Chapter 6: Metacognition and Study Skills

# Metacognition

**Metacognition** means to engage in the process of thinking about thinking, studying how you think and learn so that you can improve how you, well, think and learn. As you read that sentence, you might have thought, “I am already trying to learn all of this legal stuff, and I don’t have time to think about how I think.” You do have time to engage in this process. In fact, you will find that the more you think intentionally about how and why you study, and then make adjustments as needed, you will actually be more efficient and effective with your studying.

Knowledge of cognition includes “strategic knowledge” (what you know about what kinds of study and learning strategies exist), “knowledge about cognitive tasks” (what you know about what kinds of strategies you will need to use based on what type of thinking and knowledge you are trying to accomplish), and “self-knowledge” (what you know about what you, specifically, are good at and what you need help with in terms of application of study strategies). Paul R. Pintrich, The Role of Metacognitive Knowledge in Learning, Teaching, and Assessing, 41 Theory into Prac. 219, 220-22 (2002).

Susan Ambrose et al., How Learning Works: 7 Research-Based Principles for Smart Teaching, 193-200 (2010), provides a helpful five-step process that demonstrates how to use metacognition when you are working on a particular course assignment.

## 1. Assess the task

The first thing you should do before you begin any assignment is to be sure you understand what you are being asked to do. What is the reason you are reading these particular cases? What is the end goal of the written assignment you are producing? Being certain you understand what the goal is lets you decide from the beginning what strategies to use that will achieve better outcomes. If this is the first time you have encountered this particular type of assignment, or if you feel unsure you understand what that goal is, then you might want to ask someone to confirm you understand the expectations before you begin.

## 2. Evaluate strengths and weaknesses

Once you understand what you are trying to accomplish, the next step you need to take is to use your self-knowledge to assess what you can do well to complete the assignment and where you might need to provide yourself some extra support. Be warned that beginners in a subject often overestimate their abilities, so it will not hurt to provide more support strategies than you think you need.

## 3. Plan

Now that you know what you want to complete and how your strengths and weaknesses will help you reach that goal, it is time to put together a plan about how you are going to approach the task. What resources do you need? How many sessions will it take? How much time will you spend in each session? What types of learning strategies will you apply? If you are going to use spaced repetition, how are you going to make sure you take enough time “off” from the material before you return to it?

## 4. Apply strategies and monitor performance

Now, finally, you can begin working on your task. Use your plan that you have put into place that (a) ensures you do what is being asked of you while (b) considering your strengths and weaknesses and (c) implements appropriate strategies. As you work, you should check in with yourself along the way, assessing what you are learning or what you have accomplished.

## 5. Reflect and adjust if needed

In addition to quizzing yourself as you work about what content you are learning or whether you are getting to the end of the assignment, you should also be assessing if your plan that you are using is working well. If the plan is not working, then you should consider what additional strategies you can use or what strategies you can substitute in place of less effective strategies.

# Study Skills

“What are these strategies that she keeps writing about,” you might be asking yourself. There are different ways to approach categorizing these strategies. I prefer the GAMES method, created by Marilla Svinicki, in which she breaks down study strategies into five different types of strategies. Martha D. Svinicki, Helping Students Do Well in Class: GAMES, Observer (Oct. 1, 2006), <https://www.psychologicalscience.org/observer/helping-students-do-well-in-class-games>. The below instrument is from Paul Cunningham, *Knowing About Thinking: Knowledge of Cognition,* Skillful Learning (last visited Feb. 21, 2021), https://skillful-learning.org/wp-content/uploads/2018/07/Post-Class-Assignment-Module-1.pdf.

## Goal-Oriented Studying

Use these when determining what you need to study

* Analyze what I have to do before beginning to study.
* Set a specific content learning goal before beginning to study.
* Set a specific work effort (time amount) before beginning to study.
* Figure out why I am learning the material I'm about to study.
* Be sure to understand what is expected of me in terms of learning assignments.

## Active Studying

Use these before, during, and after studying

* Make notes in the margins of the text when I read.
* Ask myself questions before, during, and after studying.
* Pause periodically to summarize or paraphrase what I've just studied.
* Create outlines, concept maps, or organizational charts of how the ideas fit together.
* Look for connections between what I'm studying right now and what I've studied in the past or heard in class.
* Write down questions I want to ask the instructor.
* Reorganize and fill in the notes I took in class.
* Work through any problems that are illustrated in the text or in my class notes.
* Create vocabulary lists with definitions and my own examples.
* Take breaks periodically to keep from getting too tired.

## Meaningful and memorable studying

Use these when making connections between current content and past units or courses

* Make up my own examples for concepts I am learning.
* Put things in my own words.
* Make vivid images of concepts and relationships among them.
* Make connections between what I am studying and past classes or units.
* Be sure I understand any example the instructor gave me.
* Create concept maps and diagrams that show relationships among concepts.
* Ask the instructor for more concrete examples and picture them in my mind.
* Look for practical applications and real-life settings for the things I'm learning.

## Explain to Understand

Use these as examples of discussing course content with peers, family, friends

* After studying, meet with a partner to trade questions and explanations.
* Write out my own descriptions of the main concepts.
* Discuss the course content with anyone willing to listen.
* Answer questions in class.
* Make a class presentation.
* Help another student who is behind in progress.

## Self-Monitor

Methods of keeping track of concepts that are not clear, and if those concepts become clear later, what made that concept click

* Make sure I can answer my own questions during studying.
* Work with another student to quiz each other on main ideas.
* Keep track of things I don't understand and note when they finally become clear and what made that happen.
* Have a range of strategies for learning so that if one isn't working, I can try another.
* Remain aware of mood and energy levels during study and respond appropriately if either gets problematic.

Becoming aware of the strategies you use most often and the strategies that you are not taking advantage of using can help you expand your set of tools to engage with, learn, and absorb material.

## Bursting your Study Bubble

Tell me if this sounds familiar: About a week before the exam, you finally pull out all of your notes you took during the semester and you start reading them over and over again. You pull out your textbook and you reread your highlighted sections. Maybe you create an outline by copying and pasting from your notes and then you read that. You buy a commercial outline and you read that.

You review material from one topic or course before moving on to another topic or course. You make sure to review the material in the order it was presented in class and you do not try to rearrange the information. The night before the exam, you even put your book under your pillow for the “osmosis” effect of the words going into your brain. You walk into your exam, and you word-vomit every single word you read and reread onto the page.

Guess what? The above study strategy is one of the *worst* ways to actually learn the material. You have not actually *learned* the material; you have just temporarily stored it in your short-term memory to be able to spit it back out again. You have missed the deep understanding of the material, and the learning you were supposed to be able to get from that class will not provide a base to transfer to the classes after that, to the bar exam, and to the practice of law. By studying in the way described above, you are cheating yourself of your education.

Peter C. Brown et al. said it well in Make It Stick: The Science of Successful Learning 201 (2014):

Embrace the fact that significant learning is often, or even usually, somewhat difficult. You will experience setbacks. These are signs of effort, not failure. Setbacks come with striving, and striving builds expertise. Effortful learning changes your brain, making new connections, building mental models, increasing your capability. The implication of this is powerful: Your intellectual abilities lie to a large degree within your own control. Knowing that this is so makes the difficulties worth tackling.

## Retrieval Practice

So, what is wrong with repeatedly rereading material, and what is the solution? When you reread, you are not actually using the material to confirm your long-term memory has made connections. You are remaining a passive recipient of information rather than actively engaging with the information. A better practice is for you to use retrieval practice, which means you quiz yourself on the material as you are reading it the first time, when you are reviewing the material at set intervals throughout the semester, and when you are studying for your final exam.

For instance, when you read a case and find the issue presented, stop reading and ask yourself how you think the court will come out and why. Then, as you read through the case and the court’s reasoning, ask yourself if you see the steps the court is taking to reach its result and whether you agree with what the court is doing. If there are questions in the textbook at the end of the case, then try to answer those.

Another point at which you should quiz yourself is when you review your material from the week. Ask yourself if you see how the material from one class connects to the next. From your memory, make a chart or another visual aid that demonstrates those connections. Then, check that your visual aid accurately represents the connections by going through your notes and your textbook. An important part of retrieval practice is that you give yourself time between sessions to forget the material you have learned. By spacing out your practice sessions and then making yourself recall the information, you are ensuring that you are embedding this knowledge in your long-term memory.

When you are quizzing yourself, it is not important to get the answer right (although that is always nice). The critical part of the retrieval process is that you are requiring yourself to actively recall the information and use it, rather than letting yourself be told the information. Remember, you want to be an active engager, not a passive recipient. As you use this method to review, keep track of the types of issues that you understand well and the types of issues you find more difficult. When determining whether you understand the material well, do not base it on how you feel, but instead on whether you answer correctly. There is nothing wrong with not knowing every answer at this point. If you fail to acknowledge your weaker points, you are denying yourself the opportunity to effectively manage your time and study the areas in which you struggle. Be honest with yourself so you can appropriately prepare.

## Interleaving

When you are studying, you should resist the urge to compartmentalize your study into separate subjects. Having a Contracts day and a Civil Procedure day and a Torts day might sound appealing, but you are losing out on being able to have your mind strengthen its capacity. By actively studying multiple topics during the day, not only are you learning the material for those topics but you are also practicing discerning different types of problems and recognizing that different solutions will apply to each.

Similarly, when you are studying for exams, you should not only go in chronological order. Rather than studying personal jurisdiction until you feel confident and only then moving on to subject matter jurisdiction, you should be mixing up the topics and studying them as they come. Making and using flashcards can be beneficial for this type of practice. Outlining essay exam answers can also be beneficial. Your exams will not be neatly broken into units, so you should not study in units. Further, when you take the Bar Exam, the questions will not be nicely grouped by topic and you will instead need to be able to quickly shift to whatever substantive law the question demands.

Finally, when you are in practice, you will encounter messy factual scenarios that might involve several areas of law at once, and you will want to be able to sort them. Begin practicing these skills now, and you will be making life easier for future you. I promise!

## Mnemonic Devices

Mnemonic devices are also a helpful study aid. Examples that many people should be familiar with are Please Excuse My Dear Aunt Sally or PEMDAS (the correct order in which to apply math functions in a problem), My Very Excellent Mother Just Served Us Nachos (the planets in our solar system in order of closest to farthest from the Sun), or FANBOYS (coordinating conjunctions). Commercial outlines and supplements for your doctrinal classes might provide mnemonic devices that can be useful.

You can also create your own mnemonic devices! Even the work to come up with a mnemonic device is a good way for you to review the material you are learning. By deciding how to group or order the concepts for your mnemonic device, you are drawing connections between the concepts and creating a map of how to use the concepts.

# Conclusion

This chapter is a brief overview of what metacognition is and how you can apply it to your studies. There is much more to both metacognition and to the science of learning than is presented here. If you are interested in learning more, please consider looking at the resources listed in the For Further Reading section.

# For Further Reading

Ulrich Boser, Learn Better: Mastering the Skills for Success in Life, Business, and School, or, How to Become an Expert in Just About Anything (2017).

Peter C. Brown et al., Make It Stick: The Science of Successful Learning (2014).

James Clear, Atomic Habits: An Easy and Proven Way to Build Good Habits & Break Bad Ones (2018).

David Epstein, : Why Generalists Triumph in a Specialized World (2019).

Susan A. Ambrose et al., How Learning Works: 7 Research-Based Principles for Smart Teaching (2010).

Patrick Cunningham, “Skillful Learning,” www.skillful-learning.org.