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HOW TO TAKE A COLLEGE COURSE

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I wish I had a nickel for every student who's ever come up to me and asked how they can do better on tests. Wait… I do have a nickel for each student! That's my salary! Anyway, I've compiled a list of many useful skills that students pick up somewhere in their college experience.

This document comes from over thirty years (OK, nearly 40!) of working with students (and my own experience as a student for years before that!). I've noticed some patterns; I've listened to my students and teaching assistants; and I've read a lot, especially the work of Wilbert McKeachie, Saundra McGuire, and Richard VanDeWeghe, who have been studying how students learn for decades (see the full references to their works at the end of this document).

Some of these skills, techniques, and strategies will sound familiar to you, and/or painfully obvious. But I guarantee that you haven't heard of some of these ideas, and that you don't practice all of them—nobody does! But keep an open mind and commit yourself to trying some new skills. Try at least one new thing each course, each module, each week, even each day. Learn how to learn! As you try out new things, remember that you may need to practice them before you get proficient. But they can't hurt….

Here are the sections of this document:

HOW TO BECOME AN EXCELLENT COLLEGE STUDENT

You've gotten into college, so why do you need this document? I'll tell you why: because college is different than high school. Many of you did very well in high school without trying as hard as you could. One of the observations I've made over the years is that the "smarter" students who didn't have to work that hard in high school to achieve good grades often struggle in college—at least for a little while. It's the students who had to work their you-know-what's off who often do better. Why? Because they've learned how to learn in a variety of ways. They've honed a variety of skills.

Some Ways That College is Different Than High School

In college, you are pretty much on your own to take advantage of learning opportunities. Professors figure it this way: You're an adult, and you're paying (or somebody's

paying) for these learning opportunities. Professors don't keep the kinds of close tabs on you that your high school teachers did.

Another way college differs from high school is that you need to do more in college than memorize a lot of stuff and spit it out or recognize it on tests. In college, many professors want you not only to learn stuff, but to use it as well. To think about it. To consider it. To apply it (see next section). In general, we're talking about interacting with the material you're learning. You can't just expose material to your eyes and ears and hope that it will "sink in." It doesn't. It usually just sinks. College courses will give you more opportunities not only to recognize course material, but to use and interact with the material you are studying.

College is an interesting kind of partnership: If you uphold your end of the bargain by being engaged in the learning process, our teaching will be much more effective. It's critical for you to know that professors are willing to answer questions and talk with you, that TAs, learning centers, and other resources can help, and that your fellow students are really good sources of advice and support.

Skills That Educated People Use to Learn and to Think

Here's a partial list of the skills that you will learn in college and use throughout your life. All your courses will offer you the opportunity to increase your ability to learn material and to think for yourself. These skills are in no particular order, and they overlap with each other. Notice that some (maybe most) will be ones that you can improve even though you have been a good student.

1. Memorize: This is only one of many skills.
2. Notice (Observe): One of the basics! You've heard of "powers of observation," no?
3. Wonder: Be curious. If you're not, make believe you are!
4. Question: Question yourself, the readings, professors others.
5. Discover: This is not just noticing or reading what people say, but creating your own knowledge. This is related to:
6. Create: Use what you know to invent something new.
7. Read Actively: Reading implies understanding, not just retinal images!
8. Visualize: Imagine what's there, what's not there, what could be there, etc.
9. Reflect: This is sometimes called self-reflection or introspection. It includes asking yourself questions like these: "How does this relate to my life?" "How well do I understand what I'm being taught?" "What improvements can I make as a student, scholar, professional, and person?"
10. Clarify: "What?"
11. Speculate: "What if …?"
12. Elaborate: "What else …?"
13. Anticipate: Look ahead. Preview your readings and class meetings. How will you contribute to class? What do you want to take away from the course?
14. Name: Use vocabulary, don't just recognize it.
15. Hypothesize: This is a more precise way of imagining, speculating, and anticipating.
16. Connect: Notice or invent relationships among concepts, observations, etc.
17. Apply: This is another way to use vocabulary and make sense of your noticing. Applying includes generating your own examples of what you are learning.

18. Consider different perspectives: Looking at facts, observations, etc., from more than one vantage point helps you appreciate the complexity of life. It also helps you become more objective when you observe.
19. Evaluate: Form opinions based on information.
20. Compare: Do more than just connect concepts or examples to each other.
21. Generalize: Take what you've learned elsewhere and apply it.
22. Infer: What are the implications of this knowledge?
23. Collaborate: Work with others to help develop your own, and others', understanding.
24. Listen: Along with noticing and these other skills, it can work really well.
25. Empathize: Figure out why and how others get so passionate about what you're trying to learn.
26. Communicate, in writing and orally: If you cannot make others understand your thoughts, it could be argued that you don't have thoughts.
27. Try: Effort is critical. LeBron James didn't learn to shoot baskets by having somebody tell him how to do it.
28. Play: Make your learning, whatever it is you are learning, an emotional experience.
29. Risk: You've heard that you can learn from your mistakes, so take the opportunity to make some!

HOW TO THINK ABOUT AND GET THE MOST OUT OF CLASS TIME

1. College courses involve active work, not passive listening.
2. Go to class all the time! The research shows that students who come to class tend to do better—not just because they're there, but because they have more of a chance to work (play) on their understanding and other skills.
3. Come early to class if you can. Usually, professors and other students are around and it's a perfect time to ask questions, talk about the material, chill out, wake up for class, and relax.
4. At the very least, don't come late to class.
5. Preview the class by doing (or at least skimming) the reading. Develop a few examples, and be prepared to ask your professor if the examples fit.
6. Get to know other students in the class. You can study together, exchange notes, and/or share study guides.
7. Sit up front! That way, sometimes you can ask questions without raising your hand. It also is less intimidating to participate when you can't see the other 90% of the students.
8. Be active during class. Do NOT come to class just to sit and listen.
9. Take notes to solidify your learning. Write down your own associations to the material to help you remember. The research shows that taking notes by hand is more effective than typing them into a device.
10. Think during class, even when you are not active in other ways. Think about the connections between examples and the definitions, between what you're learning in this course and (a) what you learned previously, (b) what you're learning in other courses, and (c) your life.
11. Listen to your fellow students! Sometimes their contributions or questions can show up on the test! Also, their examples are often really good.
12. After class, review the material as soon as possible. This will solidify your knowledge while you can still read your handwriting. It will also show you what you may have missed so that you can ask questions of the professor, TA, other students, etc.

13. Go to professors' office hours. Your professors are in their offices during office hours specifically to talk with you. Ask questions about the material, or just share with them an example that you came up with.
14. Make sure to read the assigned material BEFORE class. Come with questions and ideas. If for any reason you get behind, do not try to cram! Make a schedule (even more carefully than usual) and catch up some each day.
15. If your text has a study guide, buy it and use it.

HOW TO READ A TEXT

I know you know how to read. But how often do you actively read for understanding? Reading doesn't mean scanning the pages across your retina! It means engaging with the material to get the most from it. Reading a chapter is like going out on a date. You don't just want to know what the date is saying, but you want to really understand your date.

To take this date analogy one (and only one) step further: You need to prepare for your date (you know, shower and dress), you need to behave well on the date, and you need to follow-up on the date (with a phone call, with flowers, with an apology, whatever…). Likewise, there are things to do before, during, and after you read. I've separated these out into three separate lists of techniques, but as you read and try them, remember that lots of them can be done at various times.

One helpful technique is to have a list of "sentence starters" that you can complete at any time—as you preview, as you read, or as you review. Here is a list of some sentence starters—to get you started:

- I already know that _____
- This reminds me of _____
- This relates to _____
- I can remember this _____
- This is different from _____ because _____
- What if _____
- I wonder _____
- I would imagine that _____
- If this were a movie, _____
- I can relate to this because _____
- I'm not sure about _____
- I need more clarity _____
- I'm guessing about this _____
- I need to _____

Before Reading

1. Skim. Look over what you're going to read. Catch section headings, bold-face terms, pictures, graphs, concept maps and other clues about what you're in for.
2. Read the summary.
3. Formulate questions (based on your skimming) about what you're about to read. Try to answer the review questions based on what you already know.
4. Write out your answers to the Learning Objectives in the book before you read the chapter. You will be making stuff up, to be sure. But it's better to guess before reading than to guess on the exam!

5. Recite lists of terms. All academic disciplines have technical terms, some of which have definitions which are VERY different than our everyday notions. Here's an example from psychology: For example, "personality" means something that you have and your roommate doesn't. But in psychology, "personality" has very different and very specific meanings. The same is true for terms such as "experiment," "control," "depression," "attachment," "stress," and "attitudes."

During Your Reading

1. Put charts and graphs into words.
2. Read out loud.
3. Copy material you've read, perhaps putting the material in your own words.
4. Read the material once before highlighting it. And don't highlight everything!
5. Use imagery. Put words into pictures, and pictures into words. When the book or instructor describes a concept, picture what that would look (or sound, or feel) like. For example, what would a therapist actually say to a client that would demonstrate unconditional positive regard? Likewise, when you see a graph or a table showing research results, put that picture into words. Ask yourself, "What have I learned from this research, and how does it relate to what I already know?"
6. Use mnemonics (memory devices). For example, use acronyms, like "HOMES" for the great lakes or "Roy G. Biv" for the colors in the spectrum. Make up stories for long lists. Write limericks or something that rhymes. Some people set definitions or concepts to a familiar song and sing it to themselves.
7. Method of loci. This is a mnemonic where you associate material you're learning with places (loci)—places in your house, houses on your street, places you know well. Then, to remember the information, you can imagine the places.
8. Create analogies and examples. Use your associative thinking. While studying, relate the concepts and information to other material that you know well. For example, many research findings about aging can be understood if you have a picture of a person going through life—having children, losing their hearing, facing death, retaining their crystallized intelligence, etc. The more associations you make to a given fact or concept, the more likely you are to remember it. Funny or ridiculous associations, associations to TV shows or music, and associations to familiar people or events are very good. Comical or absurd imagery and examples seem to work well.
9. Tell stories using the material. Narratives are easy to remember.
10. Cluster information. Form key terms into groups of related items. Concept mapping is great for this.
11. Get the main ideas. You can do this by outlining material and/or diagramming it to make it more visual.
12. If your reading has practice problems, work them! Do not skip over them.
13. Keep a "reading journal" where you write your thoughts about what you are reading—what you're learning, what it means to you, what you need clarity on, etc.
14. Try to learn everything! Don't skip stuff hoping that the professor won't ask about it—you know that's going to be the stuff on the test!

After Reading

1. Paraphrase what you've read.
2. Summarize what you've read.
3. Formulate questions about what you're not clear on.
4. Answer questions. Find review questions at the end of chapters, on the book's web site, and in study guides. Answer the questions and review why you got them right or wrong. The exams the professors give should not be the first time you assess your learning!
5. Formulate one or two new examples for each of the concepts.
6. Continue with or redo the sentence starters you did before.
7. Make up some test questions (multiple-choice, short-answer, whatever your professor uses) that would be a little challenging for someone who didn't read as carefully as you.
8. Review and rewrite the answers to the Learning Objectives.
9. Make-up flash cards. One set of cards could have a key term on one side and a definition on the other. Another set could have the key term on one side and an example on the other. Then, you can test yourself by term, by definition, or by example. All those ways will be on the tests!
10. Re-read. And read differently each time. One time highlight, one time stop and think of examples as you read, one time take notes, one time paraphrase each paragraph (with the book closed) after you read it.
11. If you have problems to work as homework, work them without looking at the reading or other examples. Some struggling will allow you to learn where you need to do some more studying.

HOW TO STUDY REALLY, REALLY WELL

1. If you have a homework assignment, start it the day it's assigned rather than the day before it is due. Do a little bit each day.
2. Set goals for your studying. Set goals for each term, each week, each day, etc.
3. Make schedules. And prioritize your study time! You have lots of other demands on your time, but there is too much information covered on exams to learn it all in just the day or two before the exam. Find out soon your midterms are, when papers are due in other classes, when your Aunt Bertha is coming to visit, etc. Then, create a schedule to minimize your stress during these "peak" times.
4. Try to have a defined, quiet, and organized area in which to study. Find a quiet place to study with adequate lighting and no distractions. Turn off the music, the TV, the wife/husband, girlfriend/boyfriend, significant other, etc., and focus all your attention on the task at hand.
5. Study for every class every day. McGuire recommends a "power hour" of studying including setting goals for the session, studying for most of the hour, taking a break, and then doing some review.
6. Focus your attention. Take frequent (but short) breaks to keep yourself fresh. But even during breaks, let yourself think about the material.
7. Study as if you were preparing to teach the information to the class, rather than just preparing to take a test. Having said that….

8. Think about what might be on the test. Try to make up test questions as you go. Ask yourself questions such as: "What is good to remember from this paragraph?" "Why was this graph important enough to stick in the book?" "What does this information relate to from previous readings, or from other courses?"
9. Test yourself? Find out what you need to know. Then, re-study the material that's giving you the most problems.
10. Attribute your performance to effort. When you don't do well on a test, what reasons are you quick to consider? Research suggests that students improve more when they attribute their performance to low effort and lack of course knowledge, rather than to a lack of interest, a test that was too hard, mean instructors, and other such things. The reason? You have control over the effort you produce—both the amount and quality of effort.
11. Give yourself a pep talk! Instead of saying things to yourself like, "This stuff sucks. I'm not smart enough. I'll never be good at this," try saying things like, "I can learn anything if I put in some time," or "It's hard, but I can do this."
12. Carol Dweck talks about a "growth mindset," meaning that if you believe that you can improve your learning you will do better than if you believe that intelligence is fixed and there's nothing you can do.
13. In her research, Dweck has also found that students do better when they have a growth mindset, and when they respond to failure by putting for more (or different types of) effort rather than assuming they can't learn.
14. Find ways to get enthusiastic about what you're doing. You can even start by making believe this is the most interesting and useful stuff you've ever seen!
15. Keep at it. Try these strategies even when you don't yet know if they're working.
16. Reward yourself for sticking to a schedule, for finishing a reading assignment, for staying awake, for small sub-goals.
17. Study with other people. Form a study group and meet regularly. Space out the study sessions (don't just get together the day before the test). Quiz each other. Tell each other stories. Challenge each other to remember.
18. Prepare for study groups—have an agenda. Prepare to teach the material to the others.
19. Go beyond memorization. Try to understand, apply, connect, and analyze information.
20. ASK QUESTIONS! First of yourself, but also of classmates, of the TA, of your professor. Ask questions in class, via e-mail, or on your course's LMS (Learning Mangagement System, like Canvas).
21. Take care of yourself physically as well as emotionally: sleep, eat, and relax well.

HOW TO TAKE TESTS

In this section, I review some basics of test-taking. In the following sections I have more specific advice for multiple-choice and short-answer questions.

Before

1. Read the book a little every day. Study well.
2. Sleep well the night before the exam and eat a good breakfast that morning. This will make you more alert and better able to concentrate.
3. Have all your materials prepared well in advance: pencils, Scantron forms, etc.

4. Write down formulas you may need.
5. Show up early or at least on time. You will not feel rushed or worried that you've disturbed other students.

During

1. Relax at the beginning of, and throughout, the test. You expend too much energy by being overly tense during a test. That energy should be spent thinking about the material rather than ruminating about how much you could have studied, or how dumb you are, how dumb the instructor is, etc. A good start is to take some deep breaths.
2. Be optimistic! Assume you have information and skills that will help you answer the questions.
3. Use coping self-statements. Tell yourself positive things such as, "I know enough material to do well on this test," "One test does not determine my entire future," or, "I am relaxed and will do the best I can on this test."
4. Read the directions very carefully, and ask for clarification if you need it.
5. Look over the whole test first, and budget your time.
6. Answer the easy questions first, then work on the harder ones. This will get your associate juices flowing, and you will be able to think your way into the answers.
7. Use your pencil to point at each word when you are reading the question. Many students miss questions because they simply do not see (or forget) an important word such as "never," "always," "less," "more," "except," etc.
8. Answer questions ACTIVELY. Before asking yourself, "What's the right answer?" ask yourself, "What do I know that might be relevant to this question? What images or stories does this question remind me of?"
9. Trust your knowledge. Answer questions based on the assumption that you know the material, rather than on the assumption that you don't. This will help your associative thinking, keep your attitude positive, and help you eliminate distracters. If a choice does not look familiar, it probably isn't correct.
10. Use the pictures and stories you've created to help you remember.
11. If you don't understand a question, feel free to raise your hand and ask. Professors can't define course terms, but they may be able to help you with general vocabulary.
12. Answer something for every question.
13. Answer the question; don't just do a data dump.

After

1. Come to the next class—don't let down after a test!
2. If you didn't do as well as you thought, DON'T WAIT! Don't assume that a bad grade is a fluke. See your professor, and start studying more effectively right away.

HOW TO READ AND ANSWER MULTIPLE-CHOICE QUESTIONS

1. Cover the answers when you read the question. Many students try to save time by looking at the answers while they're reading the question. Then they lock onto the first answer that looks right. But if they haven't read the rest of the question, the answer they choose is often wrong. To prevent this, read the entire question first, without

looking at the answers. Try to answer it as if it were a short-answer question.

2. Without looking at the answers yet, make the question more familiar by putting it into your own words and images. Then, try to figure out what the question is about. If provided with an example, picture the example described, and try to notice similarities between the example and the pictures you already have in your head. (Notice that this is an active process, not just recognizing familiar words.)
3. Before you read the answers, come up with your own answer—or at least something that the right answers should include.
4. Read all the answers before eliminating or choosing any of them. Don't jump to conclusions! Many students pick the first item that looks right, not realizing that distracters are designed to do just that: to distract you with concepts or labels that are similar but not correct.
5. Match the answer that you came up with to the alternative that is the closest. Sometimes that match will not be perfect, but one answer will still be the best answer and closest to yours.
6. Eliminate answers that are incorrect, and cross them out if you can. In the rush to finish, some students choose an answer that they had already eliminated.
7. When you're down to two possible answers, VERBALIZE the reasons why each one might be correct. Then choose the answer with the better verbal justifications—or the one that matches your picture better. Don't just wait for divine inspiration. You studied by making associations, so answer the question the same way.
8. "Double-check" your choice. You can do this in several ways. For example, try to remember another example that makes a connection between the stem and the correct answer. Another check: Ask yourself, "What would the question look like if the other answers were correct?"
9. Leave difficult items for later. Give some thought to each item, but if you are not having success at eliminating distracters, skip the item and leave it for later. This way, you can think about the harder questions knowing that you have already answered a bunch of questions correctly.

Example:

In an experimental study of the effects of sleep deprivation on memory, memory would be the:

a. control condition
b. independent variable
c. experimental condition
d. dependent variable

If your knowledge is not perfect, this could be a difficult question, but you can bring lots of information to bear. First, try to answer as if it were a short answer question. If that doesn't work, ask yourself, "What do I know about variables and conditions?" Draw a picture: What would this study look like? You would go into the lab and the experimenter would randomly assign you either to be sleep deprived or not. Then he or she would test your memory. You know that the independent variable is the one the experimenter manipulates, and in your picture the experimenter is manipulating sleep deprivation. So you tentatively eliminate answer b. If you know that the dependent variable is the one the experimenter measures, you can picture the experimenter measuring how much you remember, and so memory would be the

dependent variable. You tentatively choose answer d. As a final check, you remember that conditions have to do with the independent variable: The control condition is what usually happens (no sleep deprivation) and the experimental condition is the "test" condition (sleep deprivation). The condition is the group that people are assigned to, and memory isn't a group or condition, it is a variable. Now you feel confident choosing d.

HOW TO READ AND ANSWER SHORT-ANSWER QUESTIONS

1. Read the question. Every word. Notice words like "define," "list," "speculate," etc. They are there for a reason. If the question asks for two examples, provide two.
2. Answer the question. Don't just do a "data dump" of everything you know.
3. Use what you've learned. It's a good practice always to use at least one key term or concept when answering the question.
4. Remember that the question is asking for your learning, not your opinion. In psychology courses, many questions seem like they may be asking about your experience. "What does personality mean?" is a question that can be answered by anybody, based on their life experience. But when it's on a psychology exam, the question is clearly asking: "What is the psychological definition of personality?" or "How did we define personality in class or in the text?"

Example:

Here's a typical question. "From the trait approach to personality, why might Joe Biden have wanted to become president?" Here's one possible answer you could write:

> Joe Biden wanted to become president because he felt he could do a good job, and he wanted to change things for the better.

This is not a good answer. There may be some information about the trait approach hidden in this answer, but it's not stated. This answer doesn't demonstrate that you have done the reading, let alone understand it. It seems more like an opinion. Here's a better answer:

> Joe Biden may have wanted to become president because of enduring personality characteristics, or traits. [This is basic. It could be true of anybody's motivations to do anything, but it already earns more points than the first answer because it shows that you know at least something about the trait perspective. To earn more points, you continue and do some speculating:] Without having President Biden take a personality inventory (such as the MMPI), we can only speculate. But Eysenck might predict that Biden was way on the extraverted and stable poles of the Eysenck Personality Questionnaire, meaning that he might want a job with a high level of interaction with others, and in a leadership position. His extraversion and stability may also have been why he chose to be a TV personality rather than a businessperson who sat behind a desk all day. But even more, Biden might have had just the right amount of the big five personality factors in the right combination. For example, he might be very high on conscientiousness, extraversion, and openness, while being low on neuroticism. How did he acquire these traits? Some of it might have been from his strong father; about half might have inherited.

Notice how much information—including key terms—from the textbook you use. You don't

define the key terms, but your accurate use of them shows that you understand what they mean. Also, you use words such as "may" and "might" to show that you are speculating. You also demonstrate that you know that motivations are complex. This is an A answer because of all these things. Finally, you earn the final possible point by using some specific information about Biden's history in your speculation.

REFERENCES

The three books listed here are major sources of information for this document.

McKeachie, W. J., Pintrich, P. R., Lin, Y., & Smith, D. A. F. (1986). *Teaching and learning in the college classroom: A review of the research literature*. Ann Arbor, MI: National Center for Research to Improve Postsecondary Teaching and Learning, University of Michigan.

McGuire, S. Y. (2015). *Teach students how to learn*. Sterling, VA: Stylus.

VanDeWeghe, R. (2009). *Engaged learning*. Thousand Oaks, CA: Corwin.

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