plans in more detail.

A study plan is an organized schedule that students can create to outline study times and learning goals. Similar to work or school schedules, students can develop a study schedule where they can block off days and times in their calendar dedicated to studying.

Creating a study plan not only helps you become more organized, but it also holds you accountable for your own learning outcomes.

In school, it is common for teachers to constantly remind students about what they need to do. When students depend on their teacher’s reminders, they become passive. They don’t take ownership of their own study, and may carelessly

complete the homework. In this way, study time and time invested into homework could be wasted.

Creating your own study plan is the first step in owning your study. Once you have the self-discipline and determination to complete your studies, encouraged through the reminders from your study plan rather through the teacher, you switch from a passive to an active learner.

4.1.3.1 Benefits of study plan

A study plan is an effective way to help you navigate through your study in an organized way. There are four benefits: [4.1.2]

1) Your stress levels will stay even throughout the study

There are many assignments, projects and term tests, half yearly and yearly exams during a study year. Many students experience a spike in stress level when assignment due dates and exams come closer. Those spikes can really hurt a student's emotional, mental and physical wellbeing. Planning your study can even out those stress spikes and help you stay sane all year.

2) Your study results will end up being higher

With good planning, you can ensure that you cover all your study content, without missing things. You will also better understand the requirements and test scope, so that you're processing information with a greater picture in mind. You can also prepare and revise the different sections of content

equally. All these factors will help you produce positive study results.

3) You will end up spending less total time

More study sessions of less time are much better for you than fewer long study sessions. That's right. The three-hour cram session isn't as helpful as you think it is. In fact, if you spread two hours of studying out over three days, you would likely be in better shape than if you spent three hours on one day. Yes, you can get an hour of your time back by just spreading out those study sessions.

4) You can work on your schedule — and play on your schedule

Don't let your homework define your schedule. Define your schedule and put your homework where you want it. In this way, you totally control your study.

4.1.3.2 How to make a study plan

Every student will develop a different study plan, as there is no correct study plan that applies perfectly to everyone.[4.1.3] When creating your personalized study plan, you will need to do some self-evaluation of your current schedule and time management. Find days when you have fewer personal commitments when you can squeeze some study time. Remember, each student studies differently, so the amount of time you need to study will differ from the time your classmates devote to studying. Some students find that studying nightly for thirty minutes is more realistic than

studying a few times a week for a longer period of time, but that may be different to other students.

You'll have to identify your learning goals for each study session in order to maximize these scheduled study times. Determine why you are studying, and develop a plan that can help you achieve those goals. Take into consideration upcoming tests, your average in certain courses, and projects that you anticipate will take more time than others.

Lastly, create a study plan that is reasonable. Although you must set aside enough time in your schedule dedicated to your studies, blocking off five hours with no break will set you up for failure. You can spend less time studying if you do it correctly. For a detailed look at how to make a personalized study plan, explore the step-by-step instructions below.

Use these three steps to create your study plan:

Step 1: Create a time chart of your current activities.
Creating a time chart will allow you to see how you spend your time from day to day. For a one-week period, take notes about your daily activities. Record things like when you are school, casual jobs, after school activities, or home with family. Even note when you eat and sleep. Once you have done this for a week, look for times that you can slip in an hour of dedicated studying. This chart can be helpful for determining days and times that are consistent each week that you can devote to studying.

Step 2: Develop a schedule

Now that you have determined available days and times for studying, make a mark in your diary, planner or calendar. Use detailed notes to block out times on your calendar so that you are reminded every time you look at it. It is best to have a schedule written down so you don't forget. Seeing it written down can make it seem more important. Also, it is helpful to write down which subject you plan to study, so you can be sure to devote enough time to each of your classes. For example, Mondays and Thursdays can be set aside for studying math, while Tuesdays and Fridays can be devoted to English.

Step 3: Determine your study goals

At the beginning of each week, month, term or year, determine why you need to study and what you plan to accomplish in each class. Do you want to raise your average in order to maintain in a particular class or promoted to a higher class? Are you preparing for a test or a big exam? For example, if you are studying for an important half yearly or yearly exam, alter your study plan a few weeks or months prior to the test to incorporate review of old tests and notes in your sessions. On the other hand, when you don't have an upcoming test, use your study time to read ahead one chapter in order to grasp the next lessons. You will need to tailor your study plan depending on your weekly goals, so be sure to analyze what you plan to get out of each study session. While it is tempting to skip your study session when there isn't a test looming over your head, you will reduce your future test preparation time by reading ahead and preparing for lessons.

4.1.3.3 Use the right time-management tools

To effectively manage time, it's important to have the right tools at hand. These include clocks, watches, timers and of course, calendars.

For younger kids, planners or school-issued agendas can be effective. Encourage them to look at the month view which helps make time less abstract. For older kids, a calendar application on their computer (with the necessary view-by-week and by-month), which syncs with their smartphone, is a convenient choice.

It is good practice to schedule time for homework in the calendar. Most school calendars are used to record due dates or appointments, leaving large swaths of time unallocated. This gives a misleading sense of how much time is available to use for schoolwork, play and other responsibilities.

In your calendar, ensure that you don't set tasks too big or too long. If you have, try to break it down into pieces of work that can fit into 30- to 90-minute blocks of time, and schedule these in the calendar instead.

4.1.4 Manage Actions (Commit)

Without action, plans are just pieces of paper, and goals just become dreams. A study plan works best if it is followed on a consistent basis. You should try to develop a study plan that you can follow for the length of each term of school. Since most students enroll in different classes each term, you will

have to reevaluate your plan and fine-tune it each term. Remember, the most important thing is sticking to your plan.

4.1.4.1 Take action

One way to ensure you follow through with your plan is to schedule time for other activities. By achieving a balanced schedule, your mind will be more receptive during time devoted to studying. If you schedule several long days in a row of studying, you will get discouraged and will be tempted to give up. It is acceptable and recommended that you schedule time for nonacademic activities, such as exercise, hobbies, and socializing with other students. When you are studying, remember to take breaks in order to prevent feeling overwhelmed.

Some students find it helpful to find a study partner. Studying with a classmate allows for collaboration and discussion. When creating your study plan, check with other students in your class to determine if you can coordinate study sessions. However, if you tend to socialize more than study when you are around others, stick to an independent study plan. If you do choose to study with a partner, choose someone with whom you are likely to stay on task.

4.1.4.2 Problem of procrastination

Some students always procrastinate when doing things. There are few reasons why this happens, such as not feeling ready, being scared of the results, lacking confidence in their abilities, or wanting to be perfect.

To overcome the problem of procrastination, one should take action as soon as possible. It is similar to the principle behind walking – starting from where you are, you can only move forwards by taking one step forward, and then another one.

1) Make a start

C.J. Hayden, MCC once said, "You will never be completely ready. Start from wherever you are." Another quote from an anonymous author pointed out that "The best way to get something done is to begin."

It is necessary to get started as soon as possible. To have all the resources and conditions perfectly ready before you begin a task is potentially too idealistic. In most cases, you have to keep improving the conditions yourself as you progress through your task.

2) Step by step

Lao Tzu said, "The journey of a thousand miles begins with one step". The message is similar to John Wanamaker's, in his quote, "One may walk over the highest mountain one step at a time."

When planning, it is more efficient to break a large job into smaller tasks. This is because in reality, achieving small steps gradually and accumulating all your effort to complete the task is a sure way to ensure the task gets completed.

4.1.5 Managing Change

A student's lifetime is a process of growth. Change is common. If a student doesn't handle change well, it could potentially cause a lot of problems.

4.1.5.1 Change

At school, students are often faced with change. This will come in the form of lessons, different teachers, new work groups, new academic skills and tasks, fluid social group dynamics, new sporting or creative challenges – and so on.

Within the wider society, they are likely to see industries reshaped, medical advancements, and huge changes to technology.

4.1.5.2 Resilience and Adaptation

To navigate this ever-shifting world, young people need to be resilient and adaptable.

Resilience refers to an individual's capacity to deal with adversity, while adaptability refers to their capacity to respond to uncertainty, change, and novelty.

There are three parts to adaptability: behavioral, cognitive, and emotional.

The behavioral part involves adjusting one's actions or behavior in response to uncertainty and novelty, the cognitive

involves adjusting one's thinking, and the emotional involves adjusting one's positive and negative emotions.

4.1.5.3 Effective management

There are 2 steps that will help students manage change more effectively:

1) Be aware of the changes

At each educational institute, there is a fully developed curriculum and syllabus available for students and parents to access. At parent-teacher meetings, parents can also ask for class activity agendas. Some of these are even published on school websites. Another useful source of information is student peers in higher grades who have done the programs.

2) Prepare plan or action for those changes

Once you are aware of any changes that are due to happen, you can prepare for them. Students can prepare to delegate some time, and if required, parents can prepare for budget changes too. Some study materials may need to be purchased beforehand. These can include textbooks, calculators, and laptops. There are some arrangements that may need to be organized further in advance, such as group activities, coaching, and tutoring.

4.1.6 Manage Stress

Stress is defined as "a normal physical response to events that make you feel threatened or upset your balance in some way."

4.1.6.1 Study Stresses

Stress in school students is natural, and occurs when they are overwhelmed, often due to balancing multiple classes with work schedules and extracurricular activities.

4.1.6.2 Six methods to overcome stress

There are six ways to help relieve the tensions and stresses from studying. [4.1.4]

1) Engage in a physical activities

One of the greatest ways to relieve stress is through physical activity. Whether this is through a vigorous workout or by participating in sports, you will find that getting your body moving helps you to literally sweat off tension. Adding a daily physical activity into your schedule can help you beat stress before it even comes on. However, there are ways to get rid of stress as you are studying, too. For example, one student keeps a jump rope hung up near his door for quick bouts of physical activity. Academics recommend students to relieve some stress with either a few minutes or hours of physical activity to get their blood pumping, before going back to hitting the books.

2) Get out of the house or library

Leave the place where you are studying in order to re-energize. Take your dog for a walk or go alone and spend time in nature for a little while to relax your mind. Spend some time thinking about something other than your study materials. Meet a friend for a chat for half an hour about something

other than your big exam or paper that is due, or go see a movie together. Get up and get out for a bit, but remember to come back; you have a test, after all.

3) Write

Writing when you are stressed out can help you figure out the things that are bothering you. While it may seem obvious that the act of studying itself is stressful, take a few minutes to write down a list of what aspects of your situation are causing you the most grief. Are you trying to study a lot of material in a small amount of time? Is there certain material that you don't understand? Did you procrastinate? Once you figure out why you are stressed you can better address how to alleviate your woes. You could also take some time away from studying and do some creative writing. Jot down a quick poem or short story to get your creative juices flowing.

4) Do something you enjoy

Hobbies can help you relax. Put aside the books and take a few minutes or up to a half hour to put your stress towards an activity you enjoy. Get physical, watch half an hour of your favorite television show or YouTube channel or just listen to a few of your favorite songs; breaking up your study sessions with activities or hobbies you enjoy will help relieve some test tension and studying monotony.

5) Relax your mind and muscles

Do some yoga or Tai Chi. Give yourself a massage. Take a hot bubble bath. Imagine yourself elsewhere for ten minutes.

Learn muscle relaxation and meditative techniques to help you to calm down when you are stressed.

6) Just breathe

Take a deep breath in and hold it for five seconds. Now let it out. Tell yourself that everything will work out in the end. Take a second to focus on the present and just chill out. There is an abundance of breathing exercises and techniques online that can help you get through your stress.

Stress is rough, but using any of these methods above will help you to relax and to endure intense study sessions.

4.2 Attitude

Attitude is a settled way of thinking or feeling about something. Many studies have been conducted to find out how attitudes affect methods of study and academic performances.

A great deal of research literature provides evidence that attitude is an important motivator of behavior and positively affects student achievement. Results show that attitude and achievement are positively correlated. If the attitude to study is positive, the achievement is greater. The better the attitude, the more that is learned, and the better the marks are. If the attitude to study is negative, knowledge-consumption and marks are lower. Thus, the development of a positive attitude towards study is essential.

While the principles in this section speak to positive attitudes generally, it must be remembered that these same principles are crucial to studying attitudes as well.

4.2.1 Positive Attitude

A positive attitude helps you cope more easily with the daily affairs of life. It brings optimism into your life, and makes it easier to avoid worries and negative thinking. If you adopt it as a way of life, it would bring constructive changes into your life, making you happier, brighter and more successful. [4.2.1]

With a positive attitude you see the bright side of life, become optimistic, and expect the best to happen. It is certainly a state of mind that is well worth developing.

4.2.1.1 Aspects of a positive attitude

Positive attitude manifests in the following ways:

- Positive thinking
- Constructive thinking
- Creative thinking
- Optimism
- Motivation and energy to do things and accomplish goals
- General happiness

4.2.1.2 Mentality adjustments

A positive mind can help you adjust your mentality in multiple ways, such as:

- Expecting success and not failure
- Making you feel inspired

- It gives you the strength not to give up, if you encounter obstacles on your way
- It makes you look at failure and problems as blessings in disguise
- Believing in yourself and in your abilities, bringing hope for a brighter future
- Enables you to show self-esteem and confidence
- You look for solutions, instead of dwelling on problems
- You see and recognize opportunities

4.2.1.3 Benefits of a positive attitude

Aside from creating a positive mind set, additional benefits of a good attitude include:

- Helping you achieve goals and attaining success
- Bringing more happiness into your life
- Producing more energy
- You develop the ability to inspire and motivate yourself and others
- You encounter fewer obstacles and difficulties in your daily life
- You get more respect and love from people
- Life smiles at you

4.2.1.4 Negative attitudes

Negative attitudes create the opposite effect. It is necessary to identify where you apply negative attitudes in your life, so that you can tackle them front on.

If you have been exhibiting a negative attitude and expecting failure and difficulties, it is now the time to change the way you think. It is the time to get rid of negative thoughts and behavior, and start leading a happier and more successful life. If you tried to do so in the past and failed, it only means that you have not tried hard enough.

4.2.1.5 Developing a Positive Attitude

To help you avoid or change any negative attitudes in your life, here are a few tips for developing a positive attitude:

- Choose to be happy. Yes, it is a matter of choice. When negative thoughts enter your mind, simply refuse to look at them, doing your best to substitute them with happy thoughts.
- Look at the bright side of life. It may require repeated attempts.
- Choose to be optimistic.
- Find reasons to smile more often. You can find such reasons, if you search for them.
- Have faith in yourself, and believe that the Universe can help you.
- Associate yourself with happy people.
- Read inspiring stories.
- Read inspiring quotes.
- Repeat affirmations that inspire and motivate you.
- Visualize only what you want to happen, not what you don't want.
- Learn to master your thoughts.

4.2.2 Study attitudes

Study attitudes control how we think and feel about studying. Successful learners adopt positive study attitudes. However, performance results can also contribute back to one's attitude. For example, if the learning experience is not pleasant, then the resulting study attitude is also unlikely to be favorable.

As discussed before, there is a trend in the education sphere, where teacher-centered learning is shifting to student-centered learning. This shift changes students from passively receiving knowledge to take initiative and self-driven activities to gain the knowledge. Therefore, student study attitudes become more important than ever before.

There are several aspects to a positive attitude that are important to studying:

- The desire to learn
- Being unafraid to try
- Patience to practice
- The ability to be proactive
- The self-discipline to manage themselves

A good attitude has the following impacts:

- It motivates one's desire to study
- It overcomes problems encountered while studying
- It enables one to commit time to study
- It improves the efficiency of study
- It creates the justification for study

We all know that work cannot be completed without the expenditure of effort. The more difficult the task, the more energy is required to do a good job. Learning is no exception to this generalization. It requires positive study attitudes to support it.

Compared to other works in life, education is one of our toughest ongoing challenges. It is not easy to build a positive attitude that can last for our entire study journey. It is difficult to maintain positive attitudes for such long time. It is only human to falter in ambition and motivation from time to time.

Therefore, to give us the best chance to maintain a positive attitude, it is important to learn how study attitudes relate to performance.

4.2.2.1 The relationship between attitude and performance

The following section examines the results of a few studies about the relationship between attitude and performance. These research pieces focus on student attitudes towards their teachers and study material.

In one study, it was discovered that a significant relationship between student attitudes and academic performance exists.[4.2.2] Another study analyzed the discrepancy between the study attitudes of high and low-achieving students. High-achieving students had more of a positive attitude toward study in that they detected and reacted positively to the favorable aspects of the situation they found themselves in, while the low-achieving students tended to be fault-finders, reacting to the negative aspects of study such as distractions

and minor annoyances. The high-achieving students found school work an interesting challenge, accepted the restrictions and conformed to the demands made upon them more readily, while the low achievers appeared to lack high-level motivation. The more successful group was also found to be more realistic and discriminating in their assessment of those situations which were highly relevant to academic achievement, such as discipline and work priorities, and they were better organized in both their work and leisure activities.

Two research areas relating to study attitudes

A student's study attitude can be broken down into two areas:

1) Attitude towards teachers, including teacher approval
2) Attitude towards study, including educational acceptance

To extrapolate on the former limb, high-achievers generally have a positive attitude towards teachers. For instance, in contrast to low-achievers, high-achievers are more likely to say that their teachers are competent, impartial, and interested in their duties. Other students may blame poor performances on their teacher's (lack of) effectiveness.

4.2.2.2 Develop positive study attitudes

No one is born with a positive study attitude. It requires time and effort to be developed and nurtured. However, it is certainly doable, and this section explains how you can build it. [4.2.3]

1) Aim for your Personal Best

A Personal Best (PB) is the best mark, time or performance achieved by a person, often an athlete, on a personal level. PB goals, often associated with the great sports stars, encourage people to achieve their own PB, rather than comparing themselves to others. This way, they can unconditionally enjoy their own improvement. This has been proven as a very successful technique for athlete development.

The same methods can apply to academic study. Don't compare yourself to other people. Aim for your own "personal best". Strive to do the best you can, to learn, to grow and develop. Everyone has different skills and strengths and sometimes these aren't always evident in the school situation. So just focus on being the best student you can be and celebrate all of your strengths and talents – whether they show up in the school arena or in your outside life.
When success is personally defined, it is generally more achievable and accessible. This is meaningful and desirable to us.

2) Focus on the process

Education is a continuous and never-ending process. It can be compared to a snowball gradually accumulating size with each lesson you learn, day by day. Some students only focus on the end of term or yearly tests, thinking that the exams are the only things that matter. These students don’t pay enough attention to their daily studies. This way, they are unable to build a proper solid foundation for further learning. To create a solid, unbreakable knowledge snowball, students should

accumulate knowledge over time, rather than cram it all in, in the week preceding a test or exam.

There are lots of students who do not understand why their learning is become more and more difficult. My conclusion is that they have left too many holes in their past school years, causing them difficulty when they try to build knowledge on weak foundations. Our brain naturally resists accepting any new knowledge if there is not enough support in the form of existing knowledge, to help the brain understand it.

The process is worth more than the outcome because it teaches you the ins and outs of the process and so you can defend/explain any and all the steps. Yes, the outcome may not be a success but at least you know what went wrong. If you go straight for the outcome, you may never know what went right and what you could do to make it even better.

It is common to use procedures or steps in study and problem solving. Paying attention to the steps means you will most likely get strategies right and reduce the likelihood of mistakes. After exams, students often complain that they made too many silly mistakes. This is the result of students not following the correct procedures or steps.

3) Keep your mind open

The definition of open minded is a willingness to try new things or to hear and consider new ideas. This willingness is crucial to studying as it benefits one's learning in many ways. Benefits include collecting more information, improving

understandings, expanding interests, building more capacities, etc.

Our mind drives the functions of the brain and sensory organs. Keeping an open mind will ensure that our brains, eyes and ears process as much as possible. That is how we gather and interpret information. Having a closed mindset will shut the door to this knowledge.

To improve our attitudes, it would help to keep an open mind. If we remind ourselves to do so, negative thinking and personal prejudices will be reduced. In practice, we can take on various activities, try different experiences and extend our interests to open our minds. Travelling and joining more clubs are just two examples of how we can achieve this.

4) Stop thinking negatively

As mentioned above, negative thinking really plagues our learning abilities. There is an article that offers 7 ways to stop negative thinking: [4.2.4]

- Stop thinking in extremes
- Stop over-generalizing the negative
- Don't minimize the positive
- Stop mindreading
- Stop taking all the responsibility
- Stop forcing your own rules on life
- Stop making stuff up and believing it

If we use words smartly, we can mentally reduce the chance of negative thinking. Negative thinking normally uses

negative words. If we change our habits to using positive words instead of negative words, we can slowly build a positive mindset.

For example, when students say they "don't like" a particular teacher or subject, the direct result is that they struggle to listen to that teacher or consume the knowledge required for particular subject. Telling yourself that you "don't like" something will automatically kill your learning desire.

5) Improving communication

A child's schooling years can be difficult for many families. Young people will naturally begin to develop ideas, values and beliefs that are different to those of their parents. This is part of the normal process of moving towards independence. Parents may struggle with how much independence they should allow their children at different ages and in different circumstances. Particularly for teenagers, poor communication with them will cause bad emotions, conflict and stress, which could create poor attitudes towards their study. It is even worse if the communication is broken. Therefore, it is quite important to build up a good practice of communication with them. [4.2.5]

The following is a list of some communication tips when dealing with teenagers. The most important thing is to keep the lines of communication open.

- Encourage rather than criticize – when they are good, appraise their achievement. When they have not performed as well as expected, appraise their attempt and

effort. Blame and criticism will shut down communication streams.

- Listen more than you speak – remember that we are all given two ears and one mouth. This is to remind us that we should spend twice as much time listening as talking. This is especially important when talking to teenagers, who may tell us more if we are silent long enough to give them the opportunity.
- Make time to spend together – teenagers are often busy with school, friends and other interests, but you can have a conversation with them over breakfast and dinner. Offer to take them to or pick them up from places; this will provide other opportunities for conversations.
- Keep up with their interests – listen to their music, watch their television shows with them and turn up to their sports activities. Continue to take an active interest in their life. Make time for leisure and laughter. Good feelings also help to build good rapport.
- Be a loving parent – adolescence is a time when young people often struggle with their changing sense of identity and need to feel loved. Feeling included and special is vital for every young person's sense of positive self-esteem. Tell and show how you love them. Celebrate their achievements, forgive their mistakes, listen to them when they have a problem and support them in their problem solving.

6) Keep improving (Kaizen)

Kaizen is a Japanese word which simply means "change for the better". The word refers to any improvement, one-time or

continuous, large or small, in the same sense as the English word "improvement". It is a systematical approach in processes in order to improve efficiency and quality. It can be applied to the learning process.

Kaizen introduces a set of improvement techniques which are worth teaching in school. If a school does not implement Kaizen, parents can take it upon themselves to learn it first, and then pass on their children.

Thinking in a Kaizen mindset is a powerful tool to transform your attitude to improve your study techniques and solve study problems.

7) Share with others

Research indicates that share learning activities typically yield the following results: team-building spirit and more supportive relationships; greater psychological well-being, social competence, communication skills and self-esteem; and higher achievement and greater productivity in terms of enhanced learning outcomes.

Two share learning activities are group study and peer teaching.

Forming study groups is a very effective strategy for enhancing learning. This is because groups share unique insights and learn from each other. Group members can also teach confusing concepts they understand to other group members. Study groups are particularly effective for

completing projects, developing presentations and preparing for exams. The following are advantages of study groups and strategies for making study groups effective. [4.2.6]

- Improve your notes – comparing notes allows students to fill in any information or important concepts they may have missed during lectures.
- Sharing talents – as everyone has individual talents and unique insights, group members can learn from each other.
- Support system – school can be very stressful, so it is advantageous to seek support from people in similar situations that can provide you support.
- Cover more material – working in groups makes it possible to focus on more concepts since multiple people can review more material than just one.
- It makes learning fun – joining a study group and studying in a group environment makes learning much more fulfilling and enjoyable.

Peer teaching is a method by which one student instructs another student in material on which the first is an expert and the second is a novice. The main advantages of peer teaching include the following: [4.2.7]

- Students receive more time for individualized learning.
- Direct interaction between students promotes active learning.
- Peer teachers reinforce their own learning by instructing others.

- Students feel more comfortable and open when interacting with a peer.
- Peers and students share a similar discourse, allowing for greater understanding.

When a student becomes a teacher, they are encouraged to put more attention into details and steps during the learning process which builds a solid foundation of understanding.

8) Ask for help

During schooling years, it is important for students to ask questions and ask for help. However, in our culture, questioning may be perceived as a sign of weakness, and asking for help may imply that someone can't get their work done on their own. That is why some students feel horrified to ask questions in class, and some feel uncomfortable to ask for help when they have study problems.

If these problems cannot be resolved, students will struggle to study any further. Therefore, it is important to create an environment where asking for help is encouraged.

Asking Questions

As part of an active education, it is a basic requirement for students to ask questions. The major benefits of asking questions are:

- Filling gaps – questions are formed when someone has digested information and identifies a gap.
- Gain a better understanding – questions are the best way to gain deeper insights into knowledge.

- Provides feedback to teachers – questions give teachers a chance to identify what students understand and what they do not understand.
- Effective communication – questions help students improve their communication skills.

Asking for help

Education is a large support network. If you have academic questions, you can ask teachers, tutors or even peers. Some teachers may not know the answer either. This is ok. In this situation, you can ask other teachers or professionals. The Internet is another useful research. If you can't find the answer upon searching, you can even post your question online.

Asking for help is not limited to academic questions. Struggling with personal issues like time management or anxiety? Talk to other students, they've probably been through the same problems and would be happy to help you.

The attitude here is not to limit yourself in who you can ask for help. Take a hard look at what resources are available to you and who can help you accomplish your goals and make the very most of them.

4.3 Skills

No two people study the same way. What works for one person may not work for another. However, this section discusses some general techniques that can produce good results. [4.3.1]

Everyone is different. For some students, studying and being motivated to learn comes naturally. For some other students, study can be hard work. However, no one would say that every subject is going to be so interesting that studying it is not work but pleasure. If you feel that studying is hard for you, don't despair, there is hope! To study successfully in school is more dependent on the ability to study effectively and efficiently, not just on interests or natural abilities.

This is a guide designed to help you develop effective study skills. It is not a magic formula for success in preparing for tests, or written or oral assignments. Studying any material requires work! However, by using the techniques described in this section, and by applying yourself, you can gain a valuable edge in understanding material, preparing for tests, and, ultimately, learning. This section contains some of the best and most effective techniques of successful students – students who typically have high grades in school regardless of the courses they take.

4.3.1 Practice to improve

Effective study skills must be practiced in order for you to improve. It is not enough to simply "think about" studying; you have to actually do it. This is the central idea of effective

studying. All that follows depends on this single concept. Just as Vince Lombardi said, "Practice doesn't make perfect. Only perfect practice makes perfect." If you want to be an achiever, take this saying to heart.

4.3.2 Time management

Before you even begin to think about the process of studying, you must develop a schedule. If you don't have a schedule or a plan for studying, then you will not have any way of allocating your valuable time when the unexpected comes up. A good, well thought out schedule can be a lifesaver. It's up to you to learn how to develop a schedule that meets your needs, to revise it if necessary and most importantly, to follow it.

All schedules should be made with the idea that they can be revised. 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! [4.3.2]

A schedule should take into account every class, event, and activity in which you engage. You must focus on the "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, events and work time. Also block off a period for sleeping each day. With what is left over, you plan time for study. This gives you a rough road map of the time available.

Deciding when to study is critical. A good rule of thumb is that studying should be carried out only when you have

planned for it. Last minute studying just before a class can be fruitless.

Time is the most valuable resource a student has. It is also one of the most wasted 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 school depends on this simple truth.

4.3.3 Study Strategies - The SQ3R method

The SQ3R method is a proven way to sharpen study skills. SQ3R stands for Survey, Question, Read, Recite, 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. [4.3.2]

Survey – Get the best overall picture of what you're going to study before you study it in any detail. 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. 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 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 wherever it makes sense.

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 that the instructor or author has asked. Always be alert to bold or italicized print, as the authors have intended that this material receive special emphasis. Also, when you read, be sure to read everything, including tables, graphs and illustrations. Often, tables, graphs and illustrations can convey an idea more powerfully than written text.

Recite – When you recite, you stop reading periodically to recall what you have read. 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. 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. 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.

4.3.4 Specific skills

4.3.4.1 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. Good thinkers see possibilities where others see only dead-ends. If you're not a good thinker, start now by developing habits that make you ask yourself questions. Talk to other students who you feel are good thinkers. Ask them what it is they do when they think critically or creatively. Often, you can pick up valuable insights to help you become a better thinker.

4.3.4.2 Reading skills

A primary means by which you acquire information is through reading.

Reading Purpose

Don't assume that just because you've "read", that that is the end of it. You must learn to read with a purpose. In studying, you may read the same material few times, each time with a different purpose. You must know before you begin reading what your purpose is, and read accordingly.

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. 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 effective your study efforts will be.

Don't Read Aloud to Yourself

Although there are exceptions to this rule, generally, reading aloud to yourself does not help you study more effectively. If you move your lips while you read, it’s likely that you’re not reading efficiently. If you read aloud or move your lips while you're reading, you are reading slowly. Make an effort to read faster and retain more - after a while, you'll be surprised how little effort it will take.

4.3.4.3. Note-taking skills

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 school 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.

Note keeping

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. 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 notebook as soon as you can. Be sure to buy a good notebook, as it will get a lot of wear and tear.

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 thing to remember when using these cards is to indicate the correct reference or topic at the top of the card. Use the cards for both study and review.

Textbooks Outlining

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 be important words. That technique rarely works. Ensure that you are highlighting information that is genuinely useful.

Taking lecture notes

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.

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.

4.3.4.4 Examination Skills

Surveying

Survey any objective examination to find out what types of questions are being asked. Surveying helps you to know what to expect.

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.

Answering Easy Questions First

Answering easy (to you) questions first is the best strategy. If you stumble over difficult questions for too long a time, you may not be able to complete the exam.

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 both 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.

Reading Matching and Completion 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, such responses get at least partial credit.

Essay or Writing Examinations

Planning your time in answering essay questions is more important than in objective type tests. 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."

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.

4.3.4.5 Assignment and Report Writing Skills

Reviewing the Topic

Students, at times, have some freedom to choose the subject of assignments 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 and data. Your task is made much easier when there is a good amount of reference and resource material available.

Using Correct Punctuation and Grammar

Just 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! 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.

Writing is important in school and is a key to success in school and in life. 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.

4.3.5 Studying Tips

The following tips have proven to be extremely powerful guides for organizing, thinking, studying, and learning in school. They represent the best advice of successful 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.
- Have a consistent place for everything, and above all, keep it there!
- Have everything that you need 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

- Prioritize! Make a list of what you intend to study, prioritize the list, and stick to it!
- Balance your study and break time. Make each period as consistent as possible, such as a plan to study for one hour, before a 15-minute 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

- 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 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

- Do easy questions first. This helps you to build up confidence and reduce stress.
- Read questions clearly and fully. Pay attention to key words.
- Analyze the question. Match it with the syllabus which will help you narrow down the related concepts and methods.
- For essay examinations, you may want to try the "memory dump" technique, if you get stuck often. Time-permitting, 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.

4.4 Technology

In the 21st Century, technology has changed the ways in which we communicate and go about our lives. Very few educators would disagree with the notion that technology has dramatically changed the teaching and learning process. The presence of the Internet itself has revolutionized the process through which we access and disseminate information. From laptops and educational apps to online courses, technology has changed the face of education today. Looking back at this change, here is a list of ten ways through which technology has affected education. [4.4.1]

4.4.1 Ten Ways Technology Has Affected Education

1) Creating a Global Platform

No longer confined to a single platform, education aided by technology has crossed borders and continents. Several institutions are now offering online courses that can be accessed by students across the globe. Video conferences and applications like Skype have created a global platform of teachers and students who can share knowledge in an easy and convenient manner.

2) Efficient Assessment

More and more institutions have now digitalized their assessment process. Students now take online tests that allow them to immediately assess their knowledge base. E-assessments are flexible and impartial. A student can take an online test, based on his or her availability. This has

especially helped students who pursue distance or correspondence courses. Removing the human element, e-assessments are impartial and more reliable than traditional tests.

3) Improved Student-Teacher Interaction

More and more teachers are now using technological aids to keep in touch with their students. Teachers remain in constant touch with their students through e-mails and services like Dropbox which allow you to upload and share content with a large number of people.

4) Instant Access to Information

Information is now in the palm of our hand. No longer confined to textbooks, anyone can now have access to a gamut of information within seconds.

5) E-books

Online libraries and e-books are now in vogue. We can take the Google Library Project as an example. Google has been working with publishers and libraries to create a unique online library that is comprehensive, versatile and virtual. Features like Google Books, provide snippets of a large number of books, thus bringing together new books and publishers to the readers. Thanks to the Internet, publishers and readers can now discover each other with the help of a click!

6) Video Games

Simulating real life problems, video games can bring about behavioral changes in the students by making them more goal-oriented. Gaming models not only provide a wide range of information but also initiate students to be problem-solvers. While solving hypothetical problems, students are allowed to orchestrate their skills while simultaneously garnering information. While the ill-effects of an obsessive indulgence in video games have been addressed countless times, one cannot refute the fact that video games, when played under proper guidance can indeed be a great source of 'edutainment'.

7) Use of Multimedia

Technology and media have positively impacted the field of education. Use of animation, videos, multimedia aids has transformed traditional learning methods by making it more engaging, fun and entertaining.

8) Educational Mobile Applications

M-learning or mobile learning is the newest avatar of modern education. A large number of mobile applications have already become popular means of education because of their innovative take on traditional learning methods.

9) Addressing Students' Diversity

An assortment of various educational tools, audio/visual stimulus and animations, e-learning modules appeal to students with different learning styles. Some students do not respond to classroom learning which has often been termed as 'boring' and 'unimaginative'. Such students are effectively

lured into studying through digital aids which provide a perfect blend of fun and learning.

10) Students with Special Needs

It has been observed that students with special needs do not respond to traditional classroom environment. Keeping them in mind, a number of mobile applications have come up in the market that seek to initiate such students into the mainstream by facilitating and enabling them with digital educational aids. Computer technology and e-learning activities have greatly helped in bridging the gap between differently-abled students and the regular ones by making education more accessible.

4.4.2. Advantages of Technology in Education

As we have seen above, technology has changed the face of education, bringing its benefits to many students.

The following are some of the key advantages: [4.4.2]

1) Increased Motivation and Engagement

The Department of Education reported a jump in students' classroom engagement when using technology. Some students who had previously been non-participatory members of the class were willing to participate when presented with a tablet or computer to express knowledge.

Other teachers talked about how students were motivated to learn computational skills because they saw them as applicable to life outside of school; regardless of the fact that

they were still doing math or English, students wanted to use the computer.

2) More Willingness to Participate

Technology can often bring shy learners out of their shells. Instead of sharing out loud, a quiet student can post a thought in an online discussion or a shared document, which both allows other students to get that person's input as well as slowly boosting the learner's confidence in his or her own ideas.

Especially in middle school, computers can also make collaboration easier. Though it might seem silly, preteens' social development means that communication between boys and girls can be difficult, and technology can ease that tension. When doing peer editing on an essay, for example, having a tool like Google Docs makes it easier for different genders, or peers from different social groups, to interact.

3) Closing the Learning Gap

Technology also has the power to close the learning gap. For example, science classrooms could be outfitted with high-tech document cameras. The cameras, which are connected to the computer, could take time-lapse video and pictures, capabilities used in a biology unit on life cycles.

The results also show that students with limited English proficiency made particularly large gains as a result of using the new technology.

4) Individualized Learning

Technology often gives educators the option of further differentiating their teaching, allowing students to work at their own pace. An app that helps students practice math skills in an elementary classroom, for instance, means that students can progress on their own accord; they won't have to sit through a lesson that they already understand. Alternatively, if students are conducting online research, they have a wealth of resources to use, from the simplistic to the complicated. Teachers can adjust requirements and recommendations based on students' abilities.

Technology also gives teachers tools with which to track student growth, meaning they can further personalize education. By having students submit work online or take formative assessments that provide an instant spreadsheet of responses, teachers can quickly adjust lessons to student needs.

5) Confidence Boosters: From Learner to Teacher

Lastly, technology can benefit students by boosting their confidence. Many students come into school already well-versed in technology; sometimes, students are more knowledgeable than their teachers. This leads them to increased levels of self-esteem when they showed mastery of that technology. That confidence with the tool often translates into more confidence with the academic task set, resulting in increased student learning.

4.4.3. Disadvantages of Technology in Education

Most technology changes are immediately praised for their potential benefits and criticized for their potential harms. There are many studies have been conducted to test whether technological advances, specifically computers, are advantageous or disadvantageous to an individual's school performance.

Many teachers, parents and other concerned parties continuously clamor for a tighter clamp over computer gaming. Protests mainly focus on how the trend is becoming a cause of distraction among students in their studies. Results indicate that students getting more and more addicted to online computer gaming. [4.4.3]

1) Access to Inappropriate Content

The biggest concern when it comes to the use of technology in schools is how easy pornographic, violent, and other inappropriate materials can be accessed and viewed. This could cause big problems if the material is shared with other students while in the classroom.

2) A Disconnected Youth

This harmful effect of technology has already come to light in today's world. People are attached to their screens almost 24/7, which is causing an entirely new set of social issues to pop up. This translates into the school system in a bit of a different way, however. More and more students are experiencing social anxieties when it comes to face to face interactions, but are perfectly fine socializing online.

3) The Cyber bullying Trap

Giving students access to anonymous accounts and endless contact avenues can only lead to trouble. Cyber bullying has become a real problem among young people today. This harassment has no end. There is also no way to monitor or discipline students who are involved.

4) Inevitable Cheating

While having easy access to information may seem like a great thing, it can become a real problem in a test taking environment. Cell phones have made cheating easier than ever. You no longer have to figure out how to write all of the answers down, you can just look them up!

5) A Major Distraction

Attentiveness drops drastically in the classroom when students have their cell phones or other technologies out. The focus shifts from their teacher and education, to whatever they are looking at, playing, or doing on their phones.

6) Lazy Studying

Computers make is so easy to find answers that students barely have to look for them. This may result in them having poor study habits and developing a lazy attitude toward their education.

7) Forgetting Traditional Study Methods

Students no longer rely on the books that their teachers lend them, as their studying techniques have been conditioned to the digital environment. Even to answer simple questions or

homework problems, students have become reliant on computers.

8) Addiction to Internet Technology and Video Games

Internet technology and video games have become addictive to so many students. Some students have become victims of internet predators and others have become video game addicts, which leaves them with no time to interact with other children and this has resulted into increased cases of loneliness and depression among children. It has also squeezed out a huge portion of their study time, which causes students to have more difficulty achieving their study goals.

9) Health Problems

Children are spending an increased amount of time watching television, playing video games, and using computers, which in turn cause them to spend less time exercising. Such children also tend to eat more snacks, which deposit fat into their bodies. As they move and exercise less, these fats accumulate in their bodies and the children are at higher risk of becoming fat. Obesity can result in diseases like heart failure, depression, and diabetes. These illnesses can be expensive to treat.

4.4.4. Promote the Pros and Prevent the Cons

There is no doubt that technology enables education to make huge advancements that were not possible before. However, like most things, technology has its pros and cons. It is becoming quite challenging to promote the pros and prevent the cons due to the speed at which it grows and evolves.

4.4.4.1 Promote the Pros

As we know, technology can support study habits very well, and can open doors to new experiences, new ways of learning and collaborating, as well as new discoveries in education. In many cases, technology has allowed for advancement from old, potentially outdated education methods. However, achieving mastery of technological skills is a challenging learning process. Here, I will list seven tips you can use when learning to use a new form of technology: [4.4.4]

1) Overcoming Inertia

Learning something new always begins by first overcoming the inertia to make the first move. There are some simple techniques to get excited and motivated. One of them is the concept of Tiny Habits. Rather than becoming overwhelmed by the task at hand, take a tiny step and do something to get started. By following a series of tiny steps, you will overcome your inertia and the task won't seem as overwhelming. This same idea can be applied to learning new skills. It's all about tiny steps.

2) Choose your area of interest

The first step, when picking up a new technological skill, is to determine what to learn. This could be anything you feel passionate about, and have a genuine interest in exploring further. It's important to have this strong inclination, as it will provide you with the necessary fuel, during those low times. Once you decide what to learn, you may find lessons on

YouTube, blogs or even from one of your Twitter friends. Reviewing what others have done will give you confidence that you, too, can do it!

3) Let the Information Flow Begin

Once you cross the stage of convincing yourself about the thing you want to learn, it's time to become a sponge and absorb knowledge. Begin with some Google searching on "beginner tutorials" related to your topic. Once you sift through these links, you may wish to take a more concentrated dose by searching Amazon to hunt down highly rated books on the topic.

4) Listen and Watch

As you delve deeper into the pool of knowledge, you will want to add other forms of information – namely, podcasts and screencasts can be extremely useful. These days, a handful of websites offer online education.

5) Time for Action

The best way to learn is by doing.

Okay, you've read countless tutorials, watched videos, and have developed a better understanding of the technology that you've been hoping to learn. What now? Well, it's time to put your knowledge to the test. Ultimately, the best way to learn is by doing.

Set a task that involves this new technology. Design some simple features and implement them. You will most definitely

hit some stumbling blocks. When this happens, research the solution online as you did before. You are now on a journey to become an expert in that technology. The more failures and road blocks you encounter, the wiser you will be. There is a well-known saying that goes, "the experts are the ones who have made the most mistakes." It means that they've tried crazy things and pushed the limits of technology use. As a result, they have been able to acquire an intimate understanding of how it works.

6) Practice

A slightly different style would be to learn things the "hard way". The idea here is to accept upfront that nobody can master a skill unless it is practiced daily. So to gain expertise, you practice by working through countless exercises.

7) Teach Others

When teaching others, you're forcing yourself to become more cohesive in your thoughts. This way, you are bringing some structure into the dispersed pieces of knowledge that you have accumulated. It helps you build your communication skills, which is as important as the technology you are learning. Step out of your comfort zone, and give it a shot!

4.4.4.2. Prevent the Cons

All the Cons (listed below) come from the misuse, overuse or over-control of technology. How do you control its use so as to ensure that the outcomes remain positive? Here are some suggestions: [4.4.5]

1) Results in a lack of physical exercise

It is common for parents to create schedules for their children. These schedules can ensure that they do the adequate amounts of exercise or study. One tip is to make sure that as part of this schedule, you do not ban them from using technology. If you do this, these kids will find a way to access the tech tools in secret, which can even be more harmful.

As a parent, it's important to get involved in the lives of your kids. So, to distract them from watching television or playing video games all day, get out and do physical activities with them. One of the main reasons why children spend so much time on technological devices is because parents are too busy to spend time with their kids. Go swimming, play table tennis or football, have a walk in the park, play with pets, ride a bike, or create entertaining physical competitions at home. You can even dedicate some housework tasks to them, so long as the overall result is that your kids are active and happy. There are plenty of ways to distract your child from technology, if you let your creative juices flow.

2) Weakens the relationship between children and their parents

To combat this, parents should spend more time with their kids after work; create a strong bond between you and your kids, so that they feel free to ask you anything. You should build a strong and trustworthy relationship, so that even when they read something on the Internet, they will consult you about its validity.

3) Exposes children to wrong or risky content

Parents should be aware of their children's behaviors both online and offline. In most cases, kids do what they see, so as a parent, you can block access to certain websites which might be harmful to your kids. If you don't have the technical experience, you can ask a technician to help you on this. Make sure that your kids are meeting their obligations both at school and at home.

4) Leads to poor social skills

In the first few years of a child's schooling, parents should take their kids to play with other kids at least once or twice a week. Parents should also encourage their kids to make friends while at school, and to invite their friends over so that you can get to know who they spend their time with.

5) Addiction to computer games

It is not easy to eliminate computer game addiction from children.

- Parents are strongly advised to set a rule that video games can only be played after homework has been completed.
- Computer games should be played no more than one or two hours per day – especially during the school year.
- Parents need to make sure that computer games are not their child's primary activity or form of entertainment.
- Access to computer games should be viewed as an earned privilege.

If you cannot control the situation as listed above, download the book "How To Help Children Addicted to Video Games" which provides specific age-appropriate guidelines and recommendations on what you should do.

4.4.5 Technology Skills Students Need

To cope with technological change, there are 10 important tech skills that students need:[4.4.6]

1) Internet Search – students need to know how to do a proper Internet search, using search terms and modifiers. This skill is needed for school, work and life in general.

2) Office Suite Skills – students need to know how to create, edit, and modify documents, presentations, and spreadsheets. Businesses still use MS Office for the most part, but iWorks, OpenOffice, LibreOffice, and Google Docs are all getting more popular. They all work similarly so the learning curve when switching isn't that big.

3) Self-learning of tech and where to go for help – knowing how to search a help menu on software or hardware, where to go to find user forums for help, and where to find the manual for technology is a huge skill that many do not know about.

4) Typing – this is a skill that is necessary for any kind of writing.

5) Social Media – how to properly use social media for school and work, how to protect yourself on it, the issues of cyber bullying, and connecting with others in your profession.

6) Netiquette – Internet/Email/Social Media etiquette – learning the proper way to use the Internet, write professional emails, and use social media in relation to your job.

7) Security and Safety – antivirus, spam, phishing, over-sharing of personal information, and stalkers are all issues kids need to know about.

8) Hardware basics and troubleshooting – knowing what different parts of technology are called, how to make minor fixes, and how to do basic troubleshooting for Wi-Fi, networks, and when OS won't load, etc.

9) Backup data – with all of the data that students create for school and work, it is important to back it up and have access to it at any time.

10) Finding apps and software – how to find, evaluate, and use apps for school and business. Also, how to find quality, free alternatives to paid software, apps and services.

4.4.6. Technologies available for students

The use of technologies can directly support the learning of individual students with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage and remember.

4.4.6.1 Laptops

Laptops are embraced because of the technological tools they offer combined with their portability. Not only are they becoming more popular for home use, but many schools are

starting to incorporate them into their classrooms as well. Several advantages exist for students using laptops, including more efficient and detailed note taking, faster writing and editing, and convenient group work and study. Laptops offer the following advantages to students no matter their grade or age. [4.4.7]

1) More Efficient Note Taking

Taking notes by hand can be time-consuming and taxing on your hand. When students have laptops, they can type their notes directly into a document. Electronic note taking is both faster and more flexible. Digital note taking allows students to index and organize their study material automatically, quickly search for information by keyword and share notes with other students. Digital notes can be stored and backed up so they are not lost -- unlike paper notes -- which may become destroyed or lost. While students can take notes on a desktop computer at home, only a laptop allows them to take notes when they are in class, where they receive much of their information. Notes can then be accessed at any time or place since the laptop is portable.

2) More Options for Writing and Editing

Laptops can help students write papers more easily as well. Typing can make the writing process go faster, and the tools in word processing software make it easier for students to edit their work. By writing on laptops instead of a desktop computer, students can work at home, in the library or during work time in class. In a writing project, a survey showed that eighty percent of students in the project said they would rather

use their laptop to do their work and were more likely to edit their work using their laptop. In addition, 75 percent said that laptops helped them to be better organized, while 70 percent said laptops helped them improve the quality of their work.

3) Facilitates Group Work

Group work is integral to student success. Students who learn how to work in a team and benefit from the strengths of other students in the group learn material in a new way. Laptops facilitate group work by allowing students to meet at any location -- whether it's a library, school room or a student's home -- and access all the materials they may need, including classroom notes, journal articles, online research or software for creating videos, slide shows or other items they may need for presentations. Wherever students have access to the Internet, they can also easily share files with one another.

4) Accessibility and Connectivity

One of the biggest advantages of laptops is that they allow students to access information wherever they can get an Internet connection. With more places offering free Wi-Fi, getting an Internet connection is easier than ever. This accessibility allows students to study whenever they have the time -- no matter where they are. Greater access to notes and educational tools like education programs and websites can improve student performance in the classroom.

4.4.6.2 Mobile Phones

Mobile phones are a popular form of communication in today's society; most students of all ages own mobile phones.

Schools and colleges have different rules about mobile phone use and possession during school hours, with the majority agreeing that they must be turned during class or banned from school all together to prevent them being a distraction. This is an ongoing debate because there are some benefits of students carrying mobile phones when they are at school. [4.4.8]

1) Communication

Mobile phones provide a convenient and direct way for parents to contact their children when they are at school, and vice versa.

2) Emergencies

If a student falls ill or is in danger, it is beneficial to be carrying a mobile phone so he or she can contact someone immediately.

3) Time-keeping

Mobile phones are also a useful time-keeping tool. They allow students who don't have a watch to keep track of the time so they can be punctual to their lessons, and phones have an alarm function to make sure they wake up on time each morning. Mobile phones also have a calendar feature that students can use to input homework assignments and important dates to remind them to keep on top of their school work.

4) Silence Feature

Although mobile phones could be disruptive during lessons if they were turned on, most phones have a silence feature that means they can be left on and fully functioning without the audio disturbing anyone.

4.4.6.3. Internet

In the modern age, the Internet has emerged as a useful method for all age groups. It has become a popular method of learning among the students. There are various platforms available on the Internet where students can not only learn but can enjoy their time as well. This has already been discussed in this chapter.

4.5 Effort

There are two famous quotes indicating the importance of effort:

- “Genius is one percent talent and ninety-nine percent hard work.” – by Albert Einstein
- “Genius is one percent inspiration and ninety-nine percent perspiration.” – by Thomas A. Edison

Some may argue about the percentage numbers, but the message is clear. It is that personal effort is the major contributor to success.

Learning is not as simple as some people think. Many studies have been undertaken to investigate the process of learning. Here, I have listed a few learning models which are commonly engaged by training professionals and specialists.

4.5.1 Learning Models

4.5.1.1 The Four Stages of Learning

In psychology, the four stages of competence, otherwise known as the "conscious competence" learning model, relate to the psychological states involved in the process of progressing from incompetence to competence in a skill. [4.5.1]

Initially described as "Four Stages for Learning Any New Skill", the theory was developed at Gordon Training International by its employee Noel Burch in the 1970s.

The Four Stages of Learning provides a model for learning. It suggests that individuals are initially unaware of how little

they know, or unconscious of their incompetence. As they recognize their incompetence, they consciously acquire a skill, then consciously use it. Eventually, the skill can be utilized without it being consciously thought through: the individual is said to have then acquired unconscious competence. The following section outlines the four stages in detail:

1) Unconscious incompetence

The individual does not understand or know how to do something and does not necessarily recognize the deficit. They may deny the usefulness of the skill. The individual must recognize their own incompetence, and the value of the new skill, before moving on to the next stage. The length of time an individual spends in this stage depends on the strength of the stimulus to learn.

2) Conscious incompetence

Though the individual does not understand or know how to do something, he or she does recognize the deficit, as well as the value of a new skill in addressing the deficit. The making of mistakes can be integral to the learning process at this stage.

3) Conscious competence

The individual understands or knows how to do something. However, demonstrating the skill or knowledge requires concentration. It may be broken down into steps, and there is heavy conscious involvement in executing the new skill.

4) Unconscious competence

The individual has had so much practice with a skill that it has become "second nature" and can be performed easily. As a result, the skill can be performed while executing another task. The individual may be able to teach it to others, depending upon how and when it was learned.

How can you use this model?

This model can be applied to a wide range of activities, from sport to music training. The first two stages require training from a teacher, coach or tutor, who helps the student build up basic skills and competencies. The last two stages are much more dependent on the student's personal effort, including their determination and perseverance.

4.5.1.2 Learning Pyramid

The Learning Pyramid was developed way back in the 1960s by the NTL Institute in Bethel, Maine.

The information retaining ratios of learners are approximately: [4.5.2]

- 90% of what they learn when they teach someone else/use immediately;
- 75% of what they learn when they practice what they have learned;
- 50% of what they learn when engaged in group discussion;
- 30% of what they learn when they see a demonstration;
- 20% of what they learn from audio-visual materials;
- 10% of what they learn when they've learned from reading; and

- 5% of what they learn when they've learned from a lecture.

Brain function

This can be explained through our brain functions.

What our brains hear and see is simply an abstract concept. During lectures and while reading, no matter how clearly the steps are outlined or how concentrated we are, you are unlikely to retain all the information. We will eventually lose 90% of what we've learned. There are two reasons why.

Reason 1: The brain gets stuck at the first obstacle

Yes it does. And the only way to understand this concept is to pick up a book, watch a video, or listen to audio. Any book, any video, any audio. And you'll find you've missed out at least two or three concepts in just the first few minutes. It's hard to believe at first, but as you keep reading the same chapter over and over, you'll find you're finding more and more that you've missed.

This is because the brain gets stuck at the first new concept/obstacle. It stops and tries to apply the concept but struggles to do so. But you continue to read the book, watch the video or listen to the speaker. The brain got stuck at the first point, but more points keep coming. And of course, without complete information, you have 'incomplete information'.

Reason 2: The brain needs to make the mistake first hand

Incomplete information can easily be fixed by making the mistake first hand.

No matter how good the explanation, it is highly likely that you will not get it right the first time. You must make the mistake. And this is because your interpretation varies from the writer/speaker. You think you've heard or read what you've heard/read. But the reality is different. You've only interpreted what they've said, and more often than not, the interpretation is not quite correct. You can only find out how much off the mark you are by trying to implement or teach the concept.

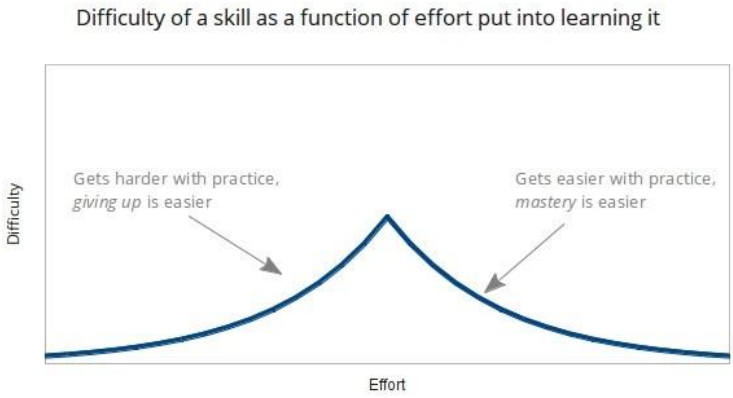
How can you use this model?

Firstly we need to understand our brain is not that good at retaining knowledge and information.

Secondly, we need to know how to improve the retaining ratio. We have to put effort in to practice as much as we can. The best way to really learn something is by teaching it.

4.5.1.3 Learning Cusp

Now, let us see how effort works. Below is a model about the learning curve. [4.5.3]



There is a cusp in the middle. Before the cusp, you can see that the difficulty increases, more skills are required, and therefore, more effort needs to be put into studying. Reaching that cusp doesn't necessarily mean you've mastered the skill, but once you reach it, you tend to want to practice that activity more instead of less. So reaching mastery from there is like rolling downhill.

How can you use this model?

To engage this model, it is necessary to face one's learning difficulties.

When you start to learn something, you are on the left side of the cusp; you can expect things to keep getting more difficult. The more difficult it is, the closer you are to the cusp. This should motivate you to get over the cusp because you know that mastery of the knowledge will make life easier and more fun.

This belief will replace feelings of frustration that come when trying to learn something hard. The expectation that it will get increasingly easier will facilitate dips in motivation. You will find that you improve at challenging your own skills, and overall, enjoy the process more.

To enable you to overcome the difficulty of reaching your study cusp, I would like to introduce the 5 D's Model.

4.5.1.4 5 D's Model

This model's objective is to breakdown the abilities required for success. It can be applied to one's prowess in study. A student who has the 5 D's can achieve improved study performance. They are: Determination, Dedication, Discipline, Diversity and Direction. [4.5.4]

1) Determination

The word has a simple meaning, which is the ability to continue even if a task is difficult. This is incredibly important for study. Continuous hard work and a never-give-up attitude will go a long way, particularly in the initial stages of study or upon reaching any difficulties.

2) Dedication

This is the quality of commitment to a task, and a single-minded focus on one's purpose. Let nothing interfere or divert your attention or focus.

3) Discipline

Discipline involves training and controlling oneself by setting rules and sticking to them. The best way to reach your target or goal is by setting a path to get there, and keeping to it.

4) Diversity

Diversity involves being able and willing to do a range of things. Going the extra mile ensures that you can manage the task on your own even if there is a shortage in resources.

5) Direction

Most importantly, you must have a direction. This is a sense of what you want to achieve; in other words, a course or a path along which you manage yourself. Keep it clear and complete – or keep clearing it and completing it.

How can you use this model?

Everyone experiences difficulties with studying at one time or another, and overcoming these challenges is all part of the learning process, particularly when you have a large workload. The 5 D's can help students overcome these study problems.

4.5.2 Study Problems

Through the learning process, there are many study issues ranging from temporary glitches to a chronic lack of motivation and low productivity. They can afflict students at any stage in their education. Sometimes it may feel like you need extraordinary will power to overcome these issues. However, the important thing to remember is that they can be

conquered if you deal with them properly and are willing to put in the effort.

Below I have listed the seven most common study problems and the strategies for dealing with each of them. [4.5.5]

1) You're experiencing low motivation

Low motivation is one of the biggest problems you may have to tackle during your education. The key to understanding low motivation is to figure out the reasons behind it; they're not necessarily the same reasons for everyone. Low motivation may be experienced either for certain subjects, or across the board; some of the common causes of it include:

- You are tired and stressed, with too much to do
- There are other, more interesting things to do
- You find the subject boring, or don't enjoy it for some other reason
- You don't like your teacher for a certain subject
- You have other things happening in your life, meaning studying doesn't feel important right now
- You're not in the best of health, or are not sleeping
- You're worrying about failure

As well as taking specific steps towards overcoming these possible causes, putting together an action plan for tackling low motivation also means figuring out what motivates you. For example, is it:

- The satisfaction of completing a task?
- Good comments from teachers?
- Being perceived as successful by your peers or parents?

- Short-term rewards, such as a chocolate bar after a study session?
- Long-term success, such as top grades?

When you know what's behind your low motivation, and you've worked out what will spur you on to achieve, you'll be in a better position to tackle your problem head-on. The other tip is to keep some motivational quotes by your desk, which may inspire you to keep going when you experience low motivation.

2) There are too many distractions

There are so many external stimuli these days that it's little wonder that many students feel distracted. Social media, friends, phones, television, video games and outings all have a part to play in wreaking havoc on students' ability to focus on studying. If you feel your productivity is suffering from a multitude of distractions, it's time to change your working environment to one more conducive to studying.

Creating the right environment for learning should be a relatively easy solution that will help you overcome the power of all these external distractions. Eliminate the things you know to be your weaknesses from your workspace. This could include your phone, internet, television and so on. Limit your socializing to weekends, and consider installing some apps on your computer to create a distraction-free environment for you.

If you find it impossible to get work done at home because of the number of distractions, try working somewhere else. The

library would be a good place where peace and quiet is guaranteed.

3) You have difficulty concentrating

Even when you've eliminated distractions, concentration can still be a major issue. It's not only possible but also common to lose focus and experience dramatic drops in productivity. We're probably all familiar with the feeling of sitting in front of a blank page, staring at it, unable to begin, our mind wandering. Procrastination is a symptom of lack of concentration; if you find yourself constantly checking your phone or texting when you know you're meant to be working, it's a sure sign that you need to be taking steps to improve your concentration levels.

Like low motivation, difficulty concentrating can be caused by a number of problems. If you're unable to concentrate because you have something on your mind, you need to try to clear your head before you start working, otherwise it will hinder your productivity. It may help to write the problem down on paper, or to talk to someone about it; going for a brisk walk or doing some exercise may also enable you to get it off your chest before you try to start work. If it's a bigger personal problem, get help from professionals to get any issues off your chest or to gain assistance to see the problem from a different, more manageable perspective.

Another possible reason for lack of concentration is that the task in front of you feels so enormous that you don't know where to begin. A good way of combatting this problem is to break the task down into smaller, more manageable tasks. For

example, rather than putting an entire essay on your agenda, divide up the tasks into smaller, more easily achievable goals: read a chapter of a book and make notes, write the essay plan, write the introduction, and so on. You could even break it down into numbers of words to be achieved: 100 words at a time, for example.

Finding the right learning style for you may help you focus more easily, as battling on with trying to work in a style that doesn't suit you is sure to be counterproductive. We all learn in different ways; some of us prefer to work in total isolation, while others prefer to learn in the company of fellow students; some people learn best from making diagrams and drawings, others from writing things out. Try experimenting with some different learning styles and see whether you can find an approach to studying that is most suitable for you – one that will allow you to enjoy what you're doing, retain information better, and focus more easily.

Finally, it's worth noting that difficulty concentrating can also arise from working too hard. If you've been working yourself into the ground and not having enough rest, try giving yourself some time off. The chances are that you'll return to your desk feeling refreshed and much better able to concentrate.

4) You have difficulty remembering things

A common complaint among students at any stage in their education is that it's difficult to remember all the information necessary for answering exam questions effectively.

Everyone has different memorization abilities, some remember things quicker, some remember content for longer, and some are simply talented in remembering material in particular subjects. However, enough training and practice can lift those abilities for everyone. Practice is the key for improving memorization skills.

If you really struggle to retain the necessary information, learning to utilize a few memory aids may help.

5) You don't enjoy the subject you're studying

At some stage in your education, it's inevitable that you'll encounter a subject that you don't like. Whether it's because you simply find it boring, or you feel you're no good at it, or it seems like a pointless subject that you won't have any use for long-term, or you have an active hatred for it, such a dislike can have a big impact on your success in this subject. Not liking the teacher of this subject, or having an uninspiring teacher, can also lead to a dislike of the subject itself.

A change of mindset will be necessary to overcome this problem. You need to be able to see the bigger picture, and how that problem fits into it. For a start, you don't want a bad grade or score on your school report; you'll need good marks across the board to get into the top universities. Keeping this longer-term goal in mind may help, but more immediate inspiration may be found by contemplating why you're study the subject to begin with. It's on the curriculum for a reason, so think about what the skills are that you learn from this subject that can usefully be applied elsewhere, even if the actual knowledge itself may not be relevant to your career

aims. Thinking about the importance of studying the subject, and of having good general knowledge, may help spur you on.

If you dislike the subject because you feel you're not very good at it – perhaps a bad grade has put you off? There could be two reasons for it. One is that you didn't choose the right learning methods for it, causing low learning efficiency. The other is that you didn't put in enough effort or spend enough time on it. If you change methods and devote a bit more time to getting better at it, you might find that you'll start to enjoy it more.

6) You lack the right resources

This is arguably the easiest problem on this list to fix. Academic success relies on having access to the right resources, whether it's the necessary books, equipment, a teacher to talk to, or anything else you need to learn effectively. If it is a book you need, you ask teacher to recommend some, so that you don't inadvertently take your learning in the wrong direction. Equipment – such as a new laptop, stationery and so on – will be a matter to discuss with your parents.

7) You struggle with time management

Studying at any level requires good time management, and if you find yourself struggling to meet deadlines, you feel overwhelmed with work, or you frequently end up having to stay up late into the night to finish off a piece of homework, this is a sign that you need to work on your time management skills. This means becoming more organized, keeping a list of

what needs to be done and by when, and getting started on homework as soon as you're set it, rather than putting it off. It also means being more disciplined with your routine: getting up earlier, planning out your day, and making maximum productive use of the time you allocate to each of your subjects.

4.5.3 Parents

There are lots of methods by which the parents can help their children in their learning process. The most important of them is, being supportive, happy and satisfied with their children. Every child has a special talent. The real challenge to parenting lies in discovering what is best for one's child and understanding the child's needs and desires as far as their lives are concerned. Parents need to know which learning style suits their children best, so that they can help their kids master the relevant learning and study skills so as to make studying more innovative and interesting for them.

Tips for parents [4.5.6][4.5.7]

1) Focus on the effort your children have exerted, rather than labeling them intelligent or talented.

2) When your child faces difficulties, give constructive feedback that helps the child understand how to fix the problem, rather than labeling or excusing the child.

3) Pay attention to the goals you set for your children; expanding skills and knowledge is a goal that can be achieved through effort and persistence.

4) It is good to love your children unconditionally. Praise, however, can make a child feel as though they are only worthy of love if they always please their parents.

5) Recognize and build upon strengths. When kids are affirmed for what they can do, it can help when they face something more challenging outside of a home environment.

6) Creating a suitable study environment in the home to enable the child to enjoy active concentration while studying.

7) Use digital tools to maximize productivity and build ownership in learning. Establish guidelines for technology use.

4.5.4 Teaching

To improve student learning efficiency, here I will introduce a teaching method called the 5 E's model, which match up with the five phases of the teaching and learning progress: Engage, Explore, Explain, Elaborate and Evaluate. [4.5.8]

1) Engage

Each unit should begin with a lesson that mentally engages students with an activity or question. It should capture their interest, provide an opportunity for them to express what they know about the concept or skill being developed, and help them to make connections between what they know and the new ideas.

2) Explore

This phase allows students to acquire a common set of experiences that they can use to help each other make sense of the new concept or skill. Here, students carry out hands-on activities in which they can explore the concept or skill. They grapple with the problem or phenomenon and describe it in their own words.

3) Explain

Only after students have explored the concept or skill does the teacher provide the concepts and terms used by the students to develop explanations for the phenomenon they have experienced. The significant aspect of this phase is that explanation follows experience.

4) Elaborate

This phase provides opportunities for students to apply what they have learned to new situations and so develop a deeper understanding of the concept or greater use of the skill. It is important for students to discuss and compare their ideas with each other during this phase.

5) Evaluate

The final phase provides an opportunity for students to review and reflect on their own learning and new understanding and skills. It is also when students provide evidence for changes to their understanding, beliefs and skills.

4.5.5 Summary

There’s no question that people vary in their innate intellectual, emotional, and physical abilities. However, there’s tremendous room for development in all these areas for any given individual. Therefore, to fully develop one’s potential is the goal for education.

The level of potential achieved depends on how much effort is put in.

4.6 Review

A review is a process for students to review their study performance over a certain time period. It is also called self-review, self-assessment, self-appraisal, self-monitoring or self-evaluation.

Self-assessment is simply a matter of having students identify strengths and weaknesses in their own work and revise accordingly. Effective self-assessment involves students comparing their work to clear standards and generating feedback for themselves about where they need to make improvements. It is a tool that can promote learning if it is used while the learning is taking place.

4.6.1 Why self-review is important?

When doing self-review, students develop the habit of self-reflection. They learn the qualities of good work, how to judge their work against task requirements, how to step back from their work to assess their own efforts and feelings of accomplishment, and how to set personal goals. These are qualities of self-directed learners, not passive learners. It is an integral part of how they learn and improve.

Therefore, this step is an important part of the education process. It should be applied in a school environment, which I will address in the next section. My focus for this part is how we can use the MASTER model to improve our self-study abilities.

4.6.2 At School

As part of the student-centered education revolution, self-assessment programs focus on the ability of the students to:

- Understand both learning intentions and success criteria
- Use these criteria to judge what they have learnt and what they still need to learn
- Reflect on the learning process to ascertain how they learn best
- Act on feedback received from their teacher and their peers
- Set learning targets based on what they still need to learn
- Manage the organization of their learning

This process helps students stay involved and motivated and encourages self-reflection and responsibility for their learning.

Self-assessment involves at least three steps: [4.6.1]

1) Clear performance targets

In order for self-assessment to be effective, students must have clear targets to work toward. In other words, students must know what counts! Clear criteria for assignments that will be graded should be made available to students before work on the task begins. The assessment criteria can be created by the teacher or co-created with students. The criteria can be arranged in a simple checklist or in a rubric.

2) Checking progress toward the targets

This is where the actual self-assessment takes place. Once students know the performance targets (step 1), they create a draft of the assignment, compare the draft to the targets, and identify areas of strength and areas for improvement.

3) Revision

Using the self-generated feedback from step 2, students revise their draft, trying to close the gaps between their work and the targets. This step is crucial. If students don't have the chance to revise and improve their work, and possibly their grades, they are unlikely to take the self-assessment process seriously.

Rubric

A rubric is usually a 1-2 page document that has two features:

- Clearly stated criteria or learning targets for a given assignment
- Descriptive levels or gradations of quality for each criterion, ranging from excellent to poor

Checklist

A checklist is similar to a rubric in that it lists the learning targets, or criteria, but it does not include the gradations of quality, which is characteristic of rubrics.

Rubrics are excellent tools for guiding self-assessment but checklists can work equally well, or better, depending on the assignment. For larger, complex assignments, rubrics typically work best. For shorter, less complex assignments, checklists are often more appropriate.

4.6.3 At Home

There are very few students doing self-review at home because there is no requirement for them to do so. However, if you want to improve your learning abilities, self-review is an important step to: [4.6.2]

- Identify skill gaps
- Identify where knowledge is weak
- See where to focus your attention in learning
- Set realistic goals
- Revise your work
- Track your own progress

Review is an crucial component of the MASTER model. It requires students to do it not only properly, but also regularly.

The following is a guide on how to do the MASTER Review, broken down into each of its sections – Management, Attitude, Skills, Technology, Effort and Review:

4.6.3.1 Management Review

1) Check how your study is organized. If there is a problem, think about how to resolve it or improve it.
2) Check your study goals and progress. If your task is finished, set yourself a new task. If the task is not finished, check whether or not you are able to finish it on time, otherwise consider seeking additional resources to help yourself finish the task.
3) Check your study plan and time management. How many tasks have been done? How efficiently have you done

them? Have you correctly allocated time? Do you have any extra time? How much time was wasted?
4) Check your commitment and action. Did you start on time? Was there any delay? Did you follow the steps or rush through them?
5) Check how you handled the changes and surprises during this period.
6) Check your stress level. What did you need to do to reduce your stress level?

4.6.3.2 Attitude Review

1) List the positive and negative attitudes you had during the period.
2) Think of more ways to promote positive attitudes.
3) Think of more ways to prevent negative attitudes.
4) Consider your communication with your peers, parents and teachers. If there were communication breakdowns, how can you improve it next time?
5) Consider your progress, improvements and final results. Focus on your areas of improvement.
6) Check the knowledge you have gained and skills you have shared. What did you achieve? Could you do more next time?
7) Check whether you asked for help when you had problems. If not, why?

4.6.3.3 Skills Review

1) List the study skills you used.
2) Check what new skills you learnt.
3) Check what skills you have acquired on all subjects.

4) Check how those skills have improved your study.
5) Check what study skills you wish to learn.

4.6.3.4 Technology Review

1) List the technologies you used.
2) Check what new technologies you learnt to use.
3) Check how those technologies improved your study.
4) Check what technologies you wish to have.
5) Check the percentages of your time used for entertainment and study.
6) Consider how are you going to control the situation next time, if you overused your time on entertainment this time.

4.6.3.5 Effort Review

1) Check how much time you put into study.
2) Check your concentration levels. If they were not good enough, how can you improve next time?
3) Check how much practice you did.
4) Check your knowledge retention. If it was not good enough, how can you improve it?
5) Check how much you understand of what you learnt. If you are still struggling to understand, do you need extra help?
6) Check how many study problems you solved. If there were any problems you could not solve by yourself, what help did you need to resolve it?
7) Check your study efficiency. If it was not good enough this time, how can you improve it?

4.6.3.6 Review itself

1) Check whether you have reviewed everything.
2) Check whether you spent enough time doing your review.
3) Consider whether more frequent reviews suit you better.
4) List all the problems you come across during your review.
5) Set strategies to resolve any problems. If you cannot find a straightforward solution, try to use the Kaizen or SMART problem-solving techniques.
6) Plan your tasks and time to resolve these problems.

4.6.4 Problem solving tools

We can use Kaizen to identify the root cause of your problems, and use SMART to implement the solutions.

4.6.4.1 Kaizen

Kaizen was briefly introduced in the Skills section of this book. There is a methodology in Kaizen to help investigate and find the root of the problem. This can be used to overcome any issues encountered while studying.

The 5-why analysis, used throughout the Kaizen concept and explained below, is a tool used to discover the root causes of a problem. [4.6.3]

More often than not, people fix problems by dealing with issues that are immediately apparent. While they may provide a quick fix, the problem tends to rear its ugly head in the same form or with a different face later on. Fixing the problem by nipping it in the bud is what we should aim to do.

For example, suppose we had a tree which was wilting and dying. We could make it look better in the short run by cutting

the wilted leaves, but surviving leaves will continue to wilt and the tree would still be dying. Instead, we need to investigate the cause of the wilting. Did we water the tree recently? Are there telltale signs of fungi, bacteria or perhaps termites? Once we know the true issue, then we can fix it.

Most people get stuck in the Do-Do-Do-Do cycle, in which they carpet bomb every possible solution with no guarantee that they will fix the true problem, wasting time, effort, and resources. The 5-why analysis provides the tool to engage in precision targeting to fix the right problem in one go. The concept of 5-why is simple – just ask "why":

1) Identify the problem.
2) Ask yourself: why did this happen? Come up with all the causes you can think of.
3) For each of the causes you just identified, ask "why did this happen?" again.
4) Repeat until you've done steps 2 and 3 for five times. You should have identified the root cause by this stage.

4.6.4.2 SMART

SMART is an acronym that guides students to design a learning target. In this acronym: [4.6.4]

- S = Specific
- M = Measurable
- A = Achievable or Attainable
- R = Relevant
- T = Time-bound

The SMART method of setting learning targets is explained below:

1) Specific

The learning target must be specific rather than general: 'I will include a topic sentence in each paragraph' rather than 'I will improve my paragraphing.'

2) Measurable

It must be possible to know whether the learning target has been accomplished, so there needs to be some way of measuring this. 'I will learn my 7 times tables', for instance, could be measured by 'Being able to recite to my teacher/parent/peer the table X times without making mistakes.'

3) Achievable

The achievement of the learning target must be something the student is capable of attaining. Where the prospect of achievement seems daunting, the learning target can be broken down into a series of steps so that the student has the prospect of experiencing success. For example, instead of a learning target that states 'I will use correct spelling', it is better to concentrate on the use of individual spelling strategies so that, over time, the student builds up a repertoire of strategies designed to achieve the aim of improving his or her ability to spell correctly.

The setting of unachievable learning targets will inevitably lead to lack of motivation and low self-esteem.

4) Relevant

The learning target needs to be significant and relevant to the student's present learning. If students are left to set learning targets without any guidance, at least initially there is a danger that such targets will be less relevant than if they are set in the context of understanding 'What I know or can do now/what I still need to know or be able to do/how I can go about making that improvement'.

5) Time-bound

Students should specify when they aim to achieve the target. Time-bound learning targets are easier to evaluate and track than those which have no particular time period attached to their achievement.

4.6.5 New Year's resolution ideas for Students

A New Year's resolution is a tradition, most common in the Western Hemisphere but also found in the Eastern Hemisphere, in which a person resolves to change an undesired trait or behavior, or sets a goal to learn or improve a skill. [4.6.5][4.6.6]

Students may be looking at the New Year as an opportunity as well for renewal, a time to assess their life and consider how they might want to improve it. Below, I have listed some of the most popular New Year’s resolutions for students.

1) Stop procrastinating

The biggest barrier that keeps most people from reaching their goals is the desire to relax and do something fun instead of working hard. Once you get used to procrastinating it's difficult to snap yourself out of it, so you'll need to put in a lot of work to change this bad habit.

For students in particular, the resolution to stop procrastinating is the most common – either in general or in relation to a specific type of task. Just 'stop procrastinating' alone is too vague; if you want to succeed at this, you'll need to identify some specific actions. Depending on your procrastination habits, this could mean a self-imposed Facebook or YouTube ban (at least during certain hours), finding a less distracting place to study, or even just making sure you don't have more than two tabs open on your internet browser at any time!

2) Be more organized

It doesn't matter how much time you have on your hands if you can't manage it properly – you'll just spend most of the day running around aimlessly. When you get organized there will suddenly be more time to spare and things will start falling into place.

For students in particular, here listed some examples which they can improve on:

- Doing preparation before (not after) the class.
- Writing up clear notes after each lecture.
- Organizing and labeling class notes.
- Sticking to a revision schedule before exams.

Make it a habit and enjoy your newly found leisure-time.

3) Become Tidier

There are a lot of slobs out there who can't really get their stuff organized. A cluttered desk or chaotic room will negatively affect your study and even your mood, so it helps to clear the clutter, clean your room and lead a tidier and more organized life.

4) Improve your concentration and mental skills

Concentration is an important ability for study. To improve your focus and cognitive capacities, it would be a good New Year's resolution to learn some meditation techniques. You can practice those meditation techniques to boost your concentration and hone in your mental strength skills. If you go through with this, you will be able to control your mood, learn faster and have an easier time solving problems.

5) Spend less time on social media

Some people might not spend hours in front of the TV, or playing video games, but social media has become a serious addiction among a wide range of demographics. While social media has become an inseparable part of our lives, it has also made us easily distracted and less attentive. For students, this is having a major impact on their study.

It is fine to stay in touch with friends, but if you consistently spend more than an hour every day on social media, it's time to make a change.

In reality, you probably won't be able to cut out social media altogether, but you can be smart about it: keep track of how often, and for how long, you're using it. And switch it off when studying – the brain isn't built for multi-tasking. It's difficult enough to concentrate without having all those media. Once you manage to cut down on media time, you will realize just how long and productive a day can really be.

6) Read more

Books are an excellent way to gain a lot of knowledge on a huge variety of topics, and are also a great exercise for your brain. It's not that difficult to go through 20 or more books in a year – you only need to make it a habit, discover your type of books and find a bit of time for reading here and there.

Try to broaden the range and type of books you read. This will inevitably help you improve your reading skills.

7) Learn more about art, music, history, culture or a language

This will open up a broad range of learning skills and knowledge for you. For most of those skills, it is better to learn while you're young, because it is a bit easier to master new skills when you're young. All the skills and knowledge acquired can be readily used for not only study but general future use too.

8) Pick up useful skills or fun hobbies

It is much better to use your free time in a constructive manner and pick up new skills while having fun at the same

time. To improve yourself, try to find out how to learn new skills and hobbies in a short time.

9) Start being more creative

While some of us are more logical, with a scientific or math mind, most people still have a bit of a creative spark in them. Expressing yourself in some creative artistic way is a great form of stress relief and helps keep your mind sharp. Some of these activities will also help you stay active and burn some calories. So have a go at some art, writing, craft, or make DIY projects – whatever makes your soul free.

10) Get healthier

New Year's resolutions relating to health and fitness are always popular. Like the general population, students are also likely to make resolutions in this area, whether it means doing more sport, cutting down on fast food, getting more sleep, or quitting bad habits.

Stick to the good healthy habits you've developed.

11) Reduce stress

Study stress is one of the biggest problems with students. Particularly during exam period, this can have a very destructive effect on your health, preparation and performance. However, it can be effectively managed with the help of some useful, unconventional and easy to practice tricks for stress management.

12) Become more Polite

Good manners have always been an important part of a civilized society. They make it easier to connect with others, avoid offending people and will ensure that others perceive you as a good and trustworthy person. It is important to know the correct etiquette to deal with rude people in the right way, and to learn how to say no.

13) Get more quality sleep

With big TV's, computers, smartphones, tablets and all sorts of gadgets with glowing lights and beeping alerts, it can be hard to get enough sleep at night. You should be aiming for at least 8 hours of sleep a night. If do not get enough sleep, try various techniques to help you sleep longer.

14) Learn to control your emotions

Uncontrolled anger can get you into a lot of trouble, but things like jealousy and pride are destructive in all circumstances. Gaining control over your feelings allows you to keep a level head and think more rationally, even during emotionally charged conflict situations.

15) Start being more responsible

A big part of growing up into a mature adult is the ability to think before making a decision. It is important to take responsibility for one's actions and avoid blaming everything on someone else.

16) Become more social

If you are an introvert or are very shy and feel uncomfortable talking to others, try something to improve that, such as meet new people and find out interesting things, develop leadership skills and learn to work in a team.

17) Stop being late all the time

Punctuality is a virtue that is held in high regard in our society. Being on time is a mark of a true professional, and a caring and dependable friend, so it is a good idea to pick up a few tricks that can help you stay on time.

18) Learn how to be more self-reliant

We often get well into adulthood without having what it takes to be independent and self-reliant. These skills are important to learn.

Cooking is one of the essential skills that everyone should possess. However, these days, many people ignore it because it is too easy to access fast food. As more and more emphasis is placed these days on eating whole foods and having meals at home, learning to cook would help students to prepare them for the future.

19) Learn to be happier with your life

Despite good living circumstances, many people can still be unhappy. It takes time and patience to learn how to find joy in the little things and not to let problems bring you down.

Self-confidence will help you lead a much happier life overall. Don't hesitate to get some input on ways to boost your confidence.

4.6.6 Helping Students Make New Year's Resolutions

Here is a step-by-step plan for parents or teachers to help children or students make the kinds of resolutions that could have a significant impact on their quality of life. [4.6.7]

One of the main goals of the plan is to give students a better sense of the things in their lives that they do have control over. That's an important message; one that can empower them to take ownership for their choices and start making big changes. This message will be most effective if students are exposed to a broad range of possibilities, rather than limit themselves to whatever ideas they happen to come up with on their own.

4.6.6.1 List of possible resolutions

Spend some time looking at the kinds of resolutions people make. You might brainstorm a list of possible resolutions on the board, and then divide that list into categories.

The list could include categories and examples like these:

- Academic Resolutions: set up a homework routine, keep school materials organized.
- Relationship Resolutions: be a better listener, stop gossiping, spend more time with the family.
- Personal Growth Resolutions: learn a new hobby or skill, spend less time on devices.

- Health Resolutions: eat less junk food, exercise more, get better sleep.

Once students have explored many possibilities, have them choose at least one resolution for the New Year.

4.6.6.2 Explain how to turn a resolution into a goal

One of the reasons some resolutions fail is because they aren't specific or measurable. If a person resolves to "eat healthier," it is hard to measure and hard to track. With a broad resolution, it's easy to fall into a gray area and eventually drop it altogether. So, teach students how to take a vague resolution like "give my dog more attention" and turn it into a specific, measurable goal like "spend 10 minutes a day petting and playing with my dog."

If a resolution is something more complex and long-term, like "learn how to cook," have students think about what success with that resolution might look like: Maybe someone who knows how to cook can make a certain number of meals easily, so have the student decide what that number is and set a deadline for learning that number of meals. Or better yet, have them create a list of specific things they want to learn how to cook; this can serve as a checklist for the year.

4.6.6.3 Show students how to track their goals

Explain to students that people generally have a greater chance of meeting their goals if they keep track of their progress in some way. Then, show them how to do it.

Because students will have different kinds of goals, they will need different approaches to this tracking. Some will have the kind that requires daily changes, like flossing every day or spending time each day with a pet. For a goal like that, they could use a daily record like this one, where they record "scores" that they define themselves.

4.6.7 Summary

The last and most important point to mention here is that all the positive changes you make have to be permanent. You will need to work on sticking with the good habits you have adopted, until they just become a natural part of who you are. That is how you achieve true self-improvement.

4.7 Implement

Education is becoming a lifelong learning process. In the process, you will face many study challenges, such as any of the following:

- Developing bad habits
- Missing deadlines
- Low confidence
- Easy withdrawing
- High expectations
- Limited resources

There is a well-known management method used in business for the control and continual improvement of processes and products call PDCA.[4.7.1] It involves an iterative four-steps (plan–do–check–act or plan–do–check–adjust).

The PDCA method can be modified for students to overcome study challenges. For this purpose, I have regrouped it to DPDC (define-plan-do-check), which reflects the cycle of MASTER activities:

- **Define** the root cause and the gap: If you have a study problem, find the root cause of it in each part of the six MASTER's parts. As Charles Kettering said, "A problem well-stated is half-solved". Thus, the real problem should be clear to you before you are able to tackle it. If you have a study goal, find the gap between the goal and your current situation in each part of the six MASTER components. It will point you in the right direction.

- **Plan** your tasks and time: Establish measurable objectives in each of the MASTER model's six parts. Schedule the time necessary to deliver results in accordance with the expected output.
- **Do** actions: Implement the plan, following scheduled procedures and the relevant timeframes. It will be more effective if all six components of MASTER are used regularly through those actions.
- **Check** the results: Review the actual results (measured and collected in "Do" above) and compare them against your expected results (targets or goals from the "Plan" section) to ascertain any differences. Look for deviation in implementation from the plan and also look for the appropriateness and completeness of the plan. When possible, it is better to start on a small task to test the waters, which will help you to adjust the plan at an earlier stage.

The DPDC should be repeatedly implemented in a circular way so that you can keep increasing your knowledge, skills and performance. All your efforts will eventually converge into the final goal, with each cycle coming closer to your goal than the previous. Rather than get it perfect the first time, it is better to be approximately right and keep improving. With the improved knowledge, you may choose to refine or alter the goal. Certainly, the DPDC approach can bring you closer to whatever goal you choose.

Chapter 5 The Theory of Knowledge

It's widely known and accepted that we've never faced such a huge information overload as we do today. The World Economic Forum considers the spread of false information so serious that it has ranked it as one of the top 10 biggest challenges facing humanity. As a result, it's crucial that we develop our skills of thinking critically about the information we receive. [5.1]

Critical thinking is listed as the number one skill in the 21st Century education skillset. Unfortunately, it is not formally taught in the majority of schools. There is one educational program ahead than others that provides critical thinking training. This is the International Baccalaureate (IB) Diploma Programme.

Theory of knowledge (TOK) is one of the IB 'flagship courses', which encourages students to formulate answers to the question "how do you know?" in a variety of contexts, and to see the value of that question. This allows students to develop an enduring fascination with the richness of knowledge.

Specifically, the aims of the TOK course are for students to: [5.2]

1) Make connections between a critical approach to the construction of knowledge, the academic disciplines and the wider world

2) Develop an awareness of how individuals and communities construct knowledge and how this is critically examined
3) Develop an interest in the diversity and richness of cultural perspectives and an awareness of personal and ideological assumptions
4) Critically reflect on their own beliefs and assumptions, leading to more thoughtful, responsible and purposeful lives
5) Understand that knowledge brings responsibility which leads to commitment and action

For the students who are not enrolled in the IB Diploma Programme, it is better for them to learn, or at least to develop awareness of some basic concepts of TOK, to lift their thinking power. The following excerpts in Chapter 5 are from the "Theory of Knowledge Guide" by the International Baccalaureate Organization.

5.1 Knowing About Knowing

TOK is a course about critical thinking and inquiring into the process of knowing, rather than about learning a specific body of knowledge. The TOK course examines how we know what we claim to know. It does this by encouraging students to analyze knowledge claims and explore knowledge questions. A knowledge claim is the assertion that "I/we know X" or "I/we know how to Y", or a statement about knowledge; a knowledge question is an open question about knowledge.

TOK identifies the way of knowing and the key characteristics of knowledge, which supports IB subjects in

the sense that they reference each other and share some common goals. In this way, we can explore the nature of knowledge.

To be able to understand the nature of knowledge better, TOK also explores both the personal and group shared aspects of knowledge and investigates the relationships between them.

5.2 The Ways of Knowing

While there are arguably many ways of knowing, the TOK course identifies eight specific ways of knowing (WOKs). They are language, sense perception, emotion, reason, imagination, faith, intuition, and memory. Students must explore a range of ways of knowing, and it is suggested that studying four of these eight in depth would be appropriate.

The WOKs have two roles in TOK:

- They underlie the methodology of the areas of knowledge
- They provide a basis for personal knowledge.

Discussion of WOKs will naturally occur in a TOK course when exploring how areas of knowledge operate. Since they rarely function in isolation, the TOK course should explore how WOKs work, and how they work together, both in the context of different areas of knowledge and in relation to the individual knower. This might be reflected in the way the TOK course is constructed. Teachers should consider the possibility of teaching WOKs in combination or as a natural result of considering the methods of areas of knowledge, rather than as separate units.

5.3 The Areas of Knowledge

Areas of knowledge are specific branches of knowledge, each of which can be seen to have a distinct nature and different methods of gaining knowledge. TOK distinguishes between eight areas of knowledge. They are mathematics, the natural sciences, the human sciences, the arts, history, ethics, religious knowledge systems, and indigenous knowledge systems. Students must explore a range of areas of knowledge, and it is suggested that studying six of these eight would be appropriate.

The knowledge framework is a device for exploring the areas of knowledge. It identifies the key characteristics of each area of knowledge by depicting each area as a complex system of five interacting components. This enables students to effectively compare and contrast different areas of knowledge and allows the possibility of a deeper exploration of the relationship between areas of knowledge and ways of knowing.

5.4 Nature of the Subject

TOK provides an opportunity for students to reflect on the nature of knowledge. The task of TOK is to emphasize connections between areas of knowledge and link them to the knower in such a way that the knower can become aware of his or her own perspectives and those of the various groups whose knowledge he or she shares. TOK, therefore, explores both the personal and shared aspects of knowledge and investigates the relationships between them.

The raw material of TOK is knowledge itself. Students think about how knowledge is arrived at in the various disciplines, what the disciplines have in common and the differences between them. The fundamental question of TOK is "how do we know that?" The answer might depend on the discipline and the purpose to which the knowledge is put. TOK explores methods of inquiry and tries to establish what it is about these methods that make them effective as knowledge tools. In this sense TOK is concerned with knowing about knowing.

The individual knower has to try to make sense of the world and understand his or her relationship to it. He or she has at his or her disposal the resources of the areas of knowledge, for example, the academic disciplines studied in the Diploma Programme. He or she also has access to ways of knowing such as memory, intuition, reason and sense perception that help us navigate our way in a complex world.

It is easy to be bewildered by the sheer diversity of the knowledge on offer. For example:

- In physics, experiment and observation seem to be the basis for knowledge. The physicist might want to construct a hypothesis to explain observations that do not fit current thinking and devises and performs experiments to test this hypothesis. Results are then collected and analyzed and, if necessary, the hypothesis modified to accommodate them.
- In history there is no experimentation. Instead, documentary evidence provides the historian with the raw material for interpreting and understanding the recorded past of humanity. By studying these sources carefully a

picture of a past event can be built up along with ideas about what factors might have caused it.

- In a literature class, students set about understanding and interpreting a text. No observation of the outside world is necessary, but there is a hope that the text can shed some light upon deep questions about what it is to be human in a variety of world situations or can act as a critique of the way in which we organize our societies.
- Economics, by contrast, considers the question of how human societies allocate scarce resources. This is done by building elaborate mathematical models based upon a mixture of reasoning and empirical observation of relevant economic factors.
- In the islands of Micronesia, a steersman successfully navigates between two islands 1,600 km apart without a map or a compass.

In each case above there is clearly knowledge at work, although the collection as a whole illustrates a wide variety of different types of knowledge. The task of TOK is to examine different areas of knowledge and find out what makes them different and what they have in common.

At the center of the course is the idea of knowledge questions. These are questions such as:

- What counts as evidence for X?
- What makes a good explanation in subject Y?
- How do we judge which is the best model of Z?
- How can we be sure of W?
- What does theory T mean in the real world?

- How do we know whether it is right to do S?

While these questions could seem slightly intimidating in the abstract, they become much more accessible when dealt with in specific practical contexts within the TOK course. The intention is that these contexts provide concrete examples of knowledge questions that should promote student discussion.

Discussion forms the backbone of the TOK course. Students are invited to consider knowledge questions against the backdrop of their experiences of knowledge in their other Diploma Programme subjects. The experiences of the student outside school also have a role to play in these discussions, although TOK seeks to strike a balance between the shared and personal aspects of knowledge.

Recognizing the discursive aspect of the course, the TOK presentation assesses the ability of the student to apply TOK thinking to a real-life situation. The TOK essay gives the opportunity to assess more formal argumentation prompted by questions of a more general nature.

TOK is a course in critical thinking but it is one that is specifically geared to an approach to knowledge that is mindful of the interconnectedness of the modern world. "Critical" in this context implies an analytical approach prepared to test the support for knowledge claims, aware of its own weaknesses, conscious of its perspectives and open to alternative ways of answering knowledge questions. It is a demanding course but one that is an essential component not only of the Diploma Programme but of lifelong learning.

5.5 TOK and the International Mind

"Teachers open the door, but you must enter by yourself." – Chinese proverb

Knowledge can be seen as the shared legacy of mankind, a legacy which has been shaped and influenced by a wide range of cultures. This era of increased global interconnectedness promises unprecedented possibilities for interaction and enhancement of mutual understanding arising from the nurturing of international-mindedness.

The Chinese anticipated a period of "Tai", a time when communication between individuals and the world at large is totally open and people are receptive to new ideas. The TOK course provides an ideal vehicle for such global exchange and beneficial action through its examination of shared and personal knowledge in an atmosphere of critical and reflective inquiry.

We have inherited rich traditions from indigenous knowledge systems, stretching back to the origins of our societies and cultures. Africa, where the human adventure began, has transmitted a treasure trove of wisdom. The Swahili proverb akili ni mali ("intelligence is wealth") and the Gikuyu saying, "wisdom is ahead of might", represent the clear call for the primacy of good thinking for humans to survive and flourish. Early African cultures celebrated diversity, a model for our times. The Asante proverb from West Africa tenabea nyinaa nse reminds us that all dwelling places are not alike and the Swahili kila ndege huruka na mbawa zake encourages every bird to fly with its own wings.

Responsible action underpins this respect for diversity. This is also seen in the Australian aboriginal idea of "Dreamtime", which promotes a sophisticated ecological perspective, including a celebration of nature's bounty in multiple art forms and careful stewardship of the earth's resources.

Ancient Asian civilizations have bequeathed profound insights which continue to guide our thinking. The Chinese were among the first cultures to recognize knowledge ("Shi"), its power, and the deep respect for learning and the wise sage figure permeates educational systems in that part of the world. The understanding of the self is seen as the essential foundation to effective membership and action in ever expanding spheres of community. The Indian concept of "Brahman" links the individual knower to a boldly conceived "universal spirit", a sense of human and cosmic unity.

The Chinese sage, Confucius, inspired a tradition of inclusive and merit-based education allied to critical thinking: "A gentleman can see a question from all sides without bias". Inheriting the inquiring spirit of Indian Vedanta, the Buddha boldly linked human suffering and dissatisfaction not only to a craving for physical and worldly pleasures but also to an attachment to ideas, opinions, and beliefs, to be replaced by a more dynamic and open-minded approach to knowledge construction. Greek thinkers introduced the notion of political democracy and the important foundations of modern science and mathematics, while their dramatists confronted audiences with complex characters and multiple perspectives. The deep understandings of these traditions were preserved and enriched in the golden age of Islamic civilization in the 10th to

12th centuries CE, a renaissance of learning and artistic flowering that continues to inspire our knowledge quest.

Students and teachers today are the inheritors of this grand journey. The path ahead, as usual, presents us with both opportunities and challenges. The TOK classroom invites a unique partnership of learning, for global controversies often rest on significant knowledge questions that can provide useful starting points for TOK explorations and TOK, in turn, can contribute significantly to the understanding of these large questions. The IB vision of internationally minded individuals implies a global engagement, embodying a commitment to address these 21st century challenges. TOK exists at the very core of the quest, as we strive toward an enlightened and fulfilled humanity.

5.6 Engaging With Sensitive Topics

Studying TOK allows the opportunity for students to engage with exciting, stimulating and personally relevant topics and issues. However, it should be noted that often such topics and issues can also be sensitive and personally challenging. Teachers should be aware of this and provide guidance to students on how to approach and engage with such topics in a responsible manner.

5.7 Specific Ways of Knowing

Below is a brief introduction to each WOK. The questions preceding the description of each WOK are simply stimulus questions, designed to promote discussion and raise

awareness of the individual WOKs and their impact on knowledge.

5.7.1 Language

How does language shape knowledge? Does the importance of language in an area of knowledge ground it in a particular culture? How are metaphors used in the construction of knowledge?

Language can refer to the mental faculty which allows people to learn and use complex communication systems, or it can refer to those systems themselves. Language consists of a system of signs with agreed or conventional meanings combined according to a set of rules for the purposes of communication, formulation of ideas, storage of knowledge or as a medium of thought. The term "signs" can be interpreted very broadly to include letters, symbols, sounds, gestures, images and even objects. Language is a crucial part of our daily lives, but is also filled with potential problem areas, for example, ambiguity, sarcasm, irony and translation issues.

Language plays an important role in communicating knowledge. However, some see language as having an even more central role, arguing that language doesn't just describe our experiences of the world but in fact actually structures those experiences. There is a discussion about whether certain types of knowledge are actually constituted by language—the idea that language is part and parcel of the knowledge claim itself and not merely a description of something that exists independently of language. The view that facts about the world might be determined by the language is called linguistic determinism.

5.7.2 Sense perception

How can we know if our senses are reliable? What is the role of expectation or theory in sense perception? What is the role of language in sense perception?

Sense perception is the process by which we can gain knowledge about the outside world. Traditionally, there were believed to be five senses: sight, touch, smell, taste and hearing. However, many now argue that there are others such as a sense of heat, sense of pain, sense of movement, sense of balance and the senses of hunger and thirst, or a sense of where our body parts are.

Historically, the view that the senses provide the basis for all our knowledge was challenged by the idea that prior concepts might be needed before any perception takes place at all. Indeed, it is common now to view sense perception as an active process of interpreting the world according to prior expectations, conceptual frameworks and theories. There is, therefore, some disagreement as to whether we directly perceive the world as it is, or whether perception is an active process where we supply much of the content of our experiences ourselves.

5.7.3 Emotion

Are emotions universal? Can/should we control our emotions? Are emotions the enemy of, or necessary for, good reasoning? Are emotions always linked to belief?

The naturalistic view of emotions is that they are the products of natural processes, with physiological causes and effects. One supporter of this view was Darwin, who believed that

emotions are purely physiological and therefore universal and experienced across all cultures. However, there seem to be many examples of culturally bound emotions, for example, the Chinese notion of "sad love". The opposite view is therefore that of the social constructionists, who argue that emotions depend on a social consciousness, and have no natural basis at all. For example, emotions such as shame seem to presuppose a notion of right and wrong.

Emotion has sometimes been regarded as an unreliable way of knowing. Emotions have, for example, been criticized as being irrational obstacles to knowledge that distort our picture of reality. However, others believe that not only do emotions help make sense of social and cultural experiences and behaviors, but they are also the source of social, ethical and political knowledge by helping us form an understanding of the world around us.

5.7.4 Reason

What is the difference between reason and logic? How reliable is inductive reasoning? Are we predictably irrational?

Reason allows us to go beyond the immediate experience of our senses. It is closely linked to logic—the deducing of valid conclusions from given starting points or premises. Human reasoning can also be inferential in nature, allowing conclusions to be drawn that cannot be strictly deduced from their premises.

It then becomes an interesting question of whether standards of rationality and norms of reasoning are grounded in culture.

Areas of knowledge might set their own requirements for the types of reasoning that are accepted.

Inductive reasoning is the process of supporting general statements by a series of particular ones—the reverse of deductive reasoning which tends to proceed from the general to the particular. Inductive reasoning is by its nature inferential. Statements involving the word "all" are often not strictly provable given the difficulties in making observations of an infinite set of particulars. This is of importance in the natural sciences but also in human sciences such as psychology and economics.

5.7.5 Imagination

What is the role of imagination in producing knowledge about a real world? Can imagination reveal truths that reality hides? What is the role of the imagination in understanding others?

Imagination is often identified in a narrow sense as the capacity to form a mental representation of something without the stimulus of sense experience. Traditionally imagination has been associated with imagery and making a mental image of something. However, more recently interest in the imagination has also focused on exploring propositional imagining, or "imagining that". The importance and power of the imagination is highlighted by a number of medical conditions which impact upon it, for example, conditions which can impair imagination such as severe autism, or conditions which can cause delusions such as severe schizophrenia.

Imagination is sometimes viewed in a broader way as being associated with creativity, problem-solving and originality. Here it might be the making of connections between otherwise disparate ideas in order to solve problems. This might be useful in model making or theory creation in the sciences and solving structural problems in the arts. Imagination is, however, also sometimes distrusted, in part because it is regarded as something that is derived in the mind of the individual and therefore subjective. Imagining is also sometimes associated with counterfactual reasoning; imagining "what would happen if …", or "what would have happened if …".

Imagination is also sometimes associated with possibility, in that it can be argued that only things which are possible can be imagined. In this way, the imagination is seen by some to provide evidence of what is and is not possible. In daily life, imagination has a particularly prominent role in entertainment, for example, fictional films or television programmes. However, it can be argued that imagination also plays a deeper role, for example, in moral education, developing empathy, or providing opportunity for self-expression and an increased understanding of the self.

5.7.6 Faith

Should humanism or atheism be described as a faith? Can theistic beliefs be considered knowledge because they are produced by a special cognitive faculty or "divine sense"? Does faith meet a psychological need?

The term "faith" is most frequently used to refer specifically to religious faith, but can also be used in a secular sense as a

synonym for trust. Although most associated with belief in a God or gods, faith can be religious without being theistic, for example, in Buddhism. Alternatively it can be seen as a commitment to a particular interpretation of experience and reality which is not necessarily religious at all, such as humanism. Logical positivism claims that statements of faith have no meaningful cognitive content, so it doesn't make sense to speak of faith as a way of knowing. However, for many people faith is a key way in which they try to understand and explain the world.

The evidence on which faith is based on is often controversial. This is particularly the case in the example of scripture, which those within the religious group often see as infallible evidence, while those outside the religious group might be more circumspect. While critics argue that faith is irrational and incoherent, others would argue that faith should be seen as a way of going beyond reason rather than being purely irrational. Indeed, although faith is often contrasted with reason, many religions regard faith and reason as interdependent, for example, natural theology argues that it is only possible to access God through reason, and many religions regard reason as a God-given gift.

Some would argue that the criticism and controversy surrounding the evidence for faith claims is misplaced, arguing that faith is an act of trust and is an example of knowledge which is not evidence based. Indeed, in some traditions belief that is not based on evidence is seen as superior to belief that is based on evidence, the demand for concrete evidence being seen to signify a lack of faith. Given

this controversy, teachers should provide the opportunity for a critical discussion of faith as a way of knowing. Its inclusion as a way of knowing should not be seen as an excuse for unthinking acceptance of knowledge claims in religion or other areas of knowledge.

5.7.7 Intuition

Why some people are considered more intuitive than others? Are there certain things that you have to know prior to being able to learn anything at all? Should you trust your intuition?

Intuition is sometimes described as immediate cognition, or knowledge which is immediately evident without prior inference, evidence or justification. Intuition is often contrasted with reason, as it is regarded as knowing without the use of rational processes. Jung (Psychologische Typen 1921) famously referred to intuition as perception via the unconscious, highlighting the idea that intuition is often seen as beliefs which are known without understanding how they are known.

Intuition is sometimes associated with the concepts of instinct and innate knowledge. For example, some would argue that although we do not have innate knowledge of any particular language, we have an intuitive capacity to use language. Intuition has been much discussed in the field of ethics in terms of whether we have moral intuition, or a kind of innate sense of right and wrong. It is also seen by some to play an important role in scientific advances.

To know something by intuition is to know something through introspection or an immediate awareness. In this way,

some argue that it is impossible to justify, or that as it is immediately evident it requires no further justification. Some people are regarded as more intuitive than others, with intuitive people often being said to make quick instinctive decisions without having any identifiable rationale for those decisions. However, some have denied the existence of intuition as a separate way of knowing. For example, it has been suggested that intuition is a term which is often used to describe a combination of other ways of knowing, such as prior experience, heightened sense perception and an active imagination.

5.7.8 Memory

Can we know things which are beyond our personal present experience? Is eyewitness testimony a reliable source of evidence? Can our beliefs contaminate our memory?

Many discussions of knowledge tend to focus on how beliefs and knowledge are formed rather than on how they are remembered by the individual. However, most of the knowledge that individuals have is in the form of memory and therefore how we retain information and how past events and experiences are reconstructed is an important aspect of how personal knowledge is formed.

Memory, and particularly habit, has a strong link to procedural knowledge and remembering how to perform actions. In contrast to perception, memory refers to things which are not currently happening. And in contrast to imagination, memory refers to things which we believe really happened. Some would argue that memory is not itself a

source of knowledge, but instead is a process which we use to recall knowledge gained in the past. However, although memory refers to knowledge gained in the past, it can be argued that even new knowledge is dependent on and influenced by memory. For example, how we interpret new situations can be heavily influenced by experience and previous events. In this way, apart from being a "storage unit" for existing knowledge, memory can also be a mechanism that allows us to process new and unique situations.

The importance of memory can be highlighted by imagining the challenges that would be presented by losing our memory. Because so much of our personal knowledge is in the form of memory, issues surrounding the reliability of memory are also crucial. Memory retrieval is often regarded as unreliable, for example, because it is seen to be subjective or heavily influenced by emotion. However, we rely on our memory every day and because many of our memories seem to be reliable, this gives us confidence that our other memories are reliable.

A Final Word

This book is focused on self-study skills training. It introduces the MASTER model as the most powerful tool for self-study.

In school, classroom study is more important than self-study because it is part of a child's formal education. Self-study only plays a supporting role. However, this position of classroom study is depreciating more than before due to the following movements:

- Teachers are moving more lectures online
- Teacher are moving more homework exercises online
- Teacher are moving more tests and exams online
- Students are using computers more frequently to do their work, such as reading textbooks, doing homework, or watching online lectures
- Students are using online chatting applications more for group study
- Students are taking more responsibility for their own study

In the future, self-study will play a more important role, as it is required not just for school-related studying, but also for future jobs and life skill training.

This book has only provided the guidelines on how to self-study using the MASTER model. To be able to personalize these skills into your own study abilities, you will have to take the following actions:

Practice and Practice

It's easy to remember the components by using the name "MASTER". However, a lot of practice is required to build a new habit. Just like any kind of sport, just knowing the skills is not enough. You need to do frequent exercises to be able to make it a part of yourself.

MASTER is not only a skill for students during their schooling career, but also, and perhaps more importantly, it is a skill that can be used for self-study after schooling, such as in future jobs and general life.

Nowadays, it is easy to learn things online by ourselves. You can find everything you want to learn there. Choose something you would like to learn, and then have a go at practicing MASTER as you learn.

Acquire More Skill Sets

Different subjects require us to learn different skill sets. Most people are good at some subjects and bad at some others. This means that they may use the wrong set of skills for some subjects.

In the 21st Century, one set of skills is no longer enough. Nowadays, many people were laid off from work because they don't have updated skill sets, such as the ability to code or use complex computing devices. They might claim that they did not learn it in the school, so why learn it now? These people are hindered by this attitude. Those who lack the ability to self-study will be far slower to learn new knowledge

and master new technologies. To avoid these things happening in our futures, we must build ourselves the powerful ability to learn anything we may need during our lives.

MASTER is a general model for all studies. You can use it to build different skill sets for different subjects. At school, if you can learn six or more sets of learning skills (like the six compulsory groups of subjects in the IB programme), this may put you in good stead to build a sufficient foundation upon which to build new learning skills for your future.

Be a Lifelong Learner

There are three proverbs that can help you be a lifelong learner:

1) “As long as you are living, you will always be learning”, a Chinese proverb, which means that we simply cannot stop learning in our lives. In this fast-paced and rapidly changing world, we would have already experienced the drawbacks upon failure to learn and keep up.

2) “Teachers open the door. But you must enter by yourself”, another Chinese proverb, which means that teachers can give you the tools and the guide, but it is you who has to take the initiative to apply what you have learnt to be successful.

3) “Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime”. This demonstrates that it is more worthwhile to teach someone to do something

(for themselves) than to do it for them (even if on an ongoing basis).

The lives of our children will be just as challenging as ours, but the issues that face them will be completely different. Twenty years ago, we could not have guessed at the technological advancements that would change our lives forever. This will happen to our children as well, but on a far larger scale. However, now we are all armed with MASTER as our sword to face future challenges.

Further Enquiry

If you have any further queries, please do not hesitate to contact LSKV: lskv8@yahoo.com

Appendix 1 International Baccalaureate

An increasing number of Australian parents are choosing International Baccalaureate (IB) programs over state curriculum options. This trend is particularly strong in the senior secondary years, where the IB Diploma has almost tripled in popularity since the early 2000s [A.1].

Globally, the IB is now offered in nearly 4000 schools across 148 countries. Its reach has been extended beyond the senior years to offer primary and middle years programs, and a vocational career-related certificate.

Once considered the preserve of international schools, the IB Diploma is an emerging rival to state-based certificates – such as the Higher School Certificate (HSC) in NSW and the Victoria Certificate of Education (VCE) in Victoria. The diploma is offered in a range of public and private schools.

But what is it about the IB Diploma that makes it such an alluring option to parents? And how is it different from existing state-based curricula and certificates?

The global certificate

The global nature of the IB Diploma has always been a key feature. This no doubt is appealing to parents who are keen to prepare their children for participation in global education and job markets.

The IB was established in Geneva in 1968, with the aim of developing "international mindedness" in students. The

current aim of the IB Diploma is to prepare students for effective participation in a rapidly evolving and increasingly global society.

As globalization has intensified, the IB Diploma is increasingly seen as a university preparation program catering for mobile and transnational young people.

In Australia, many private schools have adopted the IB Diploma program. They often sell it to parents and students as a more robust and superior pathway to university. Of course, the domination of Australian private schools in the provision of the IB has fuelled perceptions that it is an elite and exclusive curriculum. Globally, however, this is not the case. Public schools offer more than half of all IB programs, particularly in the USA.

Curriculum breadth

The IB Diploma has a unique curriculum, with several features that distinguish it from state-based senior certificates.

To begin with, its curriculum emphasizes academic breadth over specialization. Students are required to study one subject from each of the following five groups:

- Language and literature
- Language acquisition (a second language)
- Individuals and societies
- Sciences
- Mathematics

Students can then elect to do a sixth subject from the Arts, or take another subject from the first five groups.

Figure 1: The IB Diploma's curriculum.[A.1]

The academic curriculum is accompanied by The Learner Profile. This outlines a set of ten learning attributes that the IB organization suggests are central to building internationally-minded people.

The IB's emphasis on academic breadth and its requirement of a second language could be seen as both a blessing and a curse. On the positive side, a second language is likely to make students more competitive in global job markets and the emphasis on breadth will keep their post-school options open by ensuring they remain academic "all-rounders".

On the downside, some might view the language requirement as unnecessarily onerous, and the emphasis on breadth as discouraging the specialization that many state-based certificates allow for students who want to tailor their senior years towards preferred subject areas.

Since the 1990s, Australian state-based certificates have also seen a rapid increase in vocational education and training options. All certificates now allow students to integrate vocational training into their senior years.

The IB Diploma, however, remains academically focused and does not allow for the integration of vocational subjects. For students who wish to pursue vocational pathways, the IB has recently created the IB Career-related Certificate. There is, however, currently only one provider in Australia.

Core requirements

In addition to its focus on breadth, the IB Diploma has three "core requirements".

First is the "Extended Essay". This requires students to undertake research in an area of personal interest, working with an "academic supervisor" (usually a teacher in their school) to produce a 4000-word written piece.

Second is the core subject "Theory of Knowledge". This engages students in theoretical reflections on the nature of knowledge, with a particular focus on how evidence is gathered and used in contemporary contexts.

Third is a core subject called "Creativity, Action, Service". This requires students to engage in a range of creative arts-based, physical and service-learning activities.

The Extended Essay and Theory of Knowledge are both highly academic and can be seen as providing a segue from the senior secondary years to university study.

These requirements might be appealing to parents who want their children to arrive at university with an advantage over others. There is some evidence to suggest this might be the case. The IB organization, for example, has compiled summaries of research suggesting students who take the diploma achieve higher results at university and have better post-university employment outcomes.

Looking to the future?

As the cultural and economic realities of globalization deepen, new curricula will be required that extend beyond the traditional concerns of nations.

While national and local factors clearly remain important, curricula will need to pay greater attention to looking forwards and outwards, to cater for an increasing number of transnational families and young people.

In Australia, the future of state-based senior certificates hinges largely on whether or not the national Australian Curriculum is extended into the senior years, as was originally planned. The option of a future national certificate is not out of the question.

In the meantime, the trajectory of change suggests parents will continue to vote with their feet and overlook state options in favor of “global alternatives” like the IB.

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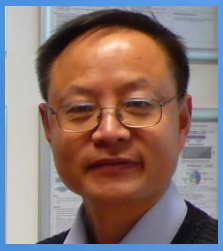

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