A TALE OF TWO LEARNERS

ACTIVE AL 				 PASSIVE PETER
• **ATTENDS ALL CLASSES**		✓ Learning is like constructing a building, brick by brick. A building with missing bricks will be weak and crumble.		• **SKIPS CLASSES**
• **TAKES NOTES IN CLASS** • **TAKES NOTES IN MARGIN OF TEXTS**		✓ Handwriting helps cement learning in the brain. ✓ Handwriting notes helps to synthesize the information.		• **TAKES PICTURES OF TEACHERS' NOTES** • **HIGHLIGHTS & UNDERLINES TEXT**
• **STUDIES BY "DOING": WRITING & SPEAKING = PRODUCING**		✓ Actively practicing materials in different modes enhances neural connections		• **STUDIES BY PASSIVELY READING**
• **CHUNKS CONCEPTS** • **GAINS CONTEXT BY BOTTOM UP & TOP DOWN LEARNING**		✓ Working memory can only hold about 4 chunks, so by putting ideas into chunks, working memory can hold more information. ✓ Seeing the big picture + practice = understanding the context easier, i.e. Learning the major concepts first and filling in the details later is easier by chunking. ✓ Chunking also makes it easier to transfer to other contexts because it puts together chunks in new ways.		• **KEEPS CONCEPTS SEPARATE**
• **MAKES USE OF VISUAL AND SPATIAL MEMORY**		✓ Making memorable mental images and "putting" ideas into different locations (Memory Palace Technique) creates more "hooks" to hang the information and makes it easier to remember, especially unrelated items.		• **DOES NOT ASSOCIATE IDEAS WITH IMAGES OR PLACES**
• **STUDIES BY RECALLING INFORMATION** • **STUDIES BY TESTING SELF**		✓ Practicing and retrieving information produces deeper level learning, especially in different contexts so that learning a concept does not depend on one specific cue. ✓ Understanding a concept, doesn't mean actually being able to use it.		• **STUDIES BY PASSIVELY READING MATERIAL AGAIN & DRAWING CONCEPT MAPS** • **HAS AN ILLUSION OF COMPETENCE**
• **REALIZES THE BENEFITS OF BOTH FOCUSED AND DIFFUSED MODES OF LEARNING** • **GETS SUFFICIENT SLEEP** • **EXERCISES**		✓ Focusing is beneficial for short periods of time. Stepping away from the task helps the brain process material. ✓ Sleep cleans out the toxins that build up while awake and strengthens learning. Planting a problem just before going to sleep can trigger dreaming about it and		• **OVERUSES FOCUSED MODE OF LEARNING** • **DOESN'T REALIZE THE IMPORTANCE OF SLEEP AND EXERCISE**

		coming up with solutions. ✓ Exercise increases the number of neurons in the brain.		
• **ABLE TO UNLEARN PREVIOUS ERRONEOUS IDEAS**		✓ When an initial idea prevents finding a better idea, it creates a road block to learning.		• **SUFFERS FROM EINSTELLUNG**
• **PRACTICES INTERLEAVING**		✓ Switching back and forth to various types of examples fosters flexibility, creativity and deeper learning.		• **STICKS TO ONE EXAMPLE**
• **IS NOT AFRAID OF MAKING MISTAKES**		✓ Learn from mistakes. (One of my favorite quotes is from Thomas Edison: "I have not failed. I've just found 10,000 ways that won't work.")		• **IS AFRAID OF MAKING MISTAKES SO DOESN'T TRY**
• **MEMORIZES BY USING VARIOUS DEVICES:** **ANALOGIES, METAPHORS** **MNEMONIC DEVICES** • **SPACES REPETITION OVER TIME**		✓ Using these memory devices aids in chunking material into meaningful groups, thereby making it easier to remember. ✓ Mindless repetition doesn't link the material to other contexts, making it difficult to remember. ✓ Spacing repetition and recall out over several days helps cement material in the mind. ✓ Repetitive overlearning wastes valuable learning time. ✓ However, repetition over time facilitates moving information from working memory to long term memory.		• **OVERLEARNS BY MEMORIZING AND REPEATING AND REPEATING AT ONE TIME** • **CRAMS THE NIGHT BEFORE THE TEST**
• **DEALS WITH PROCRASTINATION WITH THE POMODORO TECHNIQUE TO AVOID DISTRACTIONS**		✓ Setting a timer for a short period of time is a motivator to study. ✓ Procrastination can become a habit. To change the habit, shift your belief. ✓ Getting a reward for sticking to studying can also be a motivator.		• **ALLOWS DISTRACTIONS TO PROMOTE PROCRASTINATION**
• **FOCUSES ON THE PROCESS**		✓ Focusing on the product of studying causes discomfort, which leads to procrastination. ✓ Focusing on the process of getting to the product facilitates studying in smaller chunks of time spread out over a few days. This enhances the ability to make the process a habit and puts a student in "zombie" mode, which takes up less space in the mind than trying to use willpower.		• **FOCUSES ON THE PRODUCT**
• **PLANS DAILY BY WRITING A "TO DO" LIST OF TASKS THE NIGHT BEFORE AND PLANS BREAKS AND REWARDS**		✓ Having a list already made frees up space in working memory. ✓ Planning breaks and setting a time to quit and get a reward are motivators to stick to the process.		• **DOES NOT HAVE A PLAN**

• **KNOWS THAT SUCCESS COMES WITH PASSION & PERSISTENCE** 				• **THINKS ABOUT SUCCESS ITSELF BUT NOT THE PROCESS IN GETTING THERE**