Study Skills Program

TI 054- Thematic

By

Shirley Cobb
# Study Skills Program

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**Study Skills Program**

*Clearinghouse for Structured Group Programs TI 054*

By Shirley A. Cobb

Edited and Revised by the Clearinghouse March 2002

**PREPARATION:** Be sure to consult the references before you give this workshop. Some of them are now out of print and may need to be checked out of the library or special ordered. Also, read and duplicate all the handouts beforehand. You may find that you will want to tailor this workshop to your own needs and target audience.

**Session One**

**Goals:**

1. To help the student become aware of the physiological and psychological factors contributing to the learning process.

2. To give the student an opportunity to apply this knowledge to his or her schedule.

**Handouts:**

- Establishing Good Work Habits
- Materials for Study
- Make a Study time Budget or Schedule (duplicate two copies of Weekly Activities Report for each participant)
- Maintaining Mental and Physical Health
- Habits for Effective Living
- Dealing with Some Emotional Problems.
- Additional information can also be found in *How to Study in College* by Walter Pauk, pp. 4-13: see References.
Activities:

1. Introduction

   First an conduct introductions and give an overview of the workshop. This should include the following topics: note taking, understanding textbooks, memorizing, concentrating, test taking, and preparing for exams. This will take approximately 5 minutes.

2. Discussion of handouts.

   Next review the materials in the handouts for Session One. Discuss the physiological factors that are conducive to learning; then discuss the importance of maintaining emotional health. Explain that the handouts contain very useful suggestions for effective study habits.

   You might say something like this: “By this time you have recognized many of the demands that college makes upon your time. You have discovered that your courses are more difficult than before. Perhaps you are now seeking some advice as to how you might approach your college career so that you have enough time to devote to your studies as well as take part in the extra-curricular activities that interest you.

   I can make suggestions, but in order for you to improve your personal study skills you must have a genuine desire and sound determination that you want to learn how to study efficiently. While there is no vitamin capsule, magic formula or automatic way to gain study skills, especially since you may have to replace certain inefficient habits of study—which takes time, effort and energy—the hard work, along with the positive attitude will pay off for you in the future. It will benefit you in school and your future career in which you will be more efficient in thought and actions. Above all, it will help you to become the person you want to be and to do what you want to do, because proper study skills lead to the knowledge and learning you need and want.”

3. Fill out Weekly Activities Record and Summary Chart as preparation for a Study Schedule.

   Ask participants to fill out a Weekly Activities Record, showing exactly what they do with their time. Then ask them to fill out a Summary chart. Explain that these
tools will help them prepare a Study Schedule. You could introduce the activity by saying:

Why in the world should anyone take the time to make a study time budget or schedule? Why not use all the time for study?

Well, as you found out, a study time schedule, if it is followed, is worth its weight in gold. Just think what it means—no more mad dashes to prepare your school work, no more “butterflies in the stomach” at exam time, freedom from worry about spending too much time on one subject at the expense of another, and protection from laziness, loafing and “goofing off.” You become accustomed to studying at a certain time and so you study

Explain that there are three steps in preparing a Study Schedule.

a. First Step in Preparing the Study Schedule:

Weekly Activities Record

Make an activity record for a week—that is, keep a record of all your activities for a typical week. Be sure to include the study time for each of your subjects. A suggested form for you to use appears on the next page.

After the forms are filled out, discuss the results, pointing out common themes and areas of improvement. Ask participants to bring all their handouts and forms with them to the next session.

b. Second Step in Preparing the Study Schedule:

Summary Chart

After you have completed your weekly activity record, use the Summary Chart and fill it out from the information in your record. You’ll have to do some heavy thinking on the last six columns, so wrinkle your brow and start to work.

c. Third Step in Preparing the Study Schedule:

Weekly Activities Record

Use the Weekly Activity Record and the Summary Chart, which you have already filled out. You will also need to use a second Weekly Activity Record Blank. Refer to the handout at the end of the manual on Creating a Study Schedule out of a Weekly Activities Record.
Session Two

Goals:

1. To review information presented in Session One, in particular the use of the Study Schedule.
2. To introduce participants to the concepts of Active Learning, using the five senses.
3. To introduce participants to the concepts of SQ3R and SQ4R study techniques.

Handouts:

• What is the SQ3R Method of Study, including:
  • “Why Should you use SQ3R”
  • “Errors Students Make in Using the SQ3R Method”

Activities:

1. Review

The second session begins with a brief review of Session One, lasting approximately 10 minutes. There should be a continued discussion of the use of a Study Schedule. At this time the students may refer to the schedules, which were made during Session One. Students may discuss how efficient they found their schedule to be, what their particular problems were, and what times of day they seemed to be most alert.

Give students an opportunity to create a new Study Schedule.

2. Discussion on Active Learning Techniques.

Present a lecture and discussion on active learning techniques, i.e., utilizing the five senses. This discussion should take approximately 15 to 20 minutes.

It should be pointed out that the most efficient learning takes place only when more than one learning channel is in use. For instance, we remember only 10% of what is read, 20% of what is heard, 30% of what is seen, 50% of what is heard and seen together, 70% of what is said (if thought is combined with speaking), and 90% of what is done.
It should also be mentioned that, in the first 24 hours after initial learning, it is possible to forget up to 80% of the material learned. A review within the first 24 hours prevents this loss.

You may need to augment this with additional material. The information above on active learning is based on a book entitled *Everything You Need to Know About Learning* by Ann S. Algier (Note that this book is out of print: you will have to order it via Interlibrary Loan Services.)

3. Discussion on SQ3R and SQ4R.

   The last 20 to 30 minutes of the session entails the presentation of the SQ4R study techniques. At this time, the SQ3R handout is to be distributed. Although this handout is on SQ3R, it should be noted that a fourth “R” has been added, standing for write.
Session Three

Goals:

1. To provide the students with concrete, active study techniques, in particular the SQ4R.
2. To make the student aware of different alternatives he or she may use to actively participate in studying

Handouts:

- “How to Master a Textbook Chapter” (is this the right title?)
- “Editing Lecture Notes”
- “Marking a Textbook vs. Taking Chapter Notes.”

Activities:

1. Review of SQ4R.
   
   At the beginning of this session, review the SQ4R technique, which should take approximately 15 minutes.

2. Discussion of other types of study techniques.

   After this material is reviewed, there will be a discussion of the importance of other types of study techniques, such as rewriting or editing notes, and the use of different underlining techniques. This discussion should take from 5-10 minutes.

   It should be pointed out to the participants that the human mind cannot begin to learn until it understands concepts. An important learning theory states that the human mind cannot deal with ambiguity; therefore, people must organize information in a way that it is meaningful to the individual.

   An example of this process can be seen in the way we have mapped the stars. We cannot look at the conglomeration of stars in the sky without making pictures in our mind and labeling the stars as pictures. It is also impossible to identify a star unless it is in relationship to a picture constellation, or how close or how far away a particular star is to a recognized constellation.
The same theory also applies in other areas of learning. For instance, a medical student cannot just learn organs and parts of the body but must learn them in context; that is, their relationship to other parts of the body.

This lecture should take approximately 15 minutes.

3. Presentation of organizational skills.

After this discussion there should be a presentation of organizational skills that can be used prior to reading a textbook chapter. Examples include the use of introductions, summaries, outlines, vocabulary words, and highlighted material.

Much of the background material for this session is taken from How to Study in College by Walter Pauk, pp. 31-51.
Session Four

Goal: To provide a cognitive structure for recognizing the components of a lecture and to enhance the students' listening skills.

Handouts:

- Taking Lecture Notes
- Listening
- Abbreviations in Note-Taking

Activities:

1. Review of Active Study Techniques.

   The first 10 minutes should include a review of the active study techniques that were introduced in Session Three.

2. Discussion of Note-Taking Skills.

   Explain to the participants that note-taking skills are of two basic varieties: (1) for the organized lecture and (2) for the seemingly disorganized lecture.

   a. For an organized lecture, the most important parts of that lecture are the first few minutes and the last few minutes of the lecture hour. In those first few minutes the instructor is likely to give the essence of the whole lecture in a thesis statement. In the last few minutes he or she is likely to recapitulate what was stated, perhaps with a little variance. During the course of this lecture there are certain verbal transitional clues that may signal important points. These transitional clues may be such phrases as the following:

   - the first reason is . . .
   - the two points of view are . . .
   - in comparison . . .
   - in contrast . . .,
   - and so forth.

   Reference should be made to the handout “Taking Lecture Notes.”
b. For the seemingly *disorganized lecturer*, it might be appropriate to use the split–page method. Before the lecture begins, the student should draw a vertical line down the left side of the paper allowing approximately 2 inches in the left margin, with the majority of writing room to the right of the vertical line.

As the student takes down what appears to be important facts, he or she may feel that these facts are unrelated and disorganized. Typically, at some point during a lecture of this sort, the professor may say something like, “These last few examples we've been talking about are examples of American isolationism. At this point the student may want to go back and put examples of American isolationism in the left hand column and then a bracket to include all of what appeared to be disorganized material connecting American isolationism to these facts.

In this type of lecture notes, the first section of the notes that should be studied is the left-hand column where the basic conceptual facts exist. Later during the study, the student should study the more factual information on the right side of the line.

Much of the background for this information is taken from the book, *How to Study in College* by Walter Pauk, pp. 20-30. Other sources of similar information are found in workbook and tape series of *How to Survive in College* pp. 11-14.

3. Discussion on Body Language

The remainder of time should include a discussion on body language, in particular reading a professor's body language for clues to important points. The most important fact to remember is that whenever an instructor changes his or her body language, there is some significant message being transmitted. This message may indicate that the professor is bored, tired, or more importantly, may transmit that he or she has just said something considered important.

Typical clues that usually indicate something important is being said are when hands are placed on the hips, or when arms are crossed in front of the chest. Also, whenever the teacher moves toward the audience, the message usually is that something significant is taking place.
Reference should be made to almost any of the body language books for additional information. A search on the various Internet web sites will result in some resources.

It should be kept in mind that every teacher is different and that it is the student's responsibility to interpret what is meant by that teacher's body language. Many times this enables students to be more perceptive, alert and aware of the actual material that is being given in a lecture.

4. Practice Activity.

If time permits, a short 10-minute lecture on any subject can be given, with students being asked to apply some of the discussed note-taking skills.
Session Five

Goals:

1. To provide the students with a working knowledge of how the brain works and
2. To provide the student with information on how the brain can be trained to better serve the student, specifically through the use of memory techniques.

Handouts:

• Remembering
• Suggestions for Remembering
• Effective Reviewing Skills

Activities:

1. Review Note-Taking Techniques.

   Begin with a review of note-taking techniques and a discussion of their use in the past week. This should be approximately 15 minutes.

2. Discussion on Forgetting and Remembering.

   At this point there should be a brief discussion of the theories that explain reasons for forgetting and ways to compensate for this loss. Pass out the two handouts: “Suggestions on Remembering” and “Remembering.”

   Topics to be discussed on these sheets include the following:

   • meaningful material
   • mnemonic or memory devices
   • relating parts to the whole (conceptual learning)
   • sensory learning i.e., visual, auditory, olfactory, etc.
   • attitudes

   Supplemental information that the teacher may refer to are the handouts on remembering referenced above, which deal particularly with conceptual learning and sense learning, plus material from Walter Pauk’s How to Study in College pages 72-76.
Another point of emphasis should be the psychology of reviewing, which is also found in *How to Study in College*.

An example of a mnemonic technique might be “Roy G. Biv” (which stands for “red, orange, yellow, green, blue, indigo and violet”).

Another example might be mnemonic device for remembering the great lakes, which is “H O M E S” (Huron, Ontario, Michigan, Erie, Superior).

Reference can be made at this time to the handout, Effective Reviewing Skills. This demonstrates some mnemonic techniques used for scientific material. Also consult the reference book, *Everything You Need to Know About Learning*.

3. Memory Activity.

At this time ask students to make up their own memory devices on any material that they may be called upon in any of their other classes to remember.

Textbooks used predominantly in this section include the following: *Everything You Need to Know About Learning* by Ann S. Algier and *How to Improve Your Memory* by James D. Weinland.
Session Six

Goal: To provide the students with an effective exam schedule review on the basis of physiological and psychological needs.

Handouts:

- Effective Reviewing Skills

Activities:

1. The first 10 minutes of this session should be devoted to a review of the memory devices discussed in Session Five.

2. Discuss reviewing skills.

   Next discuss scheduling review time for exams while continuing daily assignments. Make reference to the handout, “Effective Reviewing Skills,” which should be passed out to each student.

   Types of material to be reviewed include the following: vocabulary words, textbook underlining, lecture notes, and so forth. Make the point that the student should not reread all material. The only material to be reread is the information that was never really understood in the beginning. This discussion should take approximately 15 minutes.

3. Discuss importance of psychological and physiological preparation.

   Next discuss the importance of being prepared psychologically and physiologically prior to an exam. Important factors are good nutrition, adequate exercise, and sufficient rest. Also, any extremes in behavior should be avoided such as extremes in eating, sleeping time or socializing habits.

   At this point there should also be a discussion of the effect of chemical stimulants, especially caffeine. Be sure to discuss that any stimulant eventually produces an emotional let-down or depression, even if it does promote a physical alertness at the beginning. A problem could result with the student’s incorrectly perceiving his or her academic performance.

Any additional information on this topic is taken from the book *How to Take Tests* by Jason Millman and Walter Pauk, pp. 10-13; *How to Study in College* by Walter Pauk, pp. 77-80; and *Everything You Need to Know About Learning* by Ann S. Algier, pp. 21-22.
Session Seven

Goals:

1. To provide participants with a positive mental approach to taking exams.
2. To provide participants with pragmatic techniques for taking exams.

Handouts:

- Test-taking Techniques
- Ten Ways to Improve the Probability of Guessing Correctly
- Nonsense Test

Activities:

1. Review Exam Preparation.

   The first 10 minutes should include a review of exam preparation and other facts that were brought up in Session Six.

   At this time the handout “Test-Taking Techniques” should be distributed to each student. This sheet discusses the psychological tips for success in taking exams, such as when to go, what to take, and where to sit. The purpose of the information on this sheet is to provide the student with a sense of security and adequacy as to how to approach test taking.

   During this session the sheet should be reviewed thoroughly and discussed. Typically, students enjoy discussing this information by sharing personal experiences from test-taking situations. This kind of discussion is a natural lead-in to dealing with test anxiety.

   Signs of test anxiety are nausea and going blank before or during a test. Deep breathing exercises might be suggested for students who experience this kind of distress.

2. Discuss Methods for Taking Multiple-Choice Tests.

   At this time the handout entitled “Ten Ways to Improve the Probability of Guessing Correctly When You Don't Really Know the Answer” or “How to Play the Multiple-Choice Game” should be distributed.
This information is not a shortcut to doing well on exams. However, it does provide insight to test construction and possible areas focusing on critical thinking and evaluating thinking abilities; it appears to efficiently dissect test questions and give back a desired response. The ten points on this paper should be gone over together in class with a few additions.

These additions are the following: (1) “all of the above” tends to be correct more often than “none of the above” because it is easier to put down all correct answers instead of two or three answers that are wrong but sound right, (2) the most extreme answer is usually the “correct answer.” For instance, three long multiple-choice answers and one short answer indicate the short answer is probably correct or vice versa.

3. Nonsense Test Activity.

After “Test-Taking Techniques” has been reviewed, the Nonsense Test is to be handed out. This test is made up of eight multiple-choice questions, which requires the kinds of critical thinking previously discussed. A student can conceivably answer all questions correctly if critical thinking is applied properly.

Below is the answer key to the Nonsense Test:

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Explanation</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>a</td>
<td>Good guess because “clues” appear in the question.</td>
</tr>
<tr>
<td>2.</td>
<td>a</td>
<td>Good guess because it is the most extreme in length.</td>
</tr>
<tr>
<td>3.</td>
<td>c</td>
<td>“Usually” is a qualifying word; the other three words are all absolute statements.</td>
</tr>
<tr>
<td>4.</td>
<td>d</td>
<td>Correct because of grammatical construction.</td>
</tr>
<tr>
<td>5.</td>
<td>a</td>
<td>Also correct because of grammatical construction. The subject is plural as is the verb; although “b,” “c” and “d” all have plural nouns, only “a” has two reasons instead of just one.</td>
</tr>
<tr>
<td>6.</td>
<td>b</td>
<td>This is a good guess because “most” appears in all four items, also because no. 6 says which of the following is/are always present; we know that these are absolutes; it is more likely there is one absolute than two absolutes.</td>
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<td>-----------------------------------------------------------------</td>
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<tr>
<td>7.</td>
<td>c</td>
<td>We know “c” is the correct answer because we were given this information in no. 4.</td>
</tr>
<tr>
<td>8.</td>
<td>d</td>
<td>Although this does not appear to be a test item, the correct answer is “d” because of the pattern on the test; the answers run “abcd,” “abcd.”</td>
</tr>
</tbody>
</table>
Session Eight

Goal:

1. To provide the students with concrete academic skills.
2. To let students experience a test-taking situation.

Handouts:

• Key Words for Understanding Essay Questions

Activities:

1. Review.

   The first 10 minutes will include a review of test-taking techniques discussed in Session Seven.

2. Discuss Key Words for Understanding Essay Questions.

   Distribute the handout on essay questions and go over it thoroughly.

   The essence of this handout is utilization of the thesis statement in answering essay questions.

3. Activity.

   Develop a practice exercise on answering essay questions and have the participants perform the exercise.

   Any question that students might have some common knowledge on would be appropriate. For instance, college students might be asked to compare and contrast the first day of college with the first day of high school or to discuss the factors, which contributed to the outbreak of the Vietnamese War. After this sample essay test is given have the participants share answers and evaluate these kinds of responses.

4. Final Discussion.

   Engage the participants in a discussion of what was most beneficial in the course.
References

Algier, Ann S. *Everything You Need to Know About Learning*, Kendall/Hunt Publishing Co., Dubuque, Iowa; 1979. Note: this book is out of print; it can be requested via Interlibrary Loan. However, this author has published two more recent books that may prove helpful: *Active Study = Learning: An Orientation Manual* (1985) and *Improving Reading and Study Skills* (New directors for College Learning Assistance, No. 8, 1982).


Resnick, William C. and David E. Reller. *Learning Your Way Through College*. Columbus, Ohio: Charles E. Merrill Books, Inc., 1965, p. 110. This book is out of print; you will have to consult your local library or order via Interlibrary Loan.

Weinland, James D. *How to Improve Your Memory*, Barnes and Noble, 1957 (reprinted March 1986).
Handouts

Establishing Good Work Habits

Good work habits are essential if you want to make better grades. It saves time and energy to know where, when, and how you are going to work, and what you are attempting to accomplish.

Establish a pattern or schedule for getting your work done. Once you get in the habit of doing assignments according to a certain pattern, the task of getting down to work stops agonizing you.

1. Have a regular place of study. Make sure it has good lighting and is away from the TV set, the radio, and other distractions. You may not be able to avoid all noise and interruption, but you should have a place that is relatively quiet and free of intrusions.

2. Set aside a regular time to study and a fairly regular amount of time to devote to it.

3. Always make sure you understand exactly what you are expected to do on assignments. Ask the teacher as many questions until it is clear in your mind.

4. Keep a list of the assignments that you have to do.

5. Do your work as soon as you can. Don't put off assignments that you have to hurry to complete on time.

6. Allow your self enough time for each assignment, but do not spend so much time on one assignment that others suffer.

7. When your mind begins to wander, quit working for five or ten minutes. Also, decide on a reasonable amount of work to be accomplished during each study session.

8. Do your own work.

9. Use the dictionary, which should be as much a part of your equipment as pencils and paper. If you do not understand all the words used by the teacher or the author of your textbook, you will not understand all the lesson. You should be able to define the terms used.

10. Study the hardest things first. It makes sense to do the hardest work when you are fresh and most alert so you can give it your longest, best attention.

Remember the Good Advice Offered by Thomas Huxley:

“Perhaps the most valuable result of all education is to make you do the thing you have to do, when it ought to be done, whether you like it or not; it is the first lesson that ought to be learned.”
Materials for Study

You are not a physician, but how would you like to be operated on by a doctor who finds that he or she has forgotten instruments needed during your operation? There are students who begin their study “operation” and have to keep getting up looking for materials and equipment, which they need. Here is a checklist of materials that should always be on hand when studying. Are they on or in your desk?

“MUST-HAVE” STUDY MATERIALS AND EQUIPMENT”

<table>
<thead>
<tr>
<th>Books</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Paper</td>
<td>Pencils (sharpened)</td>
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<td>Paper Clips</td>
<td>Pen</td>
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<td>Rubber bands</td>
<td>Ruler</td>
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<td>Scissors</td>
<td>Eraser</td>
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<tr>
<td>Paste or glue</td>
<td>Scratch pad</td>
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<tr>
<td>Scratch paper</td>
<td>Paper punch</td>
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<tr>
<td>Notebook rings</td>
<td>Notebooks</td>
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<tr>
<td>Dictionary</td>
<td>Staples</td>
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Suggestions of “must-have-nots” for studying consist of removing any objects from view, which start your thoughts to wander away from studying. This means the clock (if you're a clock watcher), gadgets, playthings, food, trophies, souvenirs and photographs.

Also, “Stop, look and listen” is good advice for you at railroad crossings. It's not so good advice during study time. When you look at the TV or listen to the radio or record player, you stop studying. So it is best not to have these items in the room when studying.
## Weekly Activities Record

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<td>Amount of Time is Right</td>
<td>I Need Less Time</td>
<td>Amount of Time to Add Per Day</td>
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Please Note: We worked out “sleep” as an example, but you should fill out “sleep” according to your own activity record. Your last column should not add up to more than 168 hours—that’s all in one week.
Creating a Study Schedule out of a Weekly Activities Record

Third Step in Preparing the Study Schedule:

Use the Weekly Activity Record and the Summary Chart, which you have already filled out. You will also need to use a second Weekly Activity Record Blank.

Here are a few directions:

1. Write in for the week your times for:
   a. Sleeping (“Sleep”)
   b. Eating (“Breakfast,” “Lunch,” “Dinner,” or “Supper”)
   c. Personal Grooming (“Grooming”)
   d. Set or fixed activities (“History Class,” “Geometry Class,” “Music Lesson,” “Practice Music,” “Outside Job”)
   e. Subject(s) to study in each Study Period
      (1) As far as possible, try to use today's study periods for tomorrow's assignments.
      (2) Your hardest subject will require the most time.

2. Allow time to study in your schedule.
   a. Schedules for studying will differ, because students differ. The amount of your studying time depends on your general ability and the type of difficulty in your assignments.
   b. Schedule your studying at the time you work best—not when your energy is at its lowest.
   c. Have a definite period of time for studying each subject and indicate which subject—“Study Math,” “Study Spanish.”
   d. Tackle the difficult subjects when you are the most fresh.
   e. Vary your types of subjects—do not put two like subjects together, such as English and History.

3. Write in your other activities to complete your weekly activity record.
   a. Plan your recreation, exercises, and social activities as carefully as your study hours.
b. You might set up a recreation period as a reward for keeping to your schedule or study hours. No study, no reward.

Now, try to follow your schedule for a week.

Follow your schedule with changes made only for insufficient time. It isn't going to be easy, but don't get discouraged, especially at the beginning. It takes time to break old habits and make new ones. Start with the attitude: “I am going to accomplish this.”

When your weekly activity record appears to be meeting your needs (and you have to try it out for 2 or 3 weeks), continue to follow it until it becomes a habit. Regular habits aren't so hard to establish—you'll be amazed and pleased. To help you as a reminder, put one copy of your study schedule over your desk in your room and paste one copy in your notebook.
Maintaining Mental and Physical Health

High mental ability or scholastic aptitude in itself does not guarantee success in schoolwork. Important factors in school success, in addition to scholastic aptitude and effective study skills, are of physical and mental health.

It is well established that certain attitudes and habits, indicative of poor mental health, can greatly impair our study and learning efficiency.

Some of the symptoms of poor mental and physical health are the following:

1. Inability to concentrate
2. Insomnia (sleeplessness)
3. Chronic fatigue
4. Being underweight,
5. Excessive worry
6. Excessive daydreaming
7. Persistent feelings of inferiority or inadequacy
8. Frequent periods of depression (when the future looks black)
9. Chronic indigestion (nervous stomach)
10. Oversensitivity (feelings easily hurt)
11. Irritability (don't get along well with others)
12. Notion that others are plotting against you

If you have such symptoms, the first constructive step to take is to decide whether or not you do something about these conditions, which underlie these symptoms. There is so much that you can do to resolve your problems once you do something that needs to be done. The following discussion on “Habits for Effective Living” will give you suggestions for formulating habits which assure you of a high level of personal efficiency.
Habits for Effective Living
*Adapted by permission of RSSL, University of Maryland.

1. **Maintain good physical health.** Acquire hygienic habits of rest, exercise, diet, and cleanliness.

2. **Adopt and maintain an objective attitude.** An objective attitude is one in which you face your problems instead of shying away from them. Instead you attack your problems directly and rationally, and approach your problems in terms of observed facts instead of desires.

3. **Gain an objective insight into your own behavior.** Accept the fact that there is a cause for all behavior. That behavior is a means of satisfying one's inner needs. Try to understand why you act the way you do. This does not mean that you are to constantly psychoanalyzing yourself or critically analyzing every behavior, but rather that you reach the place where you are able to look at your behavior more objectively.

4. **Develop a confidential relationship with another person.** One of the best means of reducing the tension and anxiety that tends to develop around one's personal problems is by talking to someone else about one's difficulties. Such is implied in the often-used phrase, “Talk it out with someone.” When you are able to bring your fears and anxieties into the open, they become less threatening to you.

5. **Live in the present.** Effective living demands that we respond to the world as it is, rather than what might have been. Many behaviors, indicative of maladjustment, are caused by excessive worry about the past and undue anxiety about the future. It is essential that we deal with each situation as it arises and in proper perspective.

6. **Develop a sense of humor.** Learn to laugh at your mistakes and admit them readily. The ability to laugh at your own mistakes provides a safety valve against undue emotional tension.

7. **Assume an active attitude.** One of the essentials for effective living is making an active attack on your problems. To live effectively demands that we do something when confronted with a difficulty. If one plan of attack on a problem does not bring desired results, turn to other modes of attack. This does not mean more random activity. Our responses must be selected and made after viewing the problem realistically and objectively. The responses we select in attacking a problem must be those that give promise in solving the problem.
8. **Provide for and enjoy contacts with other persons.** In our culture, effective living demands that we enjoy some human contacts. Social Contacts help us in attaining an objective attitude, and in keeping active and alert in the present.

9. **Alternate work with rest and recreation.** Effective living is characterized by a balance between work and relaxation. Relaxation is important to both physical and mental health, while recreational activities can aid a person to adjust more effectively.
Dealing with Some Emotional Problems

Two common symptoms of emotional problems of students are (1) excessive worry and (2) feelings of inferiority or inadequacy. Students with these symptoms are usually low achievers of failures in school.

In developing a course of action to reduce worry, it is best to start by realizing that excessive worry is only a symptom of some underlying problem. When this is recognized, then it can be seen that any plan of action to eliminate worry must get at the cause of the worry. You will need, perhaps, the help of a counselor in the attempt to identify the sources of your worries. Some suggestions for dealing with these factors include the following.

1. **Attempt to see worry in proper perspective.** Many of the things one worries about never happen, or one frets about things over and over about the past that cannot be changed. It is estimated that only about 8 percent of our worries are real and legitimate. If we study our worries, keeping our sense of proportion, many of them would be eliminated.

2. **Talk with someone about your worries.** Talk with a counselor, teacher, parents, friends; talk with anyone. Often the act of describing a problem to another person helps you to see more clearly what is involved in your worry. Some thing that you couldn’t face that is brought into the open for discussion tends to be less frightening.

3. **Substitute planning for worry.** It has been said that the finest antidote to worry is work. In order to substitute rational planning for worry, a person must formulate a plan of attack. The tendency to fear a thing (or worry about it) is lessened if one plans some attack to meet it. Related to excessive worry are feelings of inferiority or inadequacy. If an objective evaluation of your self does reveal a deficiency in some area, plan a course of action to overcome the deficiency. Plan to develop other areas where you have other potential if it is determined that a deficiency cannot be removed. Accomplishment is the best antidote for feelings of inferiority or inadequacy. With persistent effort, an individual can overcome many deficiencies. However, do not expect the impossible of yourself. Learn to accept those deficiencies in which you can do nothing. Explore and develop the talents you have in other areas, too often, we tend to function on a level far below our potential. We often set impossible goals for ourselves in areas where we do not have great aptitude or potential and neglect those areas where significant accomplishment is possible.
In the Classroom—Listening and Note-taking

I. General Suggestion for Classroom Behavior

Sit as close as possible to the instructor on the first day of class. There is some evidence that regardless of ability, you can increase your chances for a good grade by sitting close to the instructor. The closer you sit, the fewer visual distractions, the easier it is to concentrate and to take notes. You are much less likely to daydream, read a paper, or write letters if you are under the instructor's eye. So, sit as close as you dare! Seating position tends to be a habit, so use it to your best advantage. Sit down in front and establish the habit early.

Review previous class notes occasionally. Let's be honest. Everyone gets bored occasionally in class, even the teacher. If you're bored in a lecture, don't doodle in your notebook or write letters. Flip through your previous notes. You are in the classroom anyway, so you may generate some interest and help get you back on the track. Even if the instructor continues to ramble and you continue to be disinterested, reviewing previous notes will be a good way to get ready for upcoming examinations. The more you review, the better able you will be to retain material later for exams.

Copy down everything on the board, regardless. Did you ever stop to think that every blackboard scribble is a clue to an exam item? You may not be able to integrate what is on the board into lecture notes, but if you copy it, it may serve as a useful clue for you later in reviewing. If what the instructor says doesn't seem to agree with what is written on the board or if you can't see how it relates, jot down a word or two from the board in the margin of your notes. A single word may be useful to you later.

II. Parts of a Lecture

Introduction. From a student's point of view, the opening remarks that a professor makes when starting a lecture may have no instructional purpose. The instructor in an academic situation may use the few opening minutes of the lecture to tell you about a recent book or an article or some warm, personal, and fairly delightful little human incident that happened on the way from the parking lot. If the instructor is real informal, he or she may even tell a joke or two. These introductory remarks serve no particular instructional purpose. They get your attention and inform you that the instructor is ready to talk.
**Thesis.** This is the sentence or the statement that the instructor makes which gives you the topic for the rest of the hour. You should be listening for the thesis sentence because it is really the key to the whole presentation. The instructor may, for example, summarize briefly what was said in the last lecture and make a few short remarks as to how that development will be continued today.

**Body.** This is the largest part of the lecture and demands your most active listening. In a typical class hour the instructor can only get across five or six main points to support the thesis of the lecture. Most of the time is used presenting examples, illustrations, experiments, or data—sub-points that prove each of those main points. How are the main points and the sub-points organized?

1. **Deductive Organization:** The instructor gives the main point first and then examples to support it.

2. **Inductive Organization:** The instructor gives details and examples that lead into the main point or generalization. This approach may be used in argumentative situations or to draw conclusions in a discussion situation.

3. **Mixed Organization:** The instructor seems to give generalizations, facts, illustrations, and principles with no particular organization imposed. This is basically a mixture of 1 and 2.

**Summary.** This occurs at the end of the lecture when the instructor wraps up all that has been said and restates the main points of the hour. Often students have a tendency to tune out this part of a lecture, but the good listener knows that it is here that there will be a chance to check the understanding of what the lecture was all about.

**Irrelevancy.** Side remarks may be interesting, but not meant for instructional or grading purposes. Be able to discern whether these are relevant or not.

**III. Hints for Listening**

1. **Play the role of a good listener by looking at the person who is talking.** Listening is a two–person game—it takes one person to pitch and another to catch if the game is to be mutually satisfying. Lecturing and listening are acts of communication involving both you and your instructor. If he or she is not doing the job effectively, evaluate your own behavior. Is the instructor’s lack of communication a result of your lack of communication?
2. Get into the habit of categorizing a lecture into its parts: introduction, thesis, body, summary, and irrelevancy.

3. Look for clues from the instructor that indicates what he or she considers important.
   - Vocal clues. Ex: “In the first place” — pauses in the lecture.
   - Postural clues. Ex: When the instructor leaves the lectern and looks down at a student.
   - Visual clues. Ex: Material on the blackboard, a display or demonstration.

4. Control your emotional responses.
   - Try to withhold evaluation of the speaker or the course at least until the end of the hour. Try not to be judgmental while listening.
   - Write down carefully and precisely anything with which you disagree.

IV. Note-taking

A. There is no necessity to use outline format when taking notes. As you listen, categorize the lecture according to its different parts: introduction, thesis, body, summary, and irrelevancy. Take notes accordingly, organizing your pages so that material relating to a similar point is together on the page.

B. Attempt to summarize the instructor's words as he or she is speaking—condense what the instructor says and put it in your own words.

C. Try to take at least one page of notes per lecture hour. If you have trouble taking notes, this gimmick will increase the amount of information you write down—better too much than too little. Use abbreviations as much as possible to increase you note taking speed.

D. Editing your notes—do this as soon as possible after class.
   1. Review notes and fill in any gaps you may have missed.
   2. Make up questions for the main points.
   3. Summarize the lecture in a brief sentence or two at the bottom of the page.
Control of the Environment

1. **Set Aside a Fixed Place for Study and Nothing but Study.** Do you have a place for study you can call your own? As long as you are going to study, you may as well use the best possible environment. Of course, it should be reasonably quiet and relatively free of distractions like radio, TV, and people. But that is not absolutely necessary. Several surveys suggest that 80 percent of a student's study is done in his or her own room, not in a library or study hall. A place where you are used to studying and to doing nothing else is the best of all possible worlds. After a while, study becomes the appropriate behavior in that particular environment. Then, whenever you sit down in that particular niche in the world, you'll feel like going right to work. Look at it this way; when you come into a classroom, you sit down and go to work by paying attention to the instructor. Your attitude and attention and behavior are automatic because in the past, the room has been associated with attentive listening and not much else. If you can arrange the same kind of situation for the place where you study, you will find it easier to sit down and start studying.

2. **Before you begin an assignment.** Write down on a sheet of paper the time you expect to finish. Keep a record of your goal setting. This one step will not take any time at all. However, it can be extremely effective. It may put just the slightest bit of pressure on you, enough so that your study behavior will become instantly more efficient. Keep the goal sheets as a record of you study efficiency. Try setting slightly higher goals on successive evenings. Don't try to make fantastic increases in rate. Just increase the goal a bit at a time.

3. **Strengthen your ability to concentrate by selecting a social symbol that is related to study.** Select one particular article of clothing, like a scarf or hat, or a new little figurine or totem, just before you start to study, put on the cap, or set you little idol on the desk. The ceremony will aid concentration in two ways. First of all, it will be a signal to other people that you are working, and they should kindly not disturb you. Second, going through a short, regular ritual will help you get down to work. But be sure you don't use the cap or your idol when you are writing letters or daydreaming or just horsing around. Keep them just for studying. If your “charm” gets associated with anything besides working, get a new one. You must be very careful that it doesn't become a symbol for daydreaming.
4. **If your mind wanders, stand up and face away from your books.** Don't sit at your desk staring into a book and mumbling about your poor will power. If you do, your book soon becomes associated with daydreaming and guilt. If you must daydream, and we all do it occasionally, get up and turn around. Don't leave the room. Just stand by your desk, daydreaming while you face away from your assignment. The physical act of standing up helps bring your thinking back to the job. Try it! You'll find that soon just telling yourself, “I should stand up now,” will be enough to get you back on the track.

5. **Stop at the end of each page and count 10 slowly when you are reading.** This is an idea that may increase your study time, and it will be quite useful to you if you find you can't concentrate and your mind is wandering. If someone were to ask you, “What have you read about?” and the only answer you could give is, “About thirty minutes,” then you need to apply this technique.

But remember, it is only useful if you can't concentrate—as a sort of emergency procedure.

6. **Set aside a certain time to begin studying.** Certain behavior usually is habitual at certain times of the day. If you examine your day carefully, you'll find that you tend to do certain things at predictable times. There may be changes from day to day, but generally parts of your behavior are habitual and time controlled. If you would be honest with yourself, you'd realize that time-controlled behavior is fairly easy to start. The point is that if you can make studying—or at least some of your studying—habitual, it will be a lot easier to start. And if the behavior is started at a habitual time, you will find that it's easier to get going without daydreaming or talking about other things.

7. **Don't start any unfinished business just before the time to start studying.** Most people tend to think about jobs they haven't finished or obligations they have to fulfill much more than things that they have done and gotten out of the way. Uncompleted activities tend to be remembered much longer than completed ones. If we apply that idea to the habit of daydreaming, you might suspect that uncompleted activities and obligations would be more likely to come up as a source of daydreaming than completed ones. Therefore, when you know you're about to start studying because it's the time you select to begin, don't get involved in long discussions. Try to be habitual with the time you start, and be careful what you do before you start studying. This can be one way to improve your ability to concentrate.
8. **Set small, short-range sub-goals for yourself.** Divide your assignment into subsections. Set a time when you will have finished the first page of the assignment, and set another time goal to finish the next three pages of the assignment, etc. If you are doing math, set a time goal for the solution of each problem. In other words, divide your assignments into small units. Set time goals for each one. You will find that this is a way to increase your ability to study without daydreaming.

9. **Keep a reminder pad.** Another trick that helps increase your ability to concentrate is to keep pencil and paper to think about something that needs to be done, jot it down. Having written it down, you can go back to studying. You'll know that if you look at the pad later, you will be reminded of the things you have to do. It's worrying about forgetting the things you have to do that might be interfering with your studying.

10. **Relax completely before you start to study.** One approach to concentration is to ask yourself, “Do study and bookwork scare me?” If you have to do something unpleasant, something that you know you may do badly, how do you react? Probably you put it off as long as possible, find yourself daydreaming, and would welcome reasons to stop studying. If you do react this way, you might be said to suffer from *learned book anxiety*. The key to breaking this *book—anxiety—daydream* series is learning how to relax. When you are physically, deeply, and completely relaxed, it is almost impossible to feel any anxiety. Associate the book with relaxation, not with tension and anxiety. When you study, study; when you worry, worry. But don't do both at the same time.
## Study Distractions Analysis

List three places where you usually study in the order you most use them:

A. __________________ B. __________________ C. __________________

Now circle the T (true), or F (false) that applies to each of these places.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Place A</th>
<th>Place B</th>
<th>Place C</th>
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<tbody>
<tr>
<td>1. Other people often interrupt me when I study here.</td>
<td>T</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>2. Much of what I can see here reminds me of things that don't have anything to do with studying.</td>
<td>T</td>
<td>F</td>
<td>F</td>
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<tr>
<td>3. I can often hear radio or TV when I study here.</td>
<td>T</td>
<td>F</td>
<td>T</td>
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<td>4. I can often hear the phone ringing when I study here.</td>
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<td>F</td>
<td>T</td>
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<tr>
<td>5. I think I take too many breaks when I study here.</td>
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<td>F</td>
<td>F</td>
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<td>6. I seem to be especially bothered by distractions here.</td>
<td>T</td>
<td>F</td>
<td>F</td>
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<td>7. I usually don't study here at a regular time each week.</td>
<td>T</td>
<td>F</td>
<td>F</td>
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<tr>
<td>8. My breaks tend to be too long when I study here.</td>
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<td>F</td>
<td>F</td>
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<tr>
<td>9. I tend to start conversation with people when I study here.</td>
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<td>F</td>
<td>F</td>
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<tr>
<td>10. I spend time on the phone here that I should be using for study.</td>
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<td>F</td>
<td>F</td>
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<tr>
<td>11. There are many things here that don't have anything to do with study or schoolwork.</td>
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<td>F</td>
<td>F</td>
</tr>
<tr>
<td>12. Temperature conditions here are not very good for studying.</td>
<td>T</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>13. Chair, table, and lighting arrangements here are not very helpful for studying.</td>
<td>T</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>14. When I study here, I often am distracted by certain individuals (that is, girl watching).</td>
<td>T</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>15. Here I have a place that I can use for study and for nothing but study.</td>
<td>T</td>
<td>F</td>
<td>F</td>
</tr>
</tbody>
</table>

Now total the checks in each column. The column which has the most number of true (T) circles may be the poorest place to study.
# How Do You Rate in Study Habits?

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I plan definite time and place for study.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I know exactly what the assignment is.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I assemble all materials I'll need before I start to study.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I use correct posture and lighting.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I avoid disturbances.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I know how to concentrate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I think over subject so I'll know how to proceed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I look for main points of the lesson.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I try not to daydream.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I try not to waste time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I stay on my lesson until I finish it.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Before I stop studying, I close my eyes and try to remember the main points of the lesson.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. If I can't remember these main points, I look for them again.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Editing Lecture Notes

(Reproduced by permission from PSSL, University of Maryland.)

I. There are several good reasons for organizing and reviewing your notes as soon as possible after the lecture.

   A. While the lecture is still fresh in your mind, you can fill in from memory examples and facts that you did not have time to write down during the lecture. Moreover, you can recall what parts of the lecture were unclear to you so that you can consult the lecturer, the graduate assistant, a classmate, your text, or additional readings for further information.

   B. Immediate review results in better retention than review after a longer period of time. Unless a student reviews within 24 hours after the lecture or at least the next lecture, retention rate will drop; and the student will be relearning rather than reviewing.

II. A method of annotation is usually preferable to recopying notes. The following suggestions for annotating may be helpful:

   A. Underline key statements or important concepts.

   B. Use asterisks or other signal marks to indicate importance.

   C. Use margins or blank pages for coordinating notes with the text. Perhaps indicate relevant pages of the text beside the corresponding information in the notes.

   D. Use a key and a summary (see diagram below). The center column represents the text of the book; the right- and left-hand sides represent the margins.

      1. Use one of the margins to keep a key to important names, formulas, dates, concepts, and the like. This forces you to anticipate questions of an objective nature and provides specific facts that you need to develop essays.

      2. Use the other margin to write a short summary of the topics on the page, relating the contents of the page to the whole lecture or the lecture of the day before. Condensing the notes in this way not only helps you to learn them but also prepares you for the kind of thinking required on essay exams and many so-called “objective” exams.
Marking a Textbook vs. Taking Chapter Notes

Reproduced by permission from PSSL, University of Maryland.

Skillful, purposeful marking in your textbook is much more useful than taking copious chapter notes. In fact, it is the most efficient aid for retention and review that you can devise. A well-marked chapter can be reviewed in less than half the time it would take to re-read it entirely, and your review will be far more effective.

The main points, main supporting details, and the relationships between ideas all jump to the eye. You don't need to re-study unless you can't recall the meaning of a marked passage. In that case, you can quickly skim to refresh your memory.

It has been proven that the student who takes lengthy, detailed chapter notes is an inefficient student. She or he could spend less time and get more out of it by applying the SQ3R method to the textbook and then marking the important points and making brief notes right in the book.

Of course, to be an effective aid to review, the marking must be done in a methodical, purposeful way,

Many students read, pencil in hand, and simply underline anything that seems important or interesting at the time. This activity keeps them busy and may help them concentrate, but unfortunately it is no help later on. Bear in mind, then that your markings are your guide to review.

Hints on How to Be a Successful Textbook Marker

1. WAIT to start marking until you have read and have thoroughly understood the chapter or a significant portion of it. Then GO BACK and mark the MAIN POINTS in any fashion you choose, so long as it is consistent: underlining, Roman numerals in the margin, key words in the margin, etc.

The main points are almost always generalizations, which the author then develops through subordinate ideas and details.

2. Be sure to indicate not only the main ideas but also the relationships between them. Doing this may require you to scrawl a word or two in the margin, or use little arrows to connect points, or use a series of numbers or letters, or circle key transitional words. Identify cause and effect, steps in a process, significant contrasts, etc, in this way.
3. If you feel you also need to note subordinate points and key details, such as the proofs the author advances for a given generalization, note them economically. For instance, use little circled numbers, combined with the barest minimum of underlining of key words.

4. Use a VARIETY of marks, and use them consistently. You may want to underline main ideas, circle important names and dates, or use brackets and marginal notes for an entire key paragraph.

5. Summary words or phrases in the margin, or at the top or bottom of the page, are helpful. But use them sparingly, and, if possible, abbreviate them.

6. Use the inside front or back covers to keep a running glossary of formulas, terminology, etc. and the page numbers in which they are defined.

7. Whatever system you use (you will work out your own system depending on the nature of the course and the textbook), DON'T OVERDO IT. Don't mark up the page just to convince yourself that you are studying. Make your marks simple and have a good reason for every mark you make.

8. It is a good idea, if you have time, to review your marks immediately after you finish the assignment, before you close your book. This retards the inevitable forgetting, and leaves you with the main points in mind.

In a well-organized text, you can, with practice, formally outline the chapters right in the margins, with Roman numerals and letters and a word or two of comment.

If you still feel the need of separate chapter notes, you can take your notes from your own textbook markings. That way you will avoid writing down too much. But the well-thumbed, well-marked textbook is the best review text of all.
Mastering a Textbook Chapter

Survey or Preview using the SQ3R 5-step method:

1. Survey
2. Question
3. Read
4. Recite
5. Review

Step 1: Survey

In this step you should get the best possible, over-all picture of what you are going to study, BEFORE you study it in detail. You must get the general picture before you can make an intelligent decision about the details.

A. Surveying a Book

1. Start the survey by reading the preface. Here the author gives you an idea of why the book was written and what the author will attempt to do.

2. Table of Contents - Read it thoughtfully to find out as much as you can about what the book contains.

3. Leaf through the entire book page by page.

4. Read the summaries of the chapters. This should give you an idea of the book's purpose, and an understanding of its over-all organization.

B. Surveying a Chapter: Before reading an assigned chapter, survey the chapter more deliberately and carefully, than you surveyed the book as a whole.

1. Use the headings. They give you the author's organization, tell you how the material is put together, make it clear how topics go together and follow each other, and they make it clear what the main subject of each section is going to be.

2. Locate the information that bears on the heading. The rest is icing on the cake.

3. The first thing to do, in picking up a textbook to read a chapter, is to run through the headings in the chapter. It is also a good idea to skim some of the sentences here and there in the chapter, and to look at some of the pictures and charts.
4. Read the chapter summary. The summary gives the important points of the chapter before details begin to clutter in the picture.

**Step 2: Question**

The “Q” in Survey Q3R means questions, and it emphasizes the importance of asking questions for learning. Questions give a purpose to our learning the answer to our own questions. Making impressions on us, because they make what we are studying more meaningful to us.

1. Make a question out of the main heading.
2. Write questions as you survey the chapter.
3. Use the author's list of questions at the beginning and end of chapters.
4. Read the question as a part of your survey.
5. If teacher passes out study guides, be aware of these.
6. If workbooks are available, use them for review.

**Step 3: Read**

1. Studying is not simply a matter of running your eyes over the textbook
2. Reading should be done after the summary.
3. Read actively—Read to answer the question the instructor or author has asked.
4. As you read, keep challenging yourself to make sure that you understand what you read.
5. Remind yourself to understand and remember what you read.
6. Read for main ideas, and important details.
7. Notice especially, any words or phrases that are italicized. Say these terms to yourself. Make sure you know how to spell them.
8. Read everything—that means tables, graphs, and other illustrations as well as the main text. Tables tell a story—take time to figure them out.
Step 4: Recite

The only way you can really find out what you remember is to recite to yourself. Because recitation can reveal your ignorance to yourself, it is one of several reasons why recitation is such an effective study method.

1. Stop periodically and try to recall to your self what you have read so far in the chapter.
2. Try to recall main headings and the principle ideas under each heading.
3. As you read, stop at intervals to recite the substance of each major section of a chapter.
4. Recitation should come immediately after learning material. The forgetting note is tremendously fast.
5. If what you are learning is disconnected and not too meaningful then 90 or 95% of your study time should be devoted to recitation.
6. If you have to learn rules, items, names, laws or formulas, them recitation should be your principle form of study.
7. In story like material such as in history recitation may be less important.
8. This you can be sure of: the time spent on recitation pays off.
9. Recite after the material of each main unit. Recitation helps you keep your attention on your task.
10. Recitation lets you correct mistakes.

Step 5: Review

The 5th and final precept of Survey SQ3R is review. A review is first of all a survey—a survey of what one is supposed to have done, rather than what is going to be done. Skim over the headings of the book and ask yourself what they mean.

1. Under each of the headings recite the point that you have previously read.
2. Re-read enough to check yourself and see either that you haven't left anything out or that your memory is refreshed.
3. Review the summaries—see if you can recite them.
4. Go over your notes you have taken on the book and on classroom work.

5. Review immediately after you have learned something—after reading a chapter.

6. Review several times between the first review and the final review for exams.
   Emphasize recitation.

7. Review earlier material more than material given right before the exam.

**Underlining**

Having suggested questions to the answer makes underlining have meaning. Underline the answers to questions that you have posed.

1. Underline main ideas, important details, and technical terms.

2. Don't underline wholesale.

3. Underline only the individual words and phrases that are essential.

4. On the average, half a dozen words or so per paragraph will do the trick.

5. Underline lightly.

6. Review materials that have been underlined.
What is the SQ3R Method of Study?

(Reproduced by permission from PSSL, University of Maryland.)

“SQ3R” is a codification of methods actually used by the most successful and efficient college students. The initials stand for steps in the process. The SQ3R technique can save you valuable time in studying. The main goals are to help you organize study material and to make you an active, thinking learner.

1. S = Survey: Spend some time getting familiar with the material you are about to study.

Observe headings. Observe the structure of the chapter. Read the introduction. If there is a summary (formal or informal), read it. If there are end-of-chapter questions, read them. If there are illustrations or charts, study them. Note whether the author sums up repeatedly or only once. The survey step gives you a set for the job of reading. Thoughtfully done, it allows you even to predict what the author is going to say. It's the greatest time-saver ever devised for the good student.

Note: If no clues are given, scan the material itself for general content.

2. Q = Question: Ask yourself questions based on your survey.

As you approach each section, turn the boldface heading into a question. For instance, turn a heading such as “The Genetic Code” into an active question such as, “What is the genetic code?” or “Why is it called a code?” Turn the summary statements into questions. The question step makes you into an active, not a passive, reader: you are reading for answers.

3. R = Read: Read the section to find the answers to your questions.

It is usually wise to take the material a section at a time. If you like, set a time goal. Underline after you read. Make notes of important points. Several options are available for this.

a. Underline in the text.

b. Make marginal notes in the text. Jot down key words in major phrases.

c. Use “divided page” in notebook.

Divide your page into three lengthwise sections. The middle section will be the largest and contain an outline of the material. On the left side of the page, key words
that can be used as clues will be written for each major section of the outline. The right hand margin will be reserved for a final review where you put into your own words the information presented. This can be an excellent means of reviewing your material later.

d. Place numerals in the textbook margin beside key points.

4. **R = Recite: Use self-recitation as a comprehension check.**

Look away from the assignment and from any notes you have taken, and ask yourself the questions about what you have just read. Make the deliberate effort to recall the important points. If you can do so, you have mastered that part of the material. If not, you should re-read. The recall step is what fixes the material in your mind. It makes reviewing for exams much easier. **Understanding while you read is not enough.**

**Note:** Don't wait till the end of the chapter to recite, but do it for each major section as you go along.

5. **R = Review: Periodic reviews are very helpful for retention of new material.**

As you complete the work, review it briefly by giving it a quick second reading. The more often you re-read, the better you will understand. Skim over the headings and recite what you previously learned. Re-read enough to check yourself and see either that you haven't omitted anything or that your memory is refreshed. Use a cover sheet to cover notes and only use the key words to help you remember the new material. Anticipate test questions and see if you can answer them.

**Special Notes:**

1. Additional sources of questions are charts and graphs, which are summaries even if they are presented visually.

2. Italicized phrases indicate important points.

3. It's easy to understand and memorize the steps of the SQ3R method, but putting them into practice requires deliberate effort. For a while you may find that your older, more passive habits will interfere with the active effort to study. But you can learn to apply SQ3R successfully, and you will find it rewarding.

4. The students who originate SQ3R also reported that they had no problem concentrating. The fact is that when you use this method, you are concentrating.

*Adapted by permission from RSSL, University of Maryland.*
Why Should You Use SQ3R?

Why Survey?
You will be able to concentrate better because you will know what to look for as you are reading.
You will be more aware of the author's organization. Main points should stand out as you read.
You are establishing a frame of reference—all that you read can be related to the general theme of the chapter.

Why Question?
Instead of being purposeless, your reading becomes an active search for answers.
You will comprehend more difficult material by realizing short-term goals.
Asking questions will help to exercise your concentration by forcing your attention to an immediate task.
You will read selectively.
Test questions should seem more and more familiar as you perfect the questioning technique.

Why Read?
You discover answers to your questions and begin to recognize what is important and what is not. This is true “speed reading”—the selection only of what is important.
You learn to look at material critically with an eye for main ideas and important details.
You learn to set reasonable goals for your reading in terms of how much material you can comprehend and retain at various reading speeds at various levels of text difficulty.

Why Recite?
Self-recitation forces concentration and acts as a comprehension check.
It helps to reinforce your knowledge.
It will help in understanding succeeding paragraphs.
Why Review?

Immediate review of new material facilitates retention.

Periodic review throughout the semester will help you remember material better. It's easy to forget!

Caution:

If used effectively, SQ3R can help you become a better student and should promote your concentration and retention. Remember, though, that the skills necessary to master this technique can't be developed overnight. It requires practice and effort by the student. It might be beneficial to concentrate on one step at a time until you feel comfortable with it.
Errors Students Make in Using the SQ3R Method

(Adapted with permission from RSSL, University of Maryland.)

1. **Failing to turn topic headings into questions.** Many students merely glance at the topic headings, or even overlook them, in reading textbooks. Turning headings into questions by beginning with how, why, where, etc. is an excellent technique for improving your ability both to concentrate and to comprehend. A good technique to stimulate yourself to think about the content in each section is to ask a question, based on the topic heading, and then attempt to guess the answer before you read. Then read to check your answers.

2. **Taking notes from the book in too much detail.** Bulky notes are not useful. Jot down the key words that will convey the main idea and important details. Don't worry about writing complete sentences. Condense the ideas as efficiently as possible. It will be easier for you to review and recall them then. Writing out the questions you made from topic headings and brief notes will give you a good review test on your understanding and retention.

3. **Falling to use notes for review.** Merely making notes will not help you retain the material unless you attempt to state the ideas in your own words and use your notes systematically for review. Look over your notes and test yourself on them at the end of one week, then two weeks, etc. and again at the time you plan your intensive review for an examination.

4. **Depending on underlining.** Combine it with the review step of SQ3R. Otherwise, you may end up postponing understanding.

5. **Believing that using SQ3R takes too much time.** This is a frequent complaint of students exposed to the SQ3R technique. It takes practice to learn a new study method. But if you take the small amount of time needed to learn it, you can save a great deal of time in the long run. You will not have to spend hours re-reading and re-digesting the total text when examination time looms.

6. **Most important, using SQ3R rigidly and mechanically.** Alter the SQ3R technique to suit your needs and the difficulty of the course you are taking. If the course is easy for you and your background knowledge of the subject is good then you may manage by mentally building and answering questions and writing down only those notes that you aren't able to recall. If the course is difficult, on the other hand, and you must make a good grade, then apply the method as it's outlined. You will need to write notes and review them frequently to grasp the new and difficult concepts.
Taking Lecture Notes

(Reproduced with permission from RSSL, University of Maryland.)

I. There are many reasons for taking lecture notes.
   A. Making yourself take notes forces you to listen carefully and tests your understanding of the material.
   B. When you are reviewing, notes provide a gauge to what is important in the text.
   C. Personal notes are usually easier to remember than the text.
   D. The writing down of important points helps you to remember them even before you have studied the material formally.

II. Instructors usually give clues to what is important to take down. Some of the more common clues are:
   A. Material written on the blackboard.
   B. Repetition.
   C. Emphasis.
      1. Emphasis can be judged by tone of voice and gesture.
      2. Emphasis can be judged by amount of time instructor spends on points and number of examples used.
   D. Word signals
      (e.g., “There are two points of view on . . . .”; “The third reason is . . . .”; “In conclusion . . .”).
   E. Summaries given at end of class.
   F. Reviews given at beginning of class.

III. Each student should develop his or her own method of taking notes, but most students find the following suggestions helpful:
   A. Make your notes brief.
      1. Never use a sentence where you can use a phrase. Never use a phrase where you can use a word.
      2. Use abbreviations and symbols.
B. Put most notes in your own words. However, the following should be noted exactly:
   1. Formulas.
   2. Definitions.
   3. Specific facts.
C. Use outline form and/or a numbering system. Indentation helps you distinguish major from minor points.
D. If you miss a statement, write key words, skip a few spaces, and get the information later.
E. Don't try to use every space on the page. Leave room for coordinating your notes with the text after the lecture. (You may want to list key terms in the margin or to make a summary of the contents of the page.)
F. Date your notes. Perhaps number the pages.
Listening

Notes from Dr. Ralph Nichol's (University of Minnesota) lecture on LISTENING.

The bad listener is usually inexperienced.

Ten Bad Listening Habits and How to Overcome Them

<table>
<thead>
<tr>
<th>Bad (How to tune out!)</th>
<th>Good (How to overcome)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Calling subject uninteresting and tuning out.</td>
<td>1. Can I USE it? Sift, screen, and bear down on subject.</td>
</tr>
<tr>
<td>2. Criticizing delivery (poor organization, etc.)</td>
<td>2. Dig out what's needed. The responsibility is on YOU, not the lecturer.</td>
</tr>
<tr>
<td>3. Getting overstimulated and tuning out.</td>
<td>3. Withhold evaluation until comprehension is completes (i.e. hear him out before judging.)</td>
</tr>
<tr>
<td>4. Listening only for facts (utterly inefficient). The worst listeners do this and</td>
<td>4. Listen for ideas and concepts. Facts then arrange themselves. This helps retention.</td>
</tr>
<tr>
<td>think it's good.</td>
<td></td>
</tr>
<tr>
<td>5. Outlining everything (rigid).</td>
<td>5. Mostly you can't. Use flexible techniques. (list of ideas and facts a good technique) precise, abstract, etc.</td>
</tr>
<tr>
<td>6. Faking attention.</td>
<td>6. Concentrate (Who are you kidding?)</td>
</tr>
<tr>
<td>7. Tolerating or creating distractions. (Can't hear speaker, etc.)</td>
<td>7. Eliminate them, Be aggressive about it.</td>
</tr>
<tr>
<td>8. Avoiding difficult material.</td>
<td>8. TRY it.</td>
</tr>
<tr>
<td>10. Wasting “the differential between speech and thought speed.” Lecturer 100 wpm;</td>
<td>10. USE the time-gap to concentrate. 3 ingredients of good concentration:</td>
</tr>
<tr>
<td>Average thinker 400wpm. Mind wanders while speaker catches up.</td>
<td>a. Anticipate what the lecturer is going to say and then compare what was said with what you anticipated.</td>
</tr>
<tr>
<td>You're tuned “out for 50, in for 10.”</td>
<td>b. Identify the instructor’s evidence.</td>
</tr>
<tr>
<td></td>
<td>c. Recap about every 5 min.</td>
</tr>
</tbody>
</table>
Abbreviations in Note-Taking

(Adapted by permission from RSSL, University of Maryland.)

1. Use of abbreviations in note taking is helpful.

2. It is possible to abbreviate frequently used words and still understand them from context.
   Examples: w for with and ch for chapter.
   Statements such as H2 reacts w O2 and Rd ch 6 for nxt lect are easily understood.

3. If an abbreviation is confusing, write out the word instead: for example, does no mean no or number, does wd mean word, wood, or would?

4. Go over your notes as soon as possible after lecture to clarify any confusing abbreviations, illegible words, or misunderstandings.

5. Use plurals and other endings wherever appropriate:
   Exs: rct, rctg rct’n for react, reacting, reaction.

6. Learn the standard abbreviations that have been developed in the field of study. They are usually available for frequently used words and phrases.

7. Abbreviations usually consist of the first letter and other significant letters of English words. If not, knowing the derivation of a word may help you understand the abbreviation.
   Examples: Hg for Mercury and Ag for Silver come from original names of these elements, Hydrargyrum and Argentum.

8. Research shows that the vowels are the least-noticed letters in the visual configuration of a word. Two types of most-noticed letters are
   (1) ascenders and descendents—letters such as t, h, l, g, y, and q, which extend either above or below the line, and
   (2) letters at the beginning or end of a word. Thus, in making abbreviations, leave out the vowels and middle letters of a word.
### Useful Abbreviations

Here are some abbreviations used in lecture notes. Can you add any? Are any confusing to you?

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>w. = with</td>
<td>ch. = chapter</td>
</tr>
<tr>
<td>imp. = important</td>
<td>th. = theory</td>
</tr>
<tr>
<td>impr. = improve</td>
<td>= = therefore</td>
</tr>
<tr>
<td>kn. = know</td>
<td>prob. = problem</td>
</tr>
<tr>
<td>kdge. = knowledge</td>
<td>probs. = problems</td>
</tr>
<tr>
<td>No. or # = number</td>
<td>mult. = multiply</td>
</tr>
<tr>
<td>= = equals or equal</td>
<td>vol. = volume</td>
</tr>
<tr>
<td>≠ = unequal</td>
<td>V = volume or velocity</td>
</tr>
<tr>
<td>abs. = absolute</td>
<td></td>
</tr>
</tbody>
</table>
Remembering

(Adapted by permission from RSSL, University of Maryland)

Psychologists do not fully understand just how memory works. It has been experimentally proven that tiny physical traces of what we have experienced remain with us. Electrical stimulation of certain areas of the brain will reproduce in our consciousness, as vividly as if they had just happened, the sounds, sights and smells of events we have not thought of in years. Until thus stimulated, we have had no conscious memory. So, apparently, we never actually lose what we have once experienced. It's still there physically, encoded in our brain cortex. The problem is to get at it, as every suffering student knows.

A good deal is known about the learning process, however, and it has been proved that certain techniques of learning help retention and recall. The human mind is comparable to a data bank, and certain methods of input help us consciously produce what we need when we need it. The actual process of calling back to consciousness what we once consciously knew is a mystery. There is no button to push, no electric prod to apply to the skull. But here are some proven methods of facilitating memory.

1. Above all, understand what you are called on to remember. Set up a frame within which to organize the details and their relationship to each other. If the whole makes sense, the parts are easier to recall.

   The medical student forced to remember the names of every nerve in the human body, will remember more easily if he or she knows the function of each nerve and how it interacts with the others.

   The history student will better remember the necessary names, dates, and other details if he or she has a thorough understanding of purposes, trends, philosophies, and the broad sweep of events.

   The language student will better remember the inflections of a language—the individual prefixes and suffixes which signal number, tense, etc.—if the student has a grasp of basic structure.

   In other words, remember in a context of principles, theories, and important generalizations. Before you try to fix details in your mind, know the structure and main emphasis of what you are studying. The SQ3R method of study, with its emphasis on surveying, questioning, and reading for main ideas, is a valuable aid.
2. The more thoroughly and the deeper you go into a subject, the better you will remember it. Apparently, broadening knowledge increases the number of associative links between one aspect and another and makes the whole structure stranger. This is one virtue of extra reading, doing extra problems, and seeking out other points of view.

3. Get yourself beyond the recognition stage to the recall stage. Do this the first time you encounter something you know you will have to remember. A certain amount of forgetting is inevitable anyway, but this method retards forgetting and makes recall easier.

The SQ3R method of study puts heavy emphasis on the “recite” stage for this very reason. Deliberately closing the book and going through the conscious effort of recalling the main points of what you have just read, while it is still fresh in your mind, seems to open the recall channel at a time when it is the easiest to open. The material seems closer to the surface and more easily accessible to review if the deliberate attempt to recall is made immediately after first reading. This has repeatedly been proven in carefully designed experiments.

The emphasis here is on conscious effort. It is not enough to feel familiar with what you have just read so that on second reading the main points and key details are easy to understand. Close the book and pull the points and details back to consciousness from memory. Write them out in your own words if necessary; when you can say these things in your own words, you have made them yours.

4. In certain subjects—foreign languages, sciences, math, for instance—the process known as over learning is of material help. In fact, in language study, it is essential.

Over learning is defined as “practice well beyond the point of mastery.” It is an extension of the conscious effort to recall, the point where conscious effort is no longer needed. “Over learning results when a person continues to use a response repeatedly, with confirmation”* How did you learn the alphabet?

Verbs, formulae, comparative anatomy—whatever it is you have to know without reaching for it—should be over learned. The process is speeded up if you use sight, sound and feeling to help you. Write it down and say it aloud; let the senses reinforce each other.

A pack of file cards is often helpful. If you are studying complicated terminology for a science course, for instance, you can write the term on one side and its definition on the other. Flip through the pack front sides up and try to recall what is on the back.
Then reverse the process. Then start at the middle of the pack and work forwards, or backwards. (It has been proven that in any long memorizing job, the ends are memorized first, the middle last.)

5. The importance of associations of ideas has already been emphasized. It often helps to deliberately build associations with what you have to remember. Doing this is like constructing a chain, which will lead you to what you want. If you have one end firmly in mind, it will lead you to the other end. Human minds vary greatly in the type of associative link to which response comes easiest. There is no one best method, but here are a few approaches that have worked. A multi-sensory approach is usually best.

(a) **Visualize.** Some people have vivid visual memories, i.e., memories for how things look. If you find yourself visualizing often—that is, if you remember better from charts and graphs than you do from the printed page, or if you remember how the page looked when you are trying to recall what was on it—you can make this tendency into an effective “aide-memoir.”

In a history course, for instance, make yourself a time chart. If you are the medical student memorizing all the nerves, visualize the nervous system and attach labels. If you are taking a statistics course, remember visually the relationships between, for instance, standard deviations, $z$ scores, $t$ scores, and percentile ranks, and then reason from there. In recalling verb forms or vocabulary words, make a deliberate attempt to visualize the words.

(b) Use **verbal** mnemonic devices. The world is full of examples. In spelling, for instance, the saying “There is a rat in separate—nonsensical as it is—has helped many people remember how to spell separate. Students memorizing the colors of the spectrum remember the nonsense name Roy G. Biv: red, orange, yellow, green, blue, indigo, violet. Medical students have hundreds of such devices, passed on down the generations. Make up your own.

(c) Some people with a strong sense of rhythm recall some things by first remembering the lilt or rhythmic pattern. The words come next and are recalled because they fit the rhythmic pattern. One such person remembers phone numbers by the pattern they make, recalling a number such as 8646265 by remembering the lilt of “Eight six FOUR six TWO six FIVE.

Suggestions for Remembering

1. Meaningful material is remembered much more easily than is meaningless material. The more meaningful the material to you, the more relationships you can see, the more principles you understand, the more you will remember.

Farquhar, et al. (3:11Q) presents the following lists:

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2. Mnemonic or memory devices, are useful for immediate recall only. They should be used with caution. It is far better to see meaningful relationships between parts of the material, because often the mnemonic device is remembered long after the material it stands for is forgotten. Sometimes a mnemonic device can malfunction and lead to a wrong answer.

For example, the mnemonic device “In fourteen hundred and ninety-two Columbus sailed the ocean blue” was recalled as “In fourteen hundred and ninety-three Columbus sailed the deep blue sea” by one child and “In nineteen hundred and forty-two, Columbus sailed the ocean blue” by another.

Another mnemonic device is one used by some people to recall, in order, the colors of the visual spectrum. They simply remember the name Roy G. Biv. Each letter of that name is
the first letter of one of the colors in the spectrum: R-red, O-orange, Y-yellow, G-green, B-blue, I-indigo, and V-violet. Then, it is only necessary to remember the name in order to reproduce the colors in sequence.

3. In reviewing material, relating parts to the whole is the best way of remembering. Any charts or organization you can make will help.

4. Use many senses in learning—visual, auditory, etc. For example, you may see material in different ways such as by reading the text and reading your notes. You may say it to yourself and remember how it felt to say it. You may hear yourself saying it, hear it in lecture, or hear it from other students. You may feel yourself write it or even experience a different kinesthetic feeling by typing or writing it in different forms or on charts. Occasionally, the sense of smell may reinforce memory as in the case of smelling H2S.

5. Practice the material in the form in which you are to be tested. For instance, giving a principle or law orally does not guarantee your ability to write it or to apply it. On the other hand, writing a poem or selection does not guarantee your ability to deliver it well orally. It is more effective to actually do some Chemistry problems than to read about how to do them.

6. Attitudes are extremely important. If you are mentally set to be interested and to learn, it is likely that this will happen. If you are preparing to be bored, it is likely that you will be bored and you are less likely to remember or learn.
Effective Reviewing Skills

(Reproduced with permission from RSSL, University of Maryland.)

Knowing that an examination will come at the end of the semester, a student wants to set up a review schedule, which, with the least effort, will place him at a peak of efficiency for the examination. Research studies indicate not only the best timing for these reviews, but also something as to the most effective types of review.

Timing of Reviews

Since forgetting takes place so rapidly after learning, it is evident that some review should come early, when review will be easy and most effective. Last minute careful “cramming” also has the value of returning memory to something of its original freshness just before the examination. Research studies show that both of these timings are more effective than review in between. The student's problem is to distribute review times so that no single review takes much time and so that studying before an examination does not become a hectic and fatiguing effort.

Certain principles are also of value in determining the distribution of review time as the student approaches an examination. The very size of the task of reviewing for a mid-term or final examination tends to lead to procrastination. The lengthy cramming session, which too often occurs just before the exam greatly fatigues the student so he or she cannot be as alert the next day on the test. And during a given study period there is a tendency to get the next day's lesson before starting to review; then there is rarely time for review.

Review Principles:

The following principles have been found to help with these difficulties:

1. Several review times should be scheduled, rather than one lengthy session.
2. All review time should be scheduled separately from study time.
3. A definite segment of the material should be assigned to each review time.
4. A student probably should not review for more than an hour or two the night before an examination.

Between immediate review and review just before the exam there is need for some informal intermediate review to keep the material fresh in memory. Because, as indicated in many research studies, memories tend to become reorganized in a dynamic way with
the passage of time, such intermediate reviews tend to keep the ideas in line with the actual facts read. An occasional looking over of one's notes, with rereading on obscure points, will do much to reduce forgetting and will tie in previous material with what is then being studied.

The following are two examples of mnemonic devices used to remember complicated facts.
Chemistry teachers frequently use a similar system for recalling primary elements. “See Hopkins Cafe. Mighty good with a little salt.”

Primary Chemical Elements

“See Hopkins Cafe. Mighty Good With a Little Salt.”

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You may have learned the planets by memorizing the sentence:

“My Very Exciting Mother Just Sent Us Ninety Pigeons.”

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Test Taking Techniques

One of the inevitabilities of college life is the examination. Probably no other regular occurrence in academic causes such an outpouring of vital juices. Tears, sweat, and adrenaline result in loss of weight, hysteria, outbreaks of allergies, and at the very least, the gnashing of teeth. And afterwards, surrounded by the debris of battle—chewed pencils, gum wrappers, discarded “blue” books—we ask ourselves, “Is it all worth it?”

Of course it is! One might as well ask the same question of the pianist after his or her first concert in Town Hall, or of the surgeon after a first operation, or of the engineer after his or her first creation is completed. The examination is your opportunity to demonstrate your new knowledge and to reap the rewards, even though they are no more than letter symbols of achievement.

But just as you would not walk on to the concert stage without having mastered your music, you cannot expect to walk on the stage of academia without having mastered your subject.

There are two requirements for success. The first is knowing the content; the second, demonstrating that knowledge. Systematic use of the learning steps will not only insure learning, but it will also eliminate one of the most important causes of exam panic: the uncertainty concerning one's preparation. That is, it is necessary not only to know the course—but to know that you know it. The self-testing provided by recitation and review is a rehearsal of the final act. It provides proof of preparation and a shield against panic.

Demonstrating one's knowledge is another problem. Here the “slip twixt the cup and the lip” can bring disaster. According to students, their primary difficulties are “clutching” (exam panic) and having too many answers occur to them after they turn in their examination papers.

You need not resort to tranquilizers to conquer panic. Rather, apply the following steps.
Steps for Avoiding Exam Panic

1. **Carry your notebook to the exam but don't open it.** It provides a feeling of security (because you could check a question if you really had to—before the test, of course), and your ability to avoid looking in it increases your feeling of confidence.

2. **Panic is contagious.** Stay away from the source of contagion—other students. Don't answer questions; if you do, those answers may become temporarily unavailable when you need them. Their probability of occurrence once may be high enough to bring them out on the exam; but to occur twice on demand, the answers may need to be much better known.

3. **Admit to yourself that you will not know all the answers.** Instead of saying, over and over, “I'm afraid I won't know it,” say “Some of it I won't know—and some of it I will.” Thus, when you read the first question and don't know the answer, you will respond, not with the conclusion that you know nothing, not be clutching but by saying, “That's the one I don't know.” Verbal magic? Perhaps. But it's effective.

How to Avoid Thinking of the Answers AFTER the Test

Now let's look to the second problem of which students complain, having the answers occur to them after the examination.

1. Don't lump all your studying into one or two great grinding sessions just before the exam. Distribute your review periods rather evenly through the preceding week or so. Then stop studying two days before zero hour. Continual reviewing of the same material during the hours preceding the exam is an effective way to prevent its arousal when you want it. Leave your learning alone. The brain remains active, sorting and reworking after you close the book. Give it time to work for you. The child will never cross the street alone if mother always insists on holding his or her hand.

2. Continue your daily habits as usual. Too much sleep or too little, changes in eating habits, attending a movie (because you're told it's a good thing to do before an exam) when you abhor movies—any of these may modify your physiological functioning so that you are “not yourself” during the examination.

3. For the most efficient use of your knowledge apply certain procedures to taking the essay exam and the objective or short-answer exam.
Procedures for Taking the Two Types of Exams

I. The Essay Exam

1. Set up a time schedule. If six questions are to be answered in sixty minutes, allow yourself only seven minutes for each. When the time is up for one question, stop writing and begin the next one. There will be 15 to 18 minutes remaining when the last question is completed. The incomplete answers can be completed during that time. Six incomplete answers, by the way, will usually receive more credit than three complete ones.

2. Read through questions once. Answers will come to mind immediately for some questions. Write down key words, listings, etc. now when they're fresh in mind. Otherwise those ideas may be blocked (or be unavailable) when the time comes to write the later questions.

3. Do the easy questions first.

4. Before attempting to answer a question, put it in your own words. Now compare your version with the original. Do they mean the same thing? If they don't, you've misread the question. You'll be surprised how often they don't agree.

5. Outline the answer before writing. Whether the teacher realizes it or not, he or she is greatly influenced by the compactness, completeness and clarity of an organized answer. To begin writing in the hope that the right answer will somehow turn up is time-consuming and usually futile. To know a little well is, by and large, superior to knowing much and presenting it poorly when judged by the grade received. Simplify the reading task of the instructor by numbering supporting ideas wherever appropriate.

6. Take time to write an introduction and summary. The introduction will consist of the main point to be made; the summary is simply a paraphrasing of the introduction. A neat bundle with a beginning and ending is very satisfying to the reader.

7. Take time at the end to reread the paper. When writing in haste we tend to:

   a. Misspell words.

   b. Omit words and parts of words.

   c. Omit parts of questions.

   d. Miswrite dates and figures (1343 written as 1953; $.50., etc.)
8. Qualify answers when in doubt. It is better to say “Toward the end of the 19th century” than to say “In 1894” when you can't remember whether it's 1884 or 1894. In many cases, the approximate, may be incorrect, and will usually be marked accordingly. When possible, avoid very definite statements.

A qualified statement connotes an appreciation of the tentative nature of our knowledge.

II. The Objective or Short Answer Exam

1. Read through once, answering the obvious questions. For the more difficult, write your first reaction in the margin and circle the number (to insure finding the item later). As you go through the questions, later items will be found useful in answering early ones. First reactions tend to be correct ones.

2. Don't think too hard about the choices. You can make a case for almost any choice if you try. These are recognition type questions. The answers should be apparent.

3. Don't be a “head-banger.” If you think your instructor wants you to choose “c,” then choose it. Don't say, “Well, ‘b’ is just as good and I can prove it to him.” An exam is not an appropriate battleground for working out your authority problems.

4. Be daring. Research shows that the cautious person is penalized by answering only those questions of which he or she is very sure. Unless there is a sizable penalty for wrong answers, it's best to guess. Seldom will your guesses be blind. Rather, they tend to be based on partial information, some of it unverbalized.

5. In multiple-choice items, the alternative that differs most in length from the others tends to be correct. The test maker requires qualifying words like usually and sometimes to make choices correct and others like always and neater to make choices incorrect. Therefore, the correct tends to be either longer or shorter than the others.

Learn this lesson well.

Successful grades require knowing it and showing it.
Ten Ways to Improve the Probability of Guessing Correctly  
(When You Don’t Really Know the Answer. Or, How to Play the Multiple-Choice Game)  
(Reproduced by permission from RSSL, University of Maryland.)

1. Don’t guess too soon! You must select not only a correct answer, but the best answer. It is therefore important that you read all of the options and not stop when you come upon one that seems likely.

2. Another rule of the game is that you must select not only a technically correct answer, but the most complete correct answer. Since “all if the above” and “none of the above” are very inclusive statements, these options, when used, tend to be correct more often than would be predicted by chance alone.

3. Be wary of options which include unqualified absolutes such as “never,” “always,” “is,” “are,” “guarantees,” “insures.” Such statements are highly restrictive and very difficult to defend. They are rarely (though they may sometimes be) correct options.

4. The less frequently stated converse of the above is that carefully qualified, conservative, or “guarded” statements tend to be correct more often than would be predicted by chance alone. Other things being equal, favor options containing such qualifying phrases as “may sometimes be,” or “can occasionally result in.”

5. Be wary of the extra-long or “jargony options.” These are frequently used as decoys. In Psychology, for instance, an instructor might load an incorrect option pertaining to Freud with such terms as “id,” “ego,” “Oedipus,” etc., to trick the unprepared.

6. Use your knowledge of common prefixes suffixes, and word roots to make intelligent guesses about terminology that you don't know. A knowledge of the prefix “hyper,” for instance, would clue you that hypertension refers to high, not low, blood pressure.

7. Be alert to “give-aways” in grammatical construction. The correct answer to an item stem which ends in “an” would obviously be an option starting with a vowel. Watch also for agreement of subjects and verbs.

8. Utilize information and insights that you've acquired in working through the entire test to go back and answer earlier items that you weren't sure of.

9. If you have absolutely no idea what the answer is, can't use any of the above techniques, and there is no scoring penalty for guessing, choose option “B” or “C.” Studies indicate that these are correct slightly more often than would be predicted by chance alone.

10. Finally, the best way to insure selection of the correct option is to know the right answer. A word to the test-wise is sufficient!
Nonsense Test

Reproduced by permission of RSSL, University of Maryland.
Written by Allen Mo Schullner, Visiting Lecturer, College of Education.

The following is a hypothetical examination on which you could get every item correct by knowing some of the pitfalls in item construction. Circle the letter preceding the correct response.

1. The purpose of the cluss in furmpaling is to remove
   a. cluss-prags
   b. tremalis
   c. cloughs
   d. plumonts

2. Trassig is true when
   a. lusps trasses the vom
   b. the viskal flans, if the viskal is donwil or zortil
   c. the belgul frulls
   d. dissles lisk easily

3. The sigia frequently overfesks the tvelsum because
   a. all siglas are mellious
   b. siglas are always votial
   c. the trelsum is usually taroous
   d. no trelsa are feskable

4. The fribbled breg will minter best with an
   a. derst
   b. morst
   c. sortar
   d. ignu
5. Among the reasons for tristal doss are
   a. the sabs foped and foths tinzed
   b. the knredges roted with the orots
   c. few racobs were acapped in sluth
   d. most of the polats were thonced

6. Which of the following (is,are) always present when trossels are
   being gruven?
   a. rint and vost
   b. vost
   c. shum and vost
   d. vost and plone

7. The mintering function of the ignu is most effectively carried out in
   connection with
   a. a razma tol
   b. the groshing stantol
   c. the fribbled breg
   d. a frally sush
Key Words for Understanding Essay Questions

Analyze
Means to find the main ideas and show how they are related and why they are important.

Comment on
Means to discuss, criticize, or explain its meaning as completely as possible.

Compare
Emphasize similarities, but differences may be mentioned.

Contrast
Stress differences.

Criticize
Express your judgment as to the correctness or merit of the matters under consideration.

Define
Make a clear statement including all items which belong within the category you are defining, but excluding all items which do not belong.

Describe
Characterize the item from several points of view. (Sometimes this question may begin with the word “What.”)

Diagram
Means to make a graph, chart, or drawing. Be sure you label it and add a brief explanation if it is needed.

Discuss
Outline the item completely, paying special attention to organization. Present pros and cons and illustrative details.

Enumerate
Means to list. Name and list the main ideas one by one. Number them.

Evaluate
Means to give your opinion or some expert's opinion of the truth or importance of the concept. Tell the advantages and disadvantages.

Explain
This is similar to “discussing” but there should be greater emphasis on “how” and “why.”
Illustrate
Means to explain or make it clear by concrete examples, comparisons, or analogies.

Interpret
Means to give the meaning using examples and personal comments to make it clear.

Justify
Prove, or show the grounds for your conclusions. Try to present your evidence in a convincing form. (Sometimes this appears as a “Why” or a “Prove” question.)

List
Name the items briefly, one after the other.

Outline
Summarize in the form of a series of headings and sub headings.

Review
Means to give a survey or summary in which you look at the important parts and criticize where needed.

State
Means to describe the main points in precise terms. Be formal. Use brief, clear sentences. Omit details or examples.

Summarize
Present concisely the main points of the topic, omitting details and illustrations.

Trace
Describe a development starting with its point of origin and including relevant details in sequence.