

Concept Mapping

General

Concept mapping is a [cognitivist learning model](#) developed by [Joseph Novak](#) and his colleagues in 1972 as they worked on understanding how children's knowledge of science changes¹⁾. First concept maps were, however, proposed by some other authors as well²⁾, but concept maps in their fullest form were introduced by Novak in 1981³⁾. In Novak's words, concept map is “a **visual representation of the relationships between concepts** held by an individual, materials of a lecture, textbook, or laboratory exercise. By concept mapping even old and familiar material, we often recognize new relationships and meaning.”⁴⁾ Novak's works were influenced by [David Ausubel's assimilation theory](#).

What is concept mapping?

Concept mapping presents the process of building concept maps. In order to successfully build concept maps, their terminology needs to be clarified. Novak defines **concepts** as **patterns or regularities** in objects (*things*) or events (*happenings*). [Novak, J. D. Introduction to concept mapping](#).

For example, the *concept* “dog” is formed by a set of common characteristics of dogs. “Chihuahua”, a specific kind of dog, would here be an *object*. Every person has a different “dog” concept since the set of common characteristics forming it may vary from person to person and generally depends on experience, context and perspective. Still, these concepts are usually similar enough to enable people to successfully communicate and think in terms of concepts and change them over time.

Concepts maps were first meant to be used in science education. Today they are used in other areas as well, as they can help both teachers and students. Concepts maps help a teacher identify and organize concepts he is about to teach. Concept maps drawn by the students give him insight to what the students already know.

Concept maps should help both sides in the educational process to learn more meaningfully.

Novak describes the concept map building process in following steps:

- **Identify key concepts of the material** and list them or write them on pieces of paper to make them movable.
- **Rank the concepts** by placing most general ones at the top of the map with respect to the context of the material.
- **Add other more specific concepts** under the more inclusive ones.
- **Connect concepts by labeled lines**. Labels should add meaning by defining relationships between connected concepts.
- If desired, **specific examples of concepts can also be added** below concept labels
- If desired, change or reorganize the map in accordance with the newly noted relations between the concepts. Concept maps for the same topic can be organized in more possible ways.

An example of a concept map about concept maps can be found [here](#).

Bibliography

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