Textbook Study Strategies
PARROT* System for Textbook Studying

*Developed by Barbara McLay *(reprinted with permission)

Preview
Previewing involves looking over the entire reading assignment with the purpose of familiarizing yourself with the concepts that will be covered. Be sure to skim the major headings and take note of the illustrations, charts, figures, and anything else that stands out in the text. If there is a summary, read it as you finish previewing. This helps you prepare for what is to come and understand how concepts relate to one another. As you preview, in your mind begin to . . .

Ask & Activate
While you are previewing and preparing to actually read the material, it is important to formulate questions based on the topics and sub-headings. Ask yourself if anything is familiar, hence activating your prior knowledge on the subject. Ask yourself what you can expect to learn or what you need to find out. This creates a purpose for you to begin to . . .

Read
Do not attempt to read an entire chapter all the way through in one sitting without stopping. Instead, read a textbook one section at a time, stopping at the end of each section to use the next step - Review. The amount you cover before stopping to review differs for each person, the type of information, your prior knowledge, your purpose, and your level of interest.

Review
Review refers to stopping to check your comprehension by describing either aloud, on paper, or in your head, a summary of the material as you understood it, in your own words, to help you make a personal connection to the information. As you review or explain it to yourself, you should be taking note of how the information is organized and use this awareness to . . .

Organize
Organize the information in a format that will help you better comprehend and study. This may involve highlighting the key points, making notes in the margins, creating an outline, developing study cards, constructing a concept map, merging information into your class notes, or another process that matches the purpose and the level at which you need to recall the material. If you are preparing for a test, you should organize your study materials according to the level of knowledge that will be expected. For example, do you need to recognize the information, or explain it, or apply it, or analyze it (compare/contrast), or synthesize details into a larger concept, or evaluate an example or case study? And finally, don’t forget to . . .

Test
Stop periodically to test your knowledge. Are you able to define concepts, answer questions, solve problems, or write a sample essay? Use your study cards or notes, attend a study group, or practice applying the concepts to new examples. Try to predict a variety of questions. Remember, you don’t know what you don’t know until you actually test yourself!
Organize: Annotating Textbooks

While Previewing . . . Activate your thoughts only, try not to mark yet

Question . . . . . . . . . Turn headings into questions

Read and Review . . . After each section can you answer the questions you created?

Organize . . . . . . . ONLY after reading and reviewing should you highlight or annotate the key word or phrase or write organizer notes note in the margin because NOW you know what’s important

Study & Test Yourself . . . Manipulate, organize, compress information; develop study notes, cards, etc. and test yourself; answer questions actively; practice different examples.

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Organize with the Cornell Note Taking System
(take notes as you review and organize)

<table>
<thead>
<tr>
<th>Key Points</th>
<th>Record Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 1/2 in.</td>
<td>6 in.</td>
</tr>
<tr>
<td>After you read as section of your test or after a lecture, Reduce the notes on the right into concise key points as a means to . . . Review And Organize the material into test preparation tools</td>
<td>the facts and details from the text or from a lecture as fully and as meaningfully as possible.</td>
</tr>
</tbody>
</table>

Condense: periodically add a brief summary to condense information
Textbook Annotation Example

Although we commonly talk of single forces, Newton recognized that it was impossible to have just an individual force. Rather, there is a mutual interaction between two objects, and forces always occur in equal and opposite pairs. An example given by Newton was that if you press on a stone with your finger, the finger is also pressed upon by the stone. That is, if one object exerts a force on a second object, the second object exerts a force on the first. This is like saying that you can’t touch without being touched.

Newton termed these forces action and reaction, and his third law is commonly expressed:

For every action there is an equal and opposite reaction. Or, alternately, for every force there is an equal and opposite force.

This third law may seem contrary to the second law, but it is not. The second law is concerned with a force acting on a given body of mass \( m \) and its resulting acceleration. The force pair of the third law acts on different bodies. Consider the third law in the familiar context of firing a rifle. . . . When the charge explodes, the bullet is accelerated down the barrel. It is acted upon by a force (an action), as evidenced by its acceleration. The reaction force acts on the rifle and it is accelerated in the opposite direction, which gives rise to the backward recoil or “kick” of the rifle. According to Newton’s third law

\[
F_{\text{action}} = -F_{\text{reaction}}
\]

where the minus sign indicates the opposite direction to the action. . . .

Newton’s third law is incorporated in many applications. . . . Exhaust gases from burned fuel are accelerated out the back of rocket and jet aircraft engines, and the rockets and aircraft are accelerated forward by the reactive forces.

\[
3d \text{ law: } F = -F_{\text{reaction}}
\]

reaction forces propel rockets forward

[kick not equal in all rifles]
## 2-Page Format

**Organize: Integrate Textbook Notes and Class Notes**

| Leave page blank at first and integrate additional details as you organize for test preparation |
| Add details, diagrams, formulas, concept maps, etc. |
| Notes |
| Take notes on only the right side of your paper, leaving the left side blank so you can enhance your notes later. Use the format that works best for you: Cornell, outline, or bullet points, etc. |
Organize: take note of information patterns

1. EXAMPLE
   • Often in social science texts
   • An example or detailed incident is provided to explain the main idea
   **Signal Words:**
   for example, which was one, this particular, for instance, specifically, such as,
   attributes of, that is namely, properties of, characteristics are, qualities are marks of

2. SEQUENCE
   • Often in sciences and technology texts
   • Used for the explanation of steps in a procedure, process, experiment, or ideas
     grouped by a time sequence
   **Signal Words:**
   Afterwards, later, finally, last, early, following, to begin with, as time passed,
   continuing to the end, years ago, in the first place, before, after, soon, more
   recently…

3. CAUSE & EFFECT
   • Causal or cause & effect relationships between ideas
   • The idea explained is the effect and the explanation is its cause
   **Example:**
   If you know and recognize the signal words and phrases, you will be able to better
   understand the writer’s thoughts more rapidly and accurately.
   **Example:**
   Andrew Jackson’s policy of uprooting more than 100,000 Indians in the 1830’s
   caused many of them to die on the “Trail of Tears” to their new home.

4. COMPARE & CONTRAST
   • Two things are compared by showing likenesses or differences
   **Signal Words**
   Comparison: Alike, also likewise, similarly, in addition, in comparison alike, have
   in common, share, resemble, the same as . . .
   Contrast: not everyone, but, in contrast, all but, instead, however, on the other
   hand, whereas, in opposition, unlike, different, difference, differentiate, while,
   although . . .

5. PROBLEM & SOLUTION
   • A problem is presented with a solution that responds to the problem
   • Or, a question is presented with an answer that responds to the question
   **Example:**
   Scientific articles often first raise a question or problem and then attempt to give an
   answer or solution

6. LISTING
   • a means to grouping ideas together; can occur with any of the above patterns
Organize by creating concept maps:

**What is Concept Mapping?**
Concept mapping is a way of making notes by creating a visual diagram of the concepts and information. It helps you to create multiple “pathways” in your mind to connect the information and better retain it for future use. It helps you to see the “big picture” and how details relate.

**How are Concept Maps used in studying?**
- As a planning tool
- For specific written assignments
- To summarize information from notes or textbooks
- To brainstorm ideas for a project

**How do I draw a Concept Map?**
- Start with blank paper (unlined)
- Use paper sideways (landscape)
- Write topic word in center
- Print to create a more vivid visual image
- Use single words only as much as possible
- Color code the branches of your map
- Draw pictures and diagrams when possible
- Use signs and symbols
- Be creative!

**What are the advantages to using Concept Mapping?**
- It uses fewer words, so it saves time and space.
- Improves memory because it helps you to visualize how information connects and inter-relates, creating more neural pathways.
- Encourages you to think conceptually
- When creativity is added can be fun to complete
- Encourages creative thinking and imagination
- Requires you to be active in your learning, so concentration is enhanced
Sample Concept Maps

How to map a textbook chapter

FIGURE 5.2 The Category and Cluster System of Organizing Items
Figure from Psychology: An Introduction, Ninth Edition by Jerome Bruner and Ernst Kounin
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