

The purpose of this assignment is to determine how I can use information processing system, elaborative rehearsal, spacing effect, and retrieval versus exposure to improve the effectiveness of my learning. I want to be able to improve my learning style not only so I can become a better student but also so that I can be more experienced, well qualified engineer.

What are the key questions of this issue? What techniques can I use to incorporate those four concepts? How do they allow me to improve my learning skills? When can I apply these techniques and skills?

There are several assumptions I can make about using these four concepts to improve the effectiveness of my learning. I know that it will help me with my classes and Engineering courses. I can use these concepts in all parts of life. By improving my learning skills, I will become a better student thus getting better grades and higher test scores.

There are four main concepts that I can use to improve the effectiveness of my learning. The first is Information Processing System which is the mechanism our brains' use to store and keep important information. Our brains' make connections to different pieces of information and decides which information is necessary and which is not. After deciding which information to keep, it stores the information away while disposing unwanted content. For example, before I go to sleep, I review different texts from my psychology text book. When I am sleeping, my brain processes the information I have gained and begins to file the important facts from the unnecessary junk. Many different universities such as Brown and Ohio Northern have confirmed that students who sleep less than the designated amount have been known to have decreased academic performance as well as lower GPA scores.

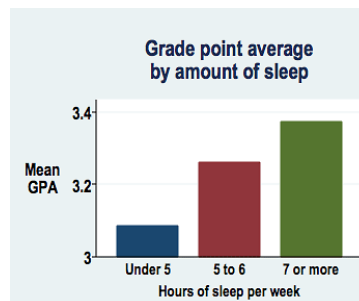


Figure 1. Bar graph of hours of sleep to average GPA.

Figure 1 shows a bar graph done based off a study done in UC Berkeley. Based off the graph we can see that those who have greater hours of sleep tend to have higher GPA of at least 3.00.

Elaborative rehearsal is the mechanism in which you think about the meaning of words as well as make associations with previous information that has been committed to memory. By understanding the information you are learning as well as making connections to other pieces of information, a student is able to not able to recall specific information more efficiently but will be able to build off of old information as well. For instance, my high school biology professor often made us study the AP Biology textbook. As we progressed through the book, she would often make review older concepts and make connections between past and current concepts. By making these connections we were able to effective remember information as well develop better recollections skills.



Figure 2. Information flow chart.

Figure 2 illustrates how flow charts can be used to make connections and associations through the use of elaborative rehearsal.

The Spacing effect is a term used to describe the amount of material learned in relation to the amount of time it was learned in. Studies have shown that students that learn material over a longer time period in set intervals have been able to maintain the knowledge learned more effectively than those who learn the information in a shorter duration with smaller spaced breaks in between. For example, in college we take classes that are spread throughout the week instead of have one six hour class in a day.

Monday	Tuesday	Wednesday	Thursday	Friday
PSY 201	No Class	PSY 201	No Class	PSY 201

Figure 3. Class schedule throughout the week.

Figure 3 shows us a chart of my PSY 201 class schedule. We can see that instead of having one long class on one day, I have my class broken up into three separate days with an interval gap in between each class.

Retrieval versus exposure is the idea that information is valuable if it can be recalled or remembered rather than presented more frequently. If a student is unable to retrieve the information he/she learns than that information becomes useless. No matter how many times he/she views the information if they are not able to commit it to memory than they will not be effective learners. For example, one student may study their notes frequently but may not be able to remember the information on the day of the test.

Question	Answer
What are the 8 parts to Critical Thinking?	Purpose, Question, Assumptions, Implications/Consequences, Information, Concepts, Conclusions, Point of View

Figure 4. Example Question and Answer for Flash Card.

Figure 4 is an example of whether one can recall the information. If they can answer the question than they are able to effectively retrieve the information.

There are different tools and learning strategies that can be used to incorporate these four concepts. By creating flash cards with questions on one side and answers on the other they are able to practice retrieval versus information. If they are able to recall the information on the given flashcard, they will know whether they have mastered the information or not in a quick effective way. This will improve my learning because I will know whether I have remembered the information clearly or if I have to review and practice the information more.

Another technique I can utilize is getting the right amount of sleep. By sleeping in appropriate amounts during the week I am able to improve my information processing system. As I learn and listen through lectures throughout the day, my brain can process the information throughout the night. By doing so, I will be able to efficiently store more valuable information thus improving my learning capabilities.

I can also create flow charts based off the information I learn from my classes. I can catalogue information onto a chart and create a diagram of how one piece of information relates to another. This can help with the concept of elaborative rehearsal because it forces me to make associations and connections between materials. This will help me connect different information as a student when it comes to higher level classes that require the information from previous courses.

Another strategy I can use is to study material on a daily basis. I can review material for a set time every day or every other day instead of cramming before a test so that I can know the material better come final exams. By doing this I will have improved my test scores and final exams.

There are several consequences that come from using these four concepts. By incorporating these four concepts I am able to become a better student. I will be able to learn efficiently and creatively thus giving better foundations for my future profession. As an engineer I need to learn how to process information and knowledge in order to become successful

I can conclude that using these four concepts is beneficial to me as a student and as a future engineer. Not only will utilizing these concepts benefit me in the short term, but they will be able to help gain success in whatever I do within my life time.