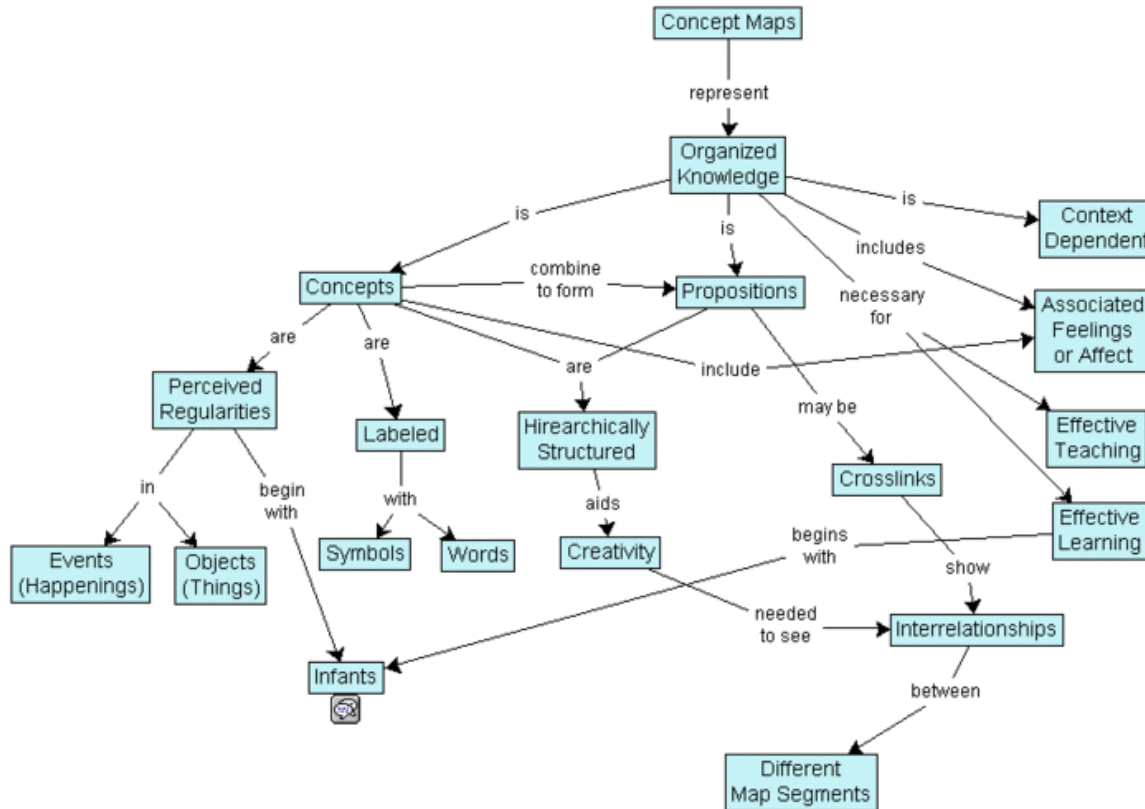


Concept Mapping

What are Concepts Maps?

A concept map is a hierarchical diagram used to represent a set of concepts. Key concepts are connected by links with descriptive words, explaining the relationship between the concepts. Concepts maps are spatial representations of ideas and their interrelationships.



Why are concept maps effective tools for learning?

According to Joseph Novak, concept mapping helps students learn meaningfully by taking new information and integrating it into prior knowledge.

- knowledge in a concept map is organized semantically
- Ideas are arranged in networks of interconnected and interrelated ideas.
- promotes deep processing of knowledge, and better understanding.
- promotes the ability to apply knowledge in new situations.
- improves understanding
- research suggests that concept mapping facilitates problem solving.

What are some educational uses for Concept Maps?

- Study Guides, concepts maps are learning tools, a method for focusing the process of studying in a constructive way.
- Knowledge Reflection and integration tool, concept mapping provides a method for learners' self-assessment of their own learning.
- Concepts mapping can be used a planning tool, they provide a shorthand form for organizing and sequencing ideas.
- Concepts Maps can used to Assess Learning, concepts maps generated after instruction reflect the grown of knowledge of the learner.
- Concept maps can be used as Ausubelian "advance organizers" which provide an initial conceptual frame for subsequent information and learning.
- Increasing meaningful learning
- Communicating complex ideas and arguments
- Enhancing metacognition (learning to learn, and thinking about knowledge)

Background Information on Concept Maps

The technique of concept mapping was developed by Joseph D. Novak at Cornell University in the 1970s, as a way to increase meaningful learning in the sciences. Concept maps have their origin in the learning movement called constructivism. In particular, constructivists hold that prior knowledge is used as a framework for understanding and learning new knowledge.

Novak's work is based on the theories of David Ausubel (assimilation theory), who stressed the importance of prior knowledge in being able to learn new concepts. "The most important single factor influencing learning is what the learner already knows. Ascertain this and teach accordingly." (Ausubel, D. (1968) *Educational Psychology: A Cognitive View*. Holt, Rinehart & Winston, New York). In his book *Learning to Learn*, Novak states that "meaningful learning involves the assimilation of new concepts and propositions into existing cognitive structures."

Focus Questions

How does the technique of concept mapping require students to assimilate new concepts into existing knowledge?

What are the advantages of using a software tool like Inspiration to develop a concept map (consider both the teachers and student's perspective)? Would it be easier to develop a high quality concept map by hand or with inspiration?

Do you think the advantages of using Inspiration outweigh the disadvantages? Explain why or why not.

What are some other ways that inspiration can be used for teaching? (i.e. other than to create mind maps)