

**THE  
ESSENTIAL  
STUDENT  
HANDBOOK  
TO  
STUDYING  
FOR  
FINALS**

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# PREFACE

Benjamin Franklin once noted, “in this world nothing can be said to be certain, except death and taxes.”

We'd like to add “tests” to that list.

Tests inevitably hound students throughout their education. And at the end of every semester, teachers serve up the grand master of all tests: final exams. These tests are guaranteed to be harder than what seems to be necessary. Frequently they are cumulative. Just as frequently, students have multiple finals per day.

These realities make studying for final exams difficult. Every student needs effective study strategies for finals. You will be tested over multiple months worth of material, from multiple classes, and all across just a few days.

In this short e-book, students will learn some of the most effective approaches to getting prepared for finals.

First, you'll hear about the real effects of procrastination and why it is worth your time to begin preparing for exams early. Next, students will learn how to focus their study efforts. No one can re-learn everything covered in a semester, but everyone can learn to focus his or her studies to become more effective.

The next two chapters discuss the actual process of studying. Chapter 3 shows students how they can know they've actually studied and not just moved their eyes across a page. The next

chapter will dive into several of the most effective review strategies that help you learn more, faster.

In the last two chapters, students will learn two final – but vitally important – aspects of preparing for finals: preparing yourself for a test and what to do in an emergency cram session. Follow these strategies and we're confident that you'll have an encouraging finals run this semester.

Happy studying,

The StudyRight Team

# PROCRASTINATION: THE SILENT (GRADE) KILLER

For most students, procrastination is a way of life. “Why do today what you can put off until tomorrow?”

There are hundreds of reasons, actually. In fact, procrastinating is so hard on students and also so prevalent that Chapter 1 has been devoted to it. If you procrastinate on studying for finals, you shouldn’t expect to do as well as you are able.

The rest of this e-book will address the ins and outs of studying for finals. But you have to consider the realities of procrastinating too long to start studying. It’s worse than you think it is.

## **1. PROCRASTINATION RESULTS IN WORSE GRADES AND MORE STRESS**

In a number of studies over the last several decades, the evidence has become increasingly clear that procrastination is seriously harmful. It’s not just a bad habit. It hurts your grades. It hurts your emotional state. It’s just bad.

Eric Jaffe from Observer summarizes the findings like this: “Procrastinators earned lower grades than other students and reported higher cumulative amounts of stress and illness. True

procrastinators didn't just finish their work later — the quality of it suffered, as did their own well-being.”<sup>1</sup>

As we read those results, this becomes clear: if you would prefer less stress and a higher quality of work, beating procrastination is important.

## **2. PROCRASTINATION MAKES YOUR MEMORY WORK HARDER**

Your memory works best when you learn material across multiple study sessions rather than one large lump of studying. Psychologists call this the “distributed practice effect.” Some studies have even shown that spreading study sessions out across several days can boost a student’s memory by as much as 150%.<sup>2</sup>

By procrastinating, students force their minds to work harder over short bursts for what they could have learned much more easily by starting earlier. If you procrastinate, be ready to work harder, spend more time, and not be able to remember as much.

## **3. PROCRASTINATION ACTUALLY TAKES MORE TIME**

One of the biggest misconceptions about procrastination is that it saves time. The opposite is true. It takes longer and works against natural brain functions. The distributed practice effect, for example, requires learning over multiple days – not multiple hours.

Instead, procrastination leaves students needing to depend on “overlearning,” a strategy that is effective in the short-term but has

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1 Eric Jaffe, “Why Wait? The Science Behind Procrastination,” Association for Psychological Science, Observer Vol. 26, No 4 April, 2013. <https://www.psychologicalscience.org/index.php/publications/observer/2013/april-13/why-wait-the-science-behind-procrastination.html>.

2 Nicholas J. Cepeda, Noriko Coburn, Doug Rohrer, John T. Wixted, Michael C. Mozer, Harold Pashler, “Optimizing Distributed Practice: Theoretical Analysis and Practical Implications.” Experimental Psychology 2009. <http://escholarship.org/uc/item/1n15d7xr>.

little effect on long-term retention.<sup>3</sup> The result is ultimately wasted time.

If procrastination is so problematic then, how do students get prepared for tests as effectively as possible? Try these tips to beat procrastination and its devastating effects.

## **HOW TO BEAT PROCRASTINATION & GET PREPARED FOR FINALS**

### **1. SET MINI-DEADLINES FOR YOURSELF**

One of the most important strategies for your success with finals is spreading out your study sessions. It's vital that you make use of the "distributed practice effect." As we have already mentioned, studies have shown that it can result in a 150% retention boost.

Setting mini-deadlines will help ensure you're spreading out your study sessions. Research from 2002 by Dan Ariely and Klaus Wertenbroch confirms that students who set deadlines for themselves were less likely to procrastinate.<sup>4</sup>

To get started with this tip, try dividing out the material that will be covered on your final across the remaining weeks until the test. Also give yourself an extra week before the final to review all the material again. If you're not sure what will be covered on the exam, go ahead and ask your teacher. They will almost always give you at least a rough sketch of the topics covered by the final, if not a specific study guide. Additionally, it never hurts for your teacher to see you taking initiative to get prepared for a test.

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3 Doug Rohrer, Kelli Taylor, Harold Pashler, John T. Wixted, Nicholas J. Cepeda, "The Effect of Overlearning on Long-Term Retention," *Applied Cognitive Psychology*, v19, pg 361-374, 2005. <http://eric.ed.gov/?id=ED505637>.

4 D. Ariely, & K. Wertenbroch, (2002). "Procrastination, deadlines, and performance: Self-control by precommitment," *Psychological Science*, 13, 219-224.

If this seems like more work, it may be initially. This is an added step; however, this short step will save you hours across the remainder of the semester.

## **2. GET ANOTHER PERSON INVOLVED (REMEMBER: PARENTS ARE PEOPLE TOO)**

As important and helpful as deadlines are, research shows that self-made deadlines are not as effective as external deadlines. To improve the effectiveness of your newly set schedule, get another person involved in holding you to that schedule.

One business blog recently discussed this fact from a 2002 procrastination study. The research done by Alberto Bisin and Kyle Hyndman showed that when students have deadlines from someone else, they are much more likely to finish their work on time.<sup>5</sup> Self-imposed deadlines apparently do not carry as much weight as those from someone else.

If you're serious about kicking procrastination for this round of finals, it's vital to find other people who will keep you accountable to your schedule.

Here's a quick tip: try your parents. They want you to succeed. They can ask you how well you're hitting your deadlines and their involvement will be a serious boost to hitting your deadlines.

## **3. FORGIVE YOURSELF FOR PAST PROCRASTINATION**

Psychologists have found that procrastination often has emotional roots. Everyone at some point has experienced the pain that comes from additional stress, hours of work, and exhausting evenings cramming. Yet students often fail to move past this, instead continuing to procrastinate.

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<sup>5</sup> Eric Jaffe, "Self-imposed Deadlines Don't Stop Procrastination. Here's what might," FastCo Design. <http://www.fastcodesign.com/3026895/evidence/self-imposed-deadlines-dont-stop-procrastination-heres-what-might>.



One of the best things students can do is forgive themselves for poor study habits in the past. Researchers at Carleton University found students who forgave themselves for past procrastination were less likely to do it again in the future.<sup>6</sup>

Whether or not you realize it, your success depends on your ability to forget the past and push on into the future. Whatever your grades are currently, whatever your study habits in the past, whatever you have or have not achieved on previous tests, know this: it's in the past.

This finals season can be different if you choose to leave the past where it belongs – behind you.

#### **4. REWARD YOURSELF FOR KEEPING YOUR REVIEW SCHEDULE**

Beating yourself up after you miss a deadline isn't particularly helpful. We all miss deadlines sometimes. If you want to beat procrastination, it is far more effective to give yourself some small rewards for beating deadlines rather than punishment for missing them.

Consider setting up a rewards system for yourself every time you get work finished before a deadline. If you learn to associate rewards with getting work finished on time, you're far less likely to procrastinate. Psychologists even suggest we need to change the way we think about being late, instead focusing on being early and adding personal meaning to getting work finished on time.<sup>7</sup>

The problem is that most of us haven't associated good things with getting finished early. We've just tried to avoid the late penalty. Unfortunately, that doesn't help you kill the procrastination beast. Rewards are much more effective.

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6 M. J. A. Wohl, T. A. Pychyl, & S. H. Bennett, (2010), "I forgive myself, now I can study: How self-forgiveness for procrastinating can reduce future procrastination," *Personality and Individual Differences*, 48, 803–808.

7 Ferrari, J. R. *Still Procrastinating? The No Regrets Guide to Getting It Done*. (Hoboken, N.J.: Wiley, 2010).

Procrastination is hard to beat, but not impossible. The consequences are much more harmful than most students realize. It also tends to be a recurring pattern or habit for many students. If you will start today by setting a review schedule, having someone else hold you accountable to it, forgiving yourself for past mistakes, and rewarding yourself when you hit your schedule, you will be well on your way to beating procrastination.

# II FREEPOINTS: WHAT YOU STUDY MATTERS

## **YOU CANNOT REMEMBER EVERYTHING.**

This is just a fact. Your brain cannot contain every bit of information you will cover in a semester. This would be true even if you had just one course, and it's all the more true when you have multiple classes every semester.

This is not a bad thing. It is just an undeniable reality.

We have good news, though. You will never be asked to remember everything. Even if they wanted to do it, there is no way teachers could ever ask you all the details a textbook will cover.

This is a common misconception about tests.

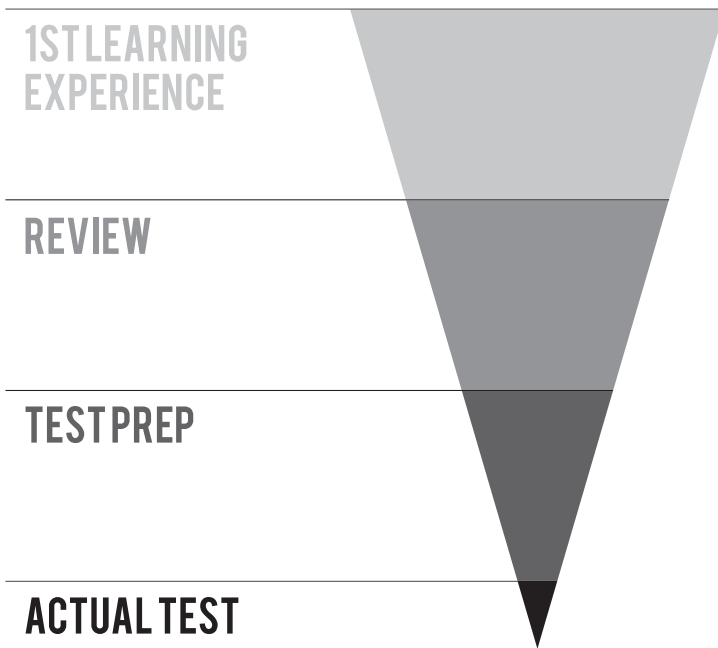
Some students think tests exist to beat you down, to make you feel like the garbage you really are. Nothing could be further from the truth.

Rather than punishment, tests are simply a necessary part of the learning process. Testing helps you hone in on the most important ideas, learn them well, and (ideally) understand the concepts long-term. Tests aren't meant to be painful. They are meant to help you learn. This produces what we like to call "The Learning Funnel."

## THE LEARNING FUNNEL

The learning funnel is a simple concept. Basically it's an example of the way learning works at each additional learning experience. Every additional level of learning has to be more focused than the one before it.

For example, your textbook may take twenty pages to explain a concept. Your homework assignment asks about that same topic in 20 questions. The quiz on that chapter boils the ideas down to 10 points. And a semester test may only ask 2 questions about the chapter.



Each progressive level of learning needs fewer details and greater focus

This is vitally important. If you get it, it will allow you to hone in on the most important big ideas and key details when you study. If

you miss it, you'll get trapped in a situation so many students find themselves: overwhelmed by the hundreds of facts they think they need to memorize and frustrated that they still find questions on tests that make them say, "We never learned that!"

So how do you study effectively for a final without studying irrelevant material? Here are four questions that will help you hone in on the most important ideas for your finals.

## **HOW TO RECOGNIZE WHAT IS IMPORTANT: ASKING THE RIGHT QUESTION**

### **1. WHAT ABOUT THIS IS ESSENTIAL TO MY UNDERSTANDING?**

In any learning experience – whether that's an in-class lecture, a lab, a homework assignment, or reading a textbook – students must learn to look for the essential information. Most of the details in a learning experience serve to support the essential ideas. They aren't themselves essential details, though.

For example, a textbook may spend several paragraphs explaining the setting, circumstances, and specific details of the Gettysburg Address. But the fact that the speech only lasted about two minutes or that it was given on Thursday afternoon, November 19th, 1863, are rather irrelevant if you miss the essential ideas.

What is essential to know about the Gettysburg Address is its importance in the American Civil War as a redefining of the war in terms of a fight for human equality. That's essential. The exact number of words, on the other hand, can be forgotten. Don't miss the essential ideas.

### **2. WHAT DOES MY HOMEWORK AND QUIZZES EMPHASIZE?**

A second way to hone in on the most important ideas is to pay attention to what your homework and quizzes emphasize.

If you see a concept over and over in your homework, you should probably know it. Quizzes often give you a good sampling of what

your teachers want you to know. It's rare that a teacher's tests look astoundingly different than the quizzes they give. If you emphasize in your studies what your teacher emphasizes in your homework, you'll be heading the right direction. You will probably also find that quiz questions tend to be over those same ideas you marked as "essential" in a chapter.

### **3. WHICH CONCEPTS APPEAR IN AT LEAST TWO LEARNING EXPERIENCES?**

It's always a good idea to read a class textbook before attending the class. Students should do this for multiple reasons. First, it will help you learn the material better. That's a given. Second, you'll be a much better contributor to class.

But for the purposes of test prep, any ideas that show up in both a textbook and then in a teacher's explanation of the material will be important for studying for the test. Repeated concepts are usually important concepts. If you read on your own before you go to class, you will find it much easier to recognize repeated concepts.

### **4. WHAT HAS MY TEACHER EMPHASIZED?**

This final suggestion is a bit of a common sense strategy. Your teacher makes your tests. You would do well to pay attention to the things he or she spends the most time teaching. Study ideas the way your teacher teaches ideas.

Think about it this way: if your teacher focuses on a particular topic, it likely means he or she believes it to be highly important. Since we're looking for the most important ideas, this strategy will be an important cue.

In summary, remember that you can't remember every fact from every learning experience. It's impossibility. But you can ask yourself four questions to focus your study time for final exams:

- 1) What about this is essential to my understanding?
- 2) What do my homework and quizzes emphasize?
- 3) Which concepts appear in at least two learning experiences?
- 4) What has my teacher emphasized?

# III

## YOU ARE NOT A SPONGE: STUDYING IS CREATING, NOT ABSORBING

### **A COMMON MISCONCEPTION IS THAT LEARNING IS ESSENTIALLY ABSORBING INFORMATION.**

Students sit in class. Teachers say things. Students absorb the info. Tests are then given to see which students absorbed the most information. It's the "learning by osmosis" idea. As long as you are in the same room as teaching, you're bound to learn something.

Nothing could be further from the truth.

All learning must be active. You will never learn something by "osmosis." Don't expect to record a lecture, listen to it in your sleep, and actually learn anything.

The brain doesn't work like that. Learning doesn't work like that. It would be great if it did, but it doesn't.

Another way to say this is that learning is work. In fact, learning is really hard work. If you are in school full-time, you are right to approach it like a full-time job. The biggest difference is that you get the biggest pay off at the end of your education rather than every two weeks.

Since learning is work, students should think about it like that. And you haven't worked unless you've produced something.



Absorption isn't work; work involves creating something. Students who want to ace their final exams must recognize this. If you've read a chapter, but you haven't created anything yourself, you haven't studied the chapter. If you've sat through a lecture, but you haven't produced something from the learning experience, you haven't studied.

To be able to consider yourself as "studying," you need to interact with the material presented and produce something new.

### **A SPECIFIC EXAMPLE TO HELP MAKE THIS CLEAR: WRITING A PAPER VS. WATCHING A MOVIE.**

Writing a paper is difficult. It forces you to think about a topic, to plan out your thoughts, to group those thoughts in some sort of logical order, and then communicate those thoughts in a written format. That's serious work. A paper can take hours to write. If it's a research paper, it can be days.

Writing is hard work, but you often learn a lot. The classes where I learned the most are without fail also the same classes that I did the most writing.

Watching a movie, on the other hand, requires little work. Some minor exceptions include movies like "A Beautiful Mind" and "Inception" which definitely make you work. They are too confusing to just absorb. But most of the time all the work you need to do for watching a movie is picking it out, maybe pouring a glass of Dr. Pepper, and perhaps popping some popcorn. If you watch two movies in a row, your backside may have to do a fair amount of work, too. It's hard work keeping a human being sitting in the same place for that many hours.

Hopefully you can see the contrast. Watching movies isn't work. It's absorbing. It's consuming. It's zoning out.

Studying is the opposite. It's producing. It's work. It's creating, and understanding, and explaining, and re-grouping ideas.

**THE POINT OF THIS CHAPTER IS THIS:  
YOU HAVE NOT STUDIED UNTIL YOU HAVE PRODUCED SOMETHING.**

We'll get into the specifics of what you need to produce, but don't fall into this trap like so many students. Don't consider a study session complete unless you have created something. Learning is not just input. Learning requires output as well.

If you want to ace your finals this semester, you need to be creating a trail of study materials. Don't get overwhelmed by this; we'll help you see a way forward in the next chapter. Just choose to be a producer, not an absorber. Choose that every time you go into any learning experience, you'll leave having produced something, not just absorbed.

# IV

## HOW TO STUDY: TOP TEST-PREP STRATEGIES

Before diving into this chapter, here's a quick recap on what this e-book has covered so far. (If you have skipped portions, we recommend going back and reading them. They are foundational for what is coming in this chapter.)

First, procrastination is a grade killer. The best students find ways to beat the procrastination bug. Breaking the pattern of procrastination is crucial for students who want to do well on their finals and still keep control of their free time.

Second, what you study matters. No student can learn every detail from every learning experience. That's why it's important that you know how to focus your studies on the most important ideas.

Third, studying is hard work. There are no shortcuts in learning. Every student has to do some difficult work, which means producing something, not just absorbing new info.

With those ideas in mind, the next step is to learn how to get prepared for a final exam.

### **3 MAIN STRATEGIES TO GET YOU PREPPED FOR A TEST**

#### **1) CREATE YOUR OWN STUDY GUIDE**

Far and away, this is the most important strategy. Nothing helps you organize and review ideas the way making your own study guide does. There are a few important keys to remember as you make this guide.

First, this should be created from your notes and homework assignments. As you review material, you re-group it and create a new guide that focuses on the most important ideas. Going back to the book isn't as helpful as going to your notes (assuming you've been taking notes). If you haven't taken notes throughout the semester, creating a study guide from textbook chapters is still effective.

Second, it does not work if you simply copy someone else's study guide. Students often think if they copy a study guide from the "smartest kid in the class," they will have an advantage. But this misses the fact that the "smartest kid in the class" may just do the best because he makes his own study guide. It's not raw intelligence that creates great test-takers. The process of getting prepared through making a study guide is a crucial part.

Finally, make your guide from your notes before going to any study materials created by your teacher. This seems counterintuitive, but it's helpful. After you've made your own study guide, you can compare it with what your teacher gave you. The places where you differ give you some super specific areas for studying. Make your guide first, but then make sure you correct it by your teachers' guides.

#### **2) QUIZ YOURSELF (THE RIGHT WAY)**

For many students this comes second nature. In reviewing their materials for class, the most common sense approach is to be

quizzed on it and see how well you know it. This is a great idea, but it's important to quiz yourself the right way.

There is actually a wrong way to quiz yourself. If you haven't guessed it by now, the wrong way is to do it passively (absorbing), and the right way is to do it actively (producing).

Passive quizzing involves running through flash cards or your notes and thinking to yourself, "Yeah, I know that."

Active quizzing involves testing your knowledge by writing your answers down before you check them. That is far and away the best indicator of how well you actually know the information. Granted, this is hard work, just like all studying. But it will be a far more effective use of your time and let you know how prepared you truly are for your test.

Make flashcards, use someone else's flashcards, get a quiz app for your phone, or quiz yourself from a study guide. Any of those options work. But always remember to produce something.

### **3) GET IN A STUDY GROUP**

As a final suggestion, students should consider joining a study group. Study groups can be extremely helpful. But don't underestimate your distractibility. Study groups only work when they are focused on studying rather than socializing.

The best group sizes tend to be between three and five students. They also include students who have already studied some on their own so that they can help one another.

If a group is set up to learn the material for the first time, it will almost always derail quickly. But if it's rightly set up to review material before a final, everyone involved can get prepped. Focus on discussing difficult concepts and explaining to one another the hardest topics covered in the class. This will ensure you can

adequately explain the material, a skill every student needs to be able to do before being tested on it.

These three strategies are not effortless. They do take some work. But if you will commit to making your own personal study guide, quizzing yourself (actively), and getting in a study group before final exams, you can expect to see a good payoff in the grade department.

# PREPPING YOUR MOST IMPORTANT TOOL: YOU

The biggest question after, “Do you know the material?” is, “Are you ready to be tested?” A student’s personal readiness goes beyond mere academic knowledge. It goes to the physical, mental, and emotional preparedness of the test-taker.

If you don’t take care of yourself – mind, body, emotions – you won’t do as well as you can and should on your test. Even if you’ve done a nice job reviewing all the right material, not being a prepared student can lead to poor performance. You need to be ready to stay focused and recall immense amounts of information in a short period of time.

## **5 WAYS TO PREPARE YOURSELF FOR A TEST**

### **1. GET ENOUGH REST.**

Being rested is one of the most important parts of becoming a great test taker. For starters, both your memory and concentration are negatively influenced when you don’t get enough sleep. Creativity also goes down, and your ability to solve problems decreases.

One German study cited by ABC News found that students who had enough sleep (about 8 hours a night) were three times as likely to figure out math problems with hidden rules than sleep-deprived

students.<sup>8</sup> That's a serious benefit. Every student could use those kinds of improved odds of success.

Some of the other effects of getting enough sleep haven't been studied as much, but they're more or less self-evident. Generally speaking, mood, emotional balance, test scores, concentration and other positive factors all increase with sleep. Make sure you're getting rest in the days leading up to your finals. It will help more than you might expect.

## **2. OVERCOME TEST STRESS.**

Stress affects every student. This is not a bad thing. It is just a part of life.

Preparing yourself for a test requires that you prepare yourself for the stress that is inevitably coming your way. When you enter a test, you should feel a bit of anxiety. The key is understanding that it will be there, that it's not a bad thing, and that it can actually help you score higher on the test.

In an article on test-taking anxiety, Dr. Ben Bernstein discusses the impact of stress on taking tests.<sup>9</sup> Research shows that too little stress can actually hamper your success, but too much can do the same.

So how do you make sure your stress is at the right level? Prepare mentally for the stress before taking the test. Know that it is coming. And acknowledge that it is a normal experience, even beneficial. If you've prepared yourself mentally for the stress, you will do fine.

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8 William McCall, "Study: More Sleep, Sharper Brain," January 21, ABC News. <http://abcnews.go.com/Health/story?id=118266>.

9 Ben Bernstein, PhD, "How Stress Affects Your Test Scores," Stanford University: The College Puzzle. <http://collegepuzzle.stanford.edu/?p=2242>.



### 3. FEED YOUR BODY AND YOUR MIND

Eating healthy foods is always an important aspect of getting prepared for a test. You also need to stay hydrated. Both of these aspects will ensure that your mind is functioning at top-notch speeds.

As far as specific diet choices, load up on fruits and vegetables. Blueberries, for example, are fantastic for you.<sup>10</sup> Anything that is high in anti-oxidants is a good choice, as well as lean meats that are high in protein. Try incorporating some fish – wild Salmon, for example – into the diet as well. The omega-3 fatty acids found in fish are crucial for good brain functioning.<sup>11</sup>

### 4. DO NOT OVER-THINK WHEN IT COMES TO TEST TIME

If you've rested your body and your mind, you're ready for the stress that's waiting for you, and you're eating well and staying hydrated, you are almost there. By test time you should already know the material. You've been studying following the processes described in this book.

Test time, then, is time to trust yourself.

Answer the questions you know. If you don't know an answer, eliminate the clearly incorrect answers. Then take your time weighing the other options. Sometimes you may have to simply make a guess. The key to good guessing is to guess based on connections to what you do know. Also, be willing to go with your gut response. Trust your mind and your preparation. You probably know more than you think you do.

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10 Carol Sorgen, "Eat Smart for a Healthier Brain." WebMD. <http://www.webmd.com/diet/features/eat-smart-healthier-brain>.

11 University of Maryland Medical Center, "Omega-3 Fatty Acids." <http://umm.edu/health/medical/altmed/supplement/omega3-fatty-acids>.

## **5. GIVE AN EXTRA 5% AT TEST TIME**

Finally, when you take a final exam, the weight of that test should encourage you to give an extra 5% to the effort. For most students the extra 5% will simply mean going back and checking your answers. This is a short exercise. It will only take an additional five to ten minutes most of the time. But it can be the difference between an entire letter grade.

Don't spend hours preparing for a test over several weeks only to miss two or three questions because of careless mistakes. You can easily boost your grade by merely looking back over your work for an extra five minutes.

Slow down. Make the most of your time. Use these five strategies, and then check your answers. Even if you have never believed yourself to be a good test-taker, if you prepare yourself well, you may surprise yourself.

# VI EMERGENCY CRAM SESSION

Hopefully you'll never need this chapter. Cramming is a bit like the "red button" that is always in the cars in spy movies. Sure, it's there. And every once and a while it comes in handy. But if you ever need it, you know you are already in a heap of trouble.

That said, we know that life happens. And that means sometimes you have to cram for tests instead of studying through the typical rhythms of life. It isn't ideal, but it works in a pinch.

In order to understand how to have an effective cram session, a few keys are important to recognize:

First, cramming is not the same thing as studying.

They seem similar. Both involve learning material for a test. There are a number of consistent elements in both (for example, both studying and cramming require production and not just consumption). But there is also one significant difference between cramming and studying: length of time.

## **THE MAJOR DIFFERENCE: SHORT-TERM VS. LONG-TERM RECALL.**

Good study strategies are inherently long-term. They focus on taking information into short-term memory in such a way that it will become imbedded in one's long-term memory. Studying

involves methods that focus on understanding information during a first learning experience, knowing that it will be forgotten somewhat, and then recalling it at a later date to embed it in long-term memory. It's a long-term process of learning and reviewing.

That means good studying always involves “distributed practice” (a little studying over a long time). Cramming doesn't have a long time. It has a short time.

That said, cramming strategies are all short-term memory strategies. Your short-term memory, or “working memory” is extremely limited. In fact, generally accepted research suggests your working memory can only hold 5 to 9 items simultaneously.<sup>12</sup>

As you may have guessed, this makes cramming difficult.

Nevertheless, cramming can still be somewhat effective if you use the right strategies. Try these five strategies for cramming for finals, should worse come to worst. They'll help you make the most of a less-than-ideal situation.

## **1. CHUNK EVERYTHING**

If you've never heard of this strategy, it's an extremely effective way to make unmanageable memorization much easier. Basically “chunking” just means breaking everything into smaller groups of related concepts.

Think about it this way. If you have 20 vocabulary words, it is far easier to learn five groups of 4 related words than to remember 20 individual words. When it comes time to cram, chunking becomes a lifeboat. Don't just try to power through memorization. You have to be strategic. Break everything down into groups of related ideas.

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12 “The Magical Number Seven, Plus or Minus Two.” Wikipedia.org. [http://en.wikipedia.org/wiki/The\\_Magical\\_Number\\_Seven,\\_Plus\\_or\\_Minus\\_Two](http://en.wikipedia.org/wiki/The_Magical_Number_Seven,_Plus_or_Minus_Two).

## **2. PRODUCE, PRODUCE, PRODUCE**

In the final rush toward the end of the semester, don't forego creating study guides. You may have to go into less detail, but you have to produce something. Remember, learning is never done by mere absorption. You must be active.

Additionally, never try re-reading your book. Don't go back to your book at all if you can avoid it. If you have to, the best way to use your textbook is to find the review questions and answer them based on your textbook chapters.

Re-reading a chapter is almost entirely passive, thus it's highly ineffective. Don't get lulled into it.

## **3. DO NOT FOREGO A STUDY GROUP**

It may seem like study groups are a waste of precious time. In fact, they may be one of the best strategies for you when you're in cram mode. If you are highly focused, study groups will allow you to hammer out weak areas quickly so you can be sure that you understand difficult topics for the test.

When cramming, the more senses you can use the better. Talk material out. Explain it to others. Explain it to yourself. Create new charts and graphs. Pace if you need to. Do whatever it takes to learn the information. Study groups will help force you to use more senses as you review material.

## **4. MNEMONIC DEVICES ARE YOUR BEST FRIEND**

Although they're as hard as it comes to pronounce and you never want it on a spelling test, mnemonic devices are great for cramming. Basically they're memory devices that allow you to keep lists of seemingly unrelated items organized in your head. Goofy sentences or funny words can be helpful.

Some simple examples include things like “ROY G BIV” (The order of the colors of the rainbow – Red, Orange, Yellow, Green, Blue, Indigo, Violet) or “Never Eat Soggy Worms” (The order of the directions on a compass – North, East, South, West).

As simple as they sound, don’t underestimate the power of these strategies. They will work in a pinch, and when you are in cram mode, all you have is a pinch.

## **5. OVERLEARN EVERYTHING**

Chapter One mentioned this strategy but did not explain it. Ideally, it’s a strategy no student will have to use. When it comes to long-term retention, it doesn’t have much effect but takes a lot of time; however, overlearning is extremely effective for short-term retention.

Here’s how overlearning works in a math class:

You should consider yourself having “learned” something when you can answer a problem perfectly the first time without any help or having to reference anything else. It’s learned.

If you aren’t cramming, the best thing you can do at this point is put away your work and come back to review it in a week. Doing it this way makes it hard to remember those problems the next day, but if you review them after a week, your long-term retention will be helped immensely. It’s the fastest way to learn material long-term.

Short-term, though, you can’t wait a week. Instead, you have to overlearn. Overlearning means you continue to practice the problem type after you can answer it perfectly without any help.

Long-term, this doesn’t change how well you remember the problems. But if you are cramming, you need to remember it quickly. Go over the question type a whole lot in the cram session – ten more times with perfect answer, for example. This will sort of

pound it into your brain and (hopefully) allow it to last until after the test.

These five strategies are not ideal, but they are the best tools for you if you run out of time to study for a test. Cramming won't replace studying, but, in an emergency, these strategies are effective enough to help you pass your finals on a tight timeline.

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