

Creating Study Products; Working with Handouts

After the lecture

This is when you are going to put everything together. Sometimes you may feel the lecture and/or the handout (or slides) provided seem to be disorganized or don't flow well. Keep in mind that the way something is explained first time may not be the best way to remember it later: thorough explanations often require a roundabout route to make the point properly. It is your job to organize the material for learning: re-arrange, group, or chunk information together so that you can get a better understanding.

How well you work with the material after the lecture will determine how much work you will have to put into reviewing before exams. Here are a few tips to help you.

1. Allow about 1 hour and 25 minutes to work with the material for each hour of lecture. Your aim is to produce a 'study product' **during** this time.
2. After 1 hour and 25 minutes (or 2 hours and 50 minutes for a 2 hour lecture), change subjects. If you didn't finish the material, you can come back to it later. The break allows material to settle in your brain. Studying different material may help you to see connections between subjects, and clarify points that were hard to understand. When you return to the unfinished material, you'll be including a quick review of what you studied earlier.
3. Did the main points emphasized in the lecture match your understanding from pre-reading? How do you now see the big picture for this topic? Can you summarize this in one or two sentences?
4. Review the list of terms from your preview of the material. Are there any terms to add? Are there any that could be removed? How are they related?
[If you didn't make a list before, do it now. You should have marked & defined key terms during the lecture.]
5. Clarify the definitions of each term. **What is it?** Where is it found? When is it used? What does it do? Can you think of any causes and/or effects of each one?
6. Compare and contrast each term with one or more other terms. Think about what each term could be confused with. Taking the time to remind yourself not to confuse X with Y will make any possible confusion more real for you and help you to avoid it.
7. Are there any sequences or processes described in the lecture? Explain the function of each step in the sequence/process. Try to sketch it out.
8. What symptoms would be produced if (process, structure, etc) were defective? Defective structures and processes are what mini questions are made of.

9. What would be the best way to organize the material for learning? Can you group terms into categories/classes? Is there a temporal sequence of events?
10. What properties does each member of the category have in common? What distinguishes different categories/members of categories?
11. How could you best represent this organization? A table? A concept map? A diagram? A brief paragraph/outline/summary? What columns would a table need? What kind of concept map would be most appropriate?
12. Make a study product (table/concept map/etc) illustrating the organization of the material. Think carefully how each term/concept fits into the overall structure.
13. Often, while you are working, you may feel that there is a better way to organize the material, or that some ideas don't fit with the way you have represented the material. That's okay. Start again, with your new organization plan. **This is not wasted time – the new insights and repetition are valuable aspects of learning.**
14. Do you have any questions about the material? If you've understood it well, you should be able to come up with a handful of questions that you'd like answered. Use the textbook, or colleagues, or a professor, to answer your questions. Add the answers to your study product in the appropriate place.
15. After a couple of days, answer some multiple choice questions on the topic. Use the questions to identify any details you misunderstood or failed to include in your study product. Go back to the material, find the necessary details, add them to your study product in the appropriate place, then return to the question to check your new understanding. In this way, you should return to the packet many times, each time looking for specific details that you may have missed previously.
16. With the addition of new information, you may have to re-create your study product. Again, this repetition and re-organization is invaluable for learning and memory. (You may find this is the best way to use weekend study time)
17. Later, can you reproduce your study product (concept map, table, outline, etc) from memory? Can you explain it to a colleague? Can you simplify it or add to it in the light of new knowledge?
18. Remember, these study products are dynamic works. You'll never finish learning, so you'll never have a "finished" product. As you learn more, you should see new ways to represent your knowledge, to consolidate your understanding, and to integrate material from different lectures and courses. 3 R's are appropriate to follow as you create study products: Read—Review—Rewrite.