**Study Strategy Template A picture containing drawing

Description automatically generated**

José Antonio Bowen

## Give me six hours to chop down a tree and I will spend the first four sharpening the axe.

## Abraham Lincoln

Metacognition and reflecting on long-term goals have been shown to significantly improve studying and grades. Effort alone is not enough; students need to work smarter, not harder. Regardless of race, gender, class, or performance level on previous exams, students using this 15-minute reflective hack received, on average, one-third of a letter grade higher at the end of the course. Students who reflected in this way also reported considerably less stress and a greater sense of control over their own performance.

*Teachers: Customize this template with resources specific to your institution and have students do this exercise in class ten days before a test, paper, assignment, audition, competition or exercise. Follow-up with a similarly customized cognitive wrapper after you return the work with feedback, but without a grade attached. This list is too long (it is a template for a wide variety of disciplines and exercises): customize for your students and make sure to suggest discipline-specific resources or techniques, but no more than 15. This technique is based upon the research from Chen, P., Chavez, O., Ong, D. C., & Gunderson, B. (2017). Strategic Resource Use for Learning: A Self-Administered Intervention That Guides Self-Reflection on Effective Resource Use Enhances Academic Performance. Psychological Science, 28(6), 774–785. https://doi.org/10.1177/0956797617696456*

**Reflection**:

Take a moment to think carefully about these four questions:

1. What grade (or result) do you want? (ex. C-, C, C+, B-, B, B+, A-, A, A+) \_\_\_

2. How important is it that you get this grade? 1=not very ---5 very important \_\_\_

3. How likely it is that you will get this grade? 1=not likely ---5 very likely \_\_\_

4. How many hours of preparation will it require to get the result you want? \_\_\_

5. What do you know (or need to know) about the format or kinds of things you might be asked to do?

**Choose Strategies:**

Look at this list of resources *[teachers: reduce to 15 that work for your class!]* and check which might be most useful and then describe why and how you might use it. Add as additional resources as you like.

Read textbook section(s) for the first time \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Re-read or highlight textbook section(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Re-read class notes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Read/study other materials \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(From where?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Rewrite key concepts in your own words \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

++Create personal examples or analogies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Test yourself on material \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Work on extra problems \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Work on more difficult material \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Relate new material to things you already know \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find online content \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Visit office hours \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Visit university learning/math/writing center \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Seek out other individual help \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Summarize to roommate/parent/friend \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Elaborate to roommate/parent/friend \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Create new analogies for roommate/parent/friend \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Attend review session \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Think \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Do new research \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Draft \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Edit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Listen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find inspiration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Analyze your posture/form/performance \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Practice in front of the dog \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Focus on one thing at a time \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Interleave (vary your studying) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Space your retrieval practice \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Play through pieces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Rest in between practice \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Memorize \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Repeat concepts by rote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Make flashcards \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Play for fun \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Brainstorm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Experiment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Work on new material \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Focus ideas \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Review homework solutions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Review concepts and ideas \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

+Contextualize concepts in new ways \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (Please specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NOTE: Items with a – tend to be time consuming and not very effective. Re-reading or highlighting, for example, create fluency (the material FEELS more familiar), but does not stick in long-term memory. It is much better to switch to items with a + as elaborating on the material is faster and more effective. For example, try thinking of new examples, making analogies (how would explain this concept in baseball or fashion terms?) or looking for larger context and restating ideas in your own words. Trying to remember the exact phrase or syntax of an idea is actually counter productive: come up with your own rule or phrase.

**Plan:**

While you will need to invest some time and effort into preparing, the total number of resources selected is not important: less is more. What matters is that you strategize about which resources or study techniques you will use.

You now need to plan how you will use these resources to help achieve your aims. Decide which resources or techniques are most valuable and how much time they will take. Has your estimate of the number of hours required to get the result you want changed? Revised estimate of hours \_\_\_\_

How might you divide up that required time over the next ten days and what might you do on each day? You do not need to work every day and you should spread out your preparation. Learning requires a spiral of forgetting and retrieving. Ideally, hit each part multiple times, at intervals, so interleave different topics and types of practice. Cramming and all-nighters do *not* yield remotely similar results. Make a plan and be specific about WHEN you will do each activity on each day.

|  |  |  |  |
| --- | --- | --- | --- |
|  | WHAT will you do? | WHEN | WHERE |
| Today |  |  |  |
| Day 2 |  |  |  |
| Day 3 |  |  |  |
| Day 4 |  |  |  |
| Day 5 |  |  |  |
| Day 6 |  |  |  |
| Day 7 |  |  |  |
| Day 8 |  |  |  |
| Day Before |  |  |  |
| Day of event!! |  |  |  |

**Remind Yourself** of your goals and the result you want each day.

**Remind Yourself** of how important this is.

**Strategy** is the art of sacrifice, but it is also about improving the odds for your success.