PSY 101 – Introduction to Psychology by Jeffry Ricker, Ph.D.

Using Elaborative Rehearsal to Study for Tests

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Section 5-10 (http://sccpsy101.wordpress.com/home/chapter5/section-10/) includes a discussion of elaborative rehearsal and semantic encoding. This discussion is pertinent to learning how to study better for tests.

Maintenance rehearsal — memorizing verbal information by repeating it over and over— involves a relatively superficial level of information processing: verbal information is simply transformed into a sound. On the other hand, elaborative rehearsal — memorizing verbal information by linking it to information already stored in long-term memory — involves a deep level of information processing: the information is transformed into something that has meaning. Research has clearly demonstrated the superiority of elaborative rehearsal over maintenance rehearsal:

- *Elaborative rehearsal transfers much more information from the short-term store to the long-term store.*
- *Elaborative rehearsal produces more stable (more enduring) long-term memories.*
- *Elaborative rehearsal produces more accessible (easier to retrieve) long-term memories.*

Can these facts help to explain why studying with flash cards may not be the best strategy if you need to develop a deep knowledge of concepts and their meanings for a test? Studying with flash cards tends to be an ineffective strategy because the simple verbatim repetition of a concept's definition does not allow one to learn what the concept means (that is, how it is connected to other concepts in a network of interrelated concepts), which is important if, for example, a test question asks you to apply your knowledge to a new situation. Rewriting a concept's definition in your own words, drawing a picture that represents the meaning of the concept, or thinking of examples of the concept are better strategies because they involve elaborative rehearsal.

Elaborative rehearsal, however, can be performed at a deep level, a shallow level, or anywhere in between. A shallow level of elaborative rehearsal might involve simply paraphrasing a

dictionary definition of a concept; a deep level of elaborative rehearsal might involve visualizing and drawing the connections between a concept and other related concepts. The deeper the level of elaborative rehearsal, the more complex is the resulting semantic memory code. And the greater the complexity of the semantic memory code, the larger is the amount and the greater is the stability of information transferred from the short-term store to the long-term store. This is why effective studying requires so much effort. Schacter (1996) put it this way:

> *If we want to improve our chances of remembering an incident or learning a fact, we need to make sure that we carry out elaborative encoding [elaborative rehearsal] by reflecting on the information and relating it to other things we already know. Laboratory studies have shown that simply intending to remember something is unlikely to be helpful, unless we translate that intention into an effective elaborative encoding. For example, when preparing for an exam, a good student may make a special effort to form meaningful mental associations among the study materials, whereas the same student may not bother engaging in such elaborative encoding if she is not going to be tested. (p. 45)*

Many incoming college students, however, make the mistake of using maintenance rehearsal when studying, probably because this has been an effective studying strategy for them in lower grades (and, perhaps, also in some college-level classes). Many students, for example, use a highlighter to emphasize important passages in the textbook and then reread this highlighted material over and over again. This strategy, however, is likely to result in minimal transfer of meaningful information to long-term memory because it requires little or no elaborative rehearsal.

The most effective studying strategy, therefore, involves doing things such as the following:

- *defining concepts in one's own words;*
- *thinking up one's own examples for concepts;*
- *relating information to oneself;*
- *drawing illustrations that show the interconnections among related concepts;*
- *answering "study questions" about the concepts;*
- *asking questions about the concepts (and trying to answer the questions themselves, if possible).*

These activities require a great deal of elaborative rehearsal and, therefore, transfer more information to the long-term store. These activities also allow students to answer test questions that require the application of what they've learned to new situations, and to respond to various types of questions about the material (that is, multiple-choice, essay, matching, etc.).

References

Schacter, D. L. (1996). *Searching for memory: The brain, the mind, and the past.* New York: BasicBooks.

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