Learning on Steroids:

The Study Dissection Method

by Scott Young

The Study Dissection Method

One of the questions I've been asked frequently through this program is–how should I study? The person has a big exam or learning challenge and they want me to tell them what steps they should take or tactics they should use to succeed.

The problem is, I'm usually not the best person to give a detailed answer. Especially when I haven't taken the course in question, I can't tell you exactly what steps to take to get an A+ in your physics or anatomy homework. I can offer generalized suggestions, but only someone who has already mastered that particular course can give specifics.

However, I've realized that a lot of the mistakes people make in studying for exams (or even non-scholastic learning goals) are not an issue of the specifics. Often these people lack the skill to dissect major learning tasks, so when faced with an objective like,

"learn calculus" they resort to rote memorization and painful hours trapped in the library.

So while I can't tell you exactly which problem sets to do for chemistry, or which topics your prof will consider crucial for the quiz on Russian history, I can give you a method I've used to let me know exactly how to study for almost any learning goal. I call it the study dissection method.

Study Dissection - Why Studying Sucks and Learning Needs to be Systematic

I've already written that I hate the word "studying". To me it involves hours of meandering around a learning goal without accomplishing much. When I see people "study" few have a formal

action plan. Their goal is simply to review their notes or do a few practice problems.

Sometimes “studying” works through sheer force. If you spend 12 hours a day with your subject for a week leading up to the exam, you’ve logged a lot of time. You may pass or even get a decent grade.

The unfortunate fact is that there are people who probably logged just a couple hours on the same exam and achieved similar results, simply because they were way more efficient in their studying.

Learning needs to be systematic to avoid getting stuck in the “studying” trap. Every learning goal needs to be assessed at the highest level of what’s needed to pass, and then broken down to the lowest level, of what needs to be done right now.

Begin with the End

Dissection starts by clearly identifying what your goal is with the class. I'm sure you've already heard about goal-setting before, so I won't bore you with all the details about how to do this effectively. If you want more information, you can download my free program/guide on goal-setting.

When identifying learning goals, there are two types of goals you need to consider. First, is your desired result.

For example, I'm currently taking a class in finance where my goal is to get an A. This is the result I would be satisfied with after the class is finished.

With my French, my goal has to be more specific, I would like practical fluency, which for me had meant being able to hold conversations easily, follow radio and be able to read books without difficulty in the subject. Self-education goals aren't always as crisp as academic ones, so you may need to sit for a few minutes and really pinpoint what success looks like to you.

The second type of goal is the one immediately before your result. This is what you must know, understand or master in order to achieve your result. Getting an A or achieving fluency tells you nothing about what learning is involved.

For my finance class, I'll need to get at least 85-90% of the questions right on the exam to reach my goal. For my French fluency, I'd need to have a large enough vocabulary and be able to understand/respond in about 90% of situations.

These two goals form the basis of your eventual dissection– the result you want, and the knowledge or skill you must possess to attain it. Unfortunately, many people don't even think about this stage clearly, instead just "hoping for the best" and never really getting clear on what they want.

See the Terrain

The next stage, once you've decided the result and means you need, is to figure out exactly what is contained in that goal. This is the first level of dissection which involves making a short summary of everything that must be known, either perfectly or to the level of accuracy you decided with your previous goal.

Course syllabuses can often provide a good general overview of the material, but you'll usually want to get more specific. Within

each lecture or set of assigned readings, what were the big ideas you needed to know? What were the skills you needed to acquire?

Because professors usually write syllabus in terms of the work they are to perform (or ask you to perform) there is sometimes some blurring between what is listed and what needs to be known. The professor may have assigned chapter 12 from your marketing textbook, but what he really wants is for you to be able to articulate and argue the differences of a push or pull strategy within the value chain.

Spend some time writing out what needs to be known. In three broad categories this is:

1. Facts to be known
2. Deeper concepts to be understood
3. Skills to be mastered

In a history class, the date Socrates died of hemlock poisoning would be a fact. His views on life and philosophy would be a concept and your ability to write a dialog in the Socratic method would be a skill.

The mix of facts, concepts and skills will also tell you which rapid learning tactics you need to use to master them.

Creating the Action Plan

The next level of dissection, once you've identified what needs to be learned and what type of learning it is (trivia recall, understanding or skill), is to create the task-by-task action plan to actually make sure you've learned everything.

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Ideally you should do this step before you ever start the learning goal. However, for many students, this process takes place a few weeks before exam time.

Sometimes that's okay, I've already mentioned I don't study heavily. That's because after doing the notes, readings and lectures throughout the term, I already know at least 80% of what needs to be learned, and generally the missing facts or concepts can be easily integrated with just a bit of extra work.

However, if you're taking on a difficult class or you're studying on your own, then the action plan should happen as soon as possible so you won't become overwhelmed in the end.

There are two main tasks in the action plan:

1. Learning
2. Self-Testing

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Learning tasks are the actions you perform to make sure you know all the stuff you don't know. This is where your subscription to Learning in Steroids comes in handy. By now you're already armed with over a dozen tactics you can employ against different types of material. If you've done a few 30 Day Trials, you can probably even use some of these tactics proficiently.

Many students break down at this level of dissection. They know what they want. They know what they need to learn. But when it actually comes time to study, they have no idea how to effectively remember all that stuff. So they default to rote memorization.

Testing is an equally important part of the action plan. If you're studying for a one-shot exam, this is crucial since you may believe you know a subject well, but when actually tested on it you buckle.

Testing can take the form of practice questions, flash-card style review, practice exams or even having a friend quiz you on the material. You don't need to spend a lot of time testing, but you do need to invest some time, especially if you're trying out new learning tactics and aren't used to how well they will help you remember.

Learning Tasks

I can't give a perfect breakdown of which tactics you should use for which learning tasks. Most of that is already contained within the individual guides, and your preferences will vary. Some students will love to use visceralization to understand concepts, while others will want to stick with the 5-year old method. Neither is wrong, it's just a preference.

Generally, however, there is a different approach to take with different kinds of information.

Recalling Facts

If you need to know a lot of facts, then you need an efficient memorization strategy. By efficient I mean not “rote”. If you need to know lists of concepts, there’s the chain method. If you need to memorize vocabulary, there’s image association. If the facts have relationships with each other, metaphors and diagrams can be even more useful.

And if you’re really stuck on which to use, post about the type of factual information you need to learn in the forums and myself and the other members can offer suggestions. There is no reason to use rote memorization when there are more efficient techniques for remembering facts.

Understanding Deep Concepts

For deep concepts you don't need recall, you need understanding. Physics isn't a set of "facts" which are just formulas. There is a much deeper underlying conceptual framework you need to understand. Without that, any word problem that doesn't conform to your practice set will baffle you.

Here methods like the 5-year old method, deep linking or metaphor can help wrangle tricky concepts. Depending on the difficulty, however, there is no easy shortcut. You need to understand it and you can't stop searching, analogizing or asking questions until you do.

However, since many people skip over topics they don't understand intuitively, simply dedicating yourself to acquiring a full understanding can help enormously.

Mastering Skills

Skills can only be mastered through practice (although hopefully you're using deliberate practice). This means going through the problem sets and working through them until you can achieve a high accuracy.

Fortunately many classes are a blend between skill and conceptual understanding. So mastery through deliberate practice is far easier once you have the underlying concepts figured out. If you "get" math, you don't need to do 300 problems from your set to start scoring A+'s. However, if you don't have the underlying concepts, 300 problems won't help you with novel challenges.

Mastery is inescapable in subjects like languages, music, writing or sports. The best you can do is create a schedule that

pushes you hardest with the least amount of time, so you don't spend hours spinning your wheels.

Self Testing

I prefer frequent short tests to long testing sessions. Some people spend hours studying before ever doing a quick quiz or self-test. I believe this wastes time since you end up glossing over sections you don't understand and wasting time in sections you've already mastered.

Try throwing in a quick 5 minute quiz for yourself for ever 45-60 minutes of review. This will help you trim out areas you already understand and immediately highlight the ones you don't.

If you're already comfortable with the material, most of your studying time might be in self-testing. For my upcoming finance exam, I already understand the concepts, and there will likely only be a few skills or facts I need to review before going forward.

However, in order to pinpoint which they are, I need to do self-testing to figure out what I don't know. And considering my goal requires at least 90% accuracy (and more likely 95-97% accuracy, considering there will probably be a few careless mistakes) I need to self-test a great deal to uncover the few details that have slipped my attention.

Once again, you can be systematic with self-testing just as you can with learning. Break it down into tasks and work on it one piece at a time.

Moving to a Task-Based Studying Approach

At this point your action plan will look something like this:

Class: Finance

Facts:

Know bond & stocks terminology
Formulas for annuities and present value calculations
...

Concepts:

Present value calculations

Bond pricing
Stock pricing
CAPM
...

Skills:

Synthesizing relevant information from cases
...

Of course, this is a summary, you're actual action plan will contain much more and will probably include a lot of things you already know and can cross off almost immediately.

But once you've done this step you can funnel anything you don't know well enough into your weekly/daily goals system. So

instead of feeling the pressure to "study" constantly, you can just select the few elements you didn't understand well enough and devote time to a particular learning technique.

You set of weekly or daily goals might look like:

Memorize bond terminology with image association
Use diagrams/imagery to remember annuity formulas
Practice 3 cases using deliberate practice methods
...

How do you know which topics you need to deliberately aim learning methods and which you can ignore? Well you probably already have a general idea just from looking at the topics. If not, the homework or quizzes in the class probably offer some insight.

If you're completely lacking that, you can just do a thorough self-test with a sampling of all the topics and see what you score poorly on.

Just to recap, your goal with dissection is straightforward:

1. Figure out the results you want and the knowledge you need to obtain it.
2. Break this down into learning tasks and self-testing.
3. Select learning methods (either from this program, or from your experience) to attack each item you don't already feel comfortable with.
4. Funnel those tasks into a productivity system or to-do list.

If you go through this process almost any learning goal can seem manageable, or even not that hard. Good luck with this tactic and I'll see you on the other side!