3 Ways Concept Maps Help You Learn

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Concept maps are pictures that that show how ideas relate to each other. In a concept map, ideas are represented as nodes, and the relationships between them as links with descriptive labels.

Concept maps can be very large and complex—and they can be very small and simple. You can use concept maps to capture, communicate, and simplify very complex ideas. You can even use a concept map to describe what a concept map is.

This is why creating concept maps can help you learn. In fact, there are at least 3 ways concept maps support learning. Concept maps help you: Build better understanding, be realistic about what you know (and what you don't), and they help you figure out what you need to study further.

1. Concept Maps Help You Build Better Understanding

Concept maps can help you improve your understanding of a topic you're studying. John Nesbit and Olusola Adesope from Simon Fraser University reviewed the literature on Learning with Concept Maps. They found that there are an overwhelming number of studies show that creating concept maps while studying improves both recall of information and comprehension.

"Why do concept maps help you learn?" you may ask.

Your goal when you study is to make connections between the new ideas you encounter in texts or lectures, and to make connections between these new ideas and things you already know. A few study techniques help create connections. Concept maps show you the relationships visually. When you have made connections like that—you're more likely to both understand and remember the ideas.

Creating concept maps helps reinforce the connections among ideas you're studying.

When you create a concept map, either as you're reading a passage of text or afterwards, you reflect on the relationships between the ideas in the passage. Thinking through these relationships again as you draw the map will help you forge mental connections between the ideas, and therefore ensure you understand them better.

2. Concept Maps Help You See If You Know as Much as You Think You Know

People are not very good at assessing how deeply they understand things. This may seem surprising, but it makes sense.

'Understanding' is sort of abstract and it resides inside the head. You can't just 'look at' your understanding and determine whether it's complete or incomplete. Scientists talk about our awareness of our own understanding as metacomprehension. This is one part of metacognition.

Joshua Redford and Keith Thiede from Boise State University and their colleagues Jennifer Wiley and Thomas Griffin from University of Illinois at Chicago directed a study showing that Concept Mapping Improves Metacomprehension Accuracy Among 7th Graders.

Redford and his colleagues conducted two studies in which 7th graders read passages of text and were tested on how much they learned. The students were divided into three groups. One group created their own concept maps as they were reading, another group was given concept maps that were already created, and the last group was just asked to read the passages twice.

After reading, the students were asked to predict how many questions about the passages they would get correct. The students who either created or were given concept maps were able to look at these as they gave their estimate. They then answered questions about the passages.

Redford and his colleagues found that the students who constructed concept maps were more accurate in their predictions than students in the other two groups. They actually didn't get more questions correct on the test, though. (We'll get back to that in #3). But, the activity of creating concept maps did help the students come to a more accurate assessment of what they knew well and what they didn't.

Creating a concept map is a way to take a snapshot of your understanding, a snapshot you can put in front of you and inspect closer. When your understanding is laid out in front of you like that—in all its magnificent comprehensiveness (or lack thereof)—you're more likely to be realistic about what you know.

This also means that…

3. Concept Maps Help You Figure Out What to Review

You've probably heard that you should always spend as much time as you possibly can studying. But, given that you, like most people, have other things to do than pour over your books all day you may be interested in some more precise advice on how much time you really should be spending.

The answer is, as with most things, it depends—on the topic you're studying, your attention and motivation, and, most importantly, it depends on the way you study.

The participants in Redford's study who created concept maps didn't score better on tests of understanding. Redford thinks that this was because they didn't have the opportunity to restudy the information they didn't understand well.

The practical benefits of assessing your understanding come about when you use your assessment to figure out what information you need to go over again.

When you've gone through all your study materials and (hopefully) created one or more concept maps,

take a minute to reflect on the ideas in your maps. If you feel you understand them well, you likely do. If some of them seem fuzzy, go over that material one more time. You can do that by revising your original concept map or by creating a new one.

Think of Concept Maps as Useful Doodles

Try making a concept map next time you study. Why not?

Incorporating concept maps into your study routine is a relatively simple way to experiment with the way you study. You may already be scratching meaningless drawings and scribbles in your notes and margins of your textbooks. Try making a concept map instead. Think of it as a useful doodle.

Here are some useful concept mapping strategies to help get you started.

Image Credit: Tobyotter

Nesbit, J., & Adesope, O. (2006). Learning With Concept and Knowledge Maps: A Meta-Analysis *Review of Educational Research, 76* (3), 413-448 DOI: 10.3102/00346543076003413
Redford, J., Thiede, K., Wiley, J., & Griffin, T. (2012). Concept mapping improves metacomprehension accuracy among 7th graders *Learning and Instruction, 22* (4), 262-270 DOI: 10.1016/j.learninstruc.2011.10.007

Retrieved: 02-01-2017
Updated: 01-29-2017
Published: 10-16-2015
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