

PEDAGOGY

Consider Mind Mapping

By Richard M. Gray, Ph.D.

During the course of almost 15 years teaching Psychology, Sociology, and Criminal Justice, one of my most frequent observations is this: many students entering post secondary education do not have well established learning strategies. Those that do have learning strategies have often developed rote

techniques that are highly inefficient and yield poor retention beyond a few days' time.

An answer to these problems can be found in Tony and Barry Buzan's (1996) method called Mind Mapping. Mind Mapping consists, essentially, in

reducing the contents of a book or chapter to a one page, radially organized diagram of the most salient information from the chapter, book or text. In some sense it can be thought of as circular outline.

- Start with a large piece of paper

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(continued from page 6)

oriented sideways.

- Place the chapter heading or title in the middle.
- From that center, create “spokes” that connect to circles containing the title or keyword for each of the major headings.

From each of those circles create further “spokes” and circles for the subheadings and facts in each branch.

Classical Mind Mapping instructions suggest that you make the branches and circles of different colors and wherever possible add pictures and personally relevant symbols, emphasizing that the more you personalize the material, the more effective it will become as a memory aid.

The advantages for study are simple. Unlike rote methods, the student must rethink and reorganize the material before committing it to paper. It may in fact take several passes through the material. Classical outlining is often accomplished by deleting non-essentials but often leaves the bulk of the information unchanged and unprocessed. Mind Mapping forces the student to summarize, condense and reorganize the material. As a result of extending the process, the student retains a great deal more of the information.

Students lacking a learning strategy often expect learning to be easy and have no idea how complex and foreign some of the material presented at the post secondary level can be. As a result, when they sit down to read a chapter or an article they have no way to orient themselves to the new data and become overwhelmed. Many expert learners advise students to break down the reading into chunks and to build an orientation to the material one piece at a time. Begin by reading the abstract and/or summary. These provide the most important information and also provide central and accessible pieces of information to structure the remainder of the data. Next, look at the study questions, if any. This further alerts the student to what is important. Now, go back through the

article or chapter and read the headings and captions for all charts, illustrations and boxed items. These often contain focal points or illustrations of the main points of the text. Finally, read through the material.

This multiple-pass approach is a method of chunking new information that makes it more accessible, more relevant and more closely associated with the author’s own thinking patterns. By building a logical frame that provides context for every piece of information, the student develops a rich semantic net for all of the information. This approach provides hooks; clear contexts for a growing body of information provided in the text, so that as the student reads she will be more likely to understand and retain it.

We can now extend this approach to Mind Mapping. After using this structured reading through the material, begin by reading through the chapter headings and copying them onto the plan of the mind map. A second pass through the material adds the subheadings and major facts associated with

them. The third and subsequent passes add the lesser headings and the facts associated with these levels.

Why Bother?

Mind Mapping takes advantage of

a few important facts about the way memory and recall work. Recent research has shown that long term memory is processed through the hippocampus, that part of the brain that has a specialized for place mapping and memory creation. Part of the function of the hippocampus is to create real time, personally relevant maps of our surrounds, our position in space, and where different elements of memory are stored in the brain. Taxi drivers, who spend their time traveling the complex highways and by-ways of our cities, typically have larger hippocampi than those of us without the need. By creating an actual map, we take advantage of this most basic memory function.

In her classic study of the art of

mnemotechnics, *The Art of Memory*, Dame Francis Yates (1966) showed that up until the 16th Century, when it was largely supplanted by the printed word, most information was committed to memory using memory techniques that use place techniques or maps. The maps often took the form of gardens, houses or palaces where symbolic representations of the material to be memorized would be replaced by the imagination. These allowed the mnemonists to remember astounding amounts of data. Even today, modern memory courses rely heavily on the technique of loci, a mapping technique.

Fans of Hannibal Lechter may recall that he whiled away his hours in solitary confinement exploring the imaginary memory palace that he had constructed using the techniques described by Matteo Ricci. Mind Mapping will not turn you into Hannibal Lechter, but it takes advantage of the same root principles.

Modern psychology has shown that personally relevant information is more readily recalled than irrelevant information. Ebbinghaus, in his classic study of memory and forgetting, showed that people who had memorized nonsense syllables forgot 70 percent of what they had learned within 24 hours (Huffman et al., 1999). By forcing the student to manipulate and integrate the information into a rich semantic net that has real meaning for him, Mind Maps increase the relevance and the semantic depth of the information. In some sense the information becomes woven into their personal narrative, the deepest and most powerful level of memory encoding. This means that unlike materials learned by rote techniques (for many students, nonsense syllables), material that has been Mind Mapped is retained for much longer periods.

Further studies of memory have indicated that the more sensory modalities are engaged in learning the material the more likely a person is to remember it. In this regard, Mind Mapping adds the kinesthetic dimension to what might otherwise be static visual data by forcing the student to create the structure, color and draw the symbols that are meaningful to them. Whereas outlining or rote memorization may rely on flat

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