
Concept Map: A visual Learning Tool

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ABSTRACT

A concept map is a graphic organizer that can enrich learners' understanding of a new concept and allow them to connect new concepts to the knowledge that they already have. Using visual organizer like concept map in the school classrooms helps learners to build up knowledge through active and meaningful learning. This Article explains the concept map as a visual learning tool and provides a framework for using concept map for meaningful learning. It also includes a step-by-step guide to construct concept map in the classroom.

Keywords: *Concept map, Graphic organizer, Visual learning, Visual learning tool*

A concept map is a graphic organizer that can enrich learner's understanding of a new concept and allow them to connect new concepts to the knowledge that they already have. A graphic organizer is a visual map or diagramme that demonstrates relationship between facts, concepts or ideas. It is most effective learning strategy for learners and is applied across the curriculum to enhance learning and understanding of subject matter.

In addition to helping students organize their thinking, graphic organizer can acts as an instructional tool. Webs, concept maps, mind maps and plots such as Venn diagramme are some of the types of graphic organizers used in visual learning to enhance thinking skills. According to the research study conducted by Manjula P. Rao (2004), concept mapping as instructional tool has an effect on the achievement of students and their cognitive skills. The students also reflected a positive attitude towards concept mapping as an effective instructional tool. Teacher can use graphic organizer to illustrate learner's knowledge about a topic.

Using visual organizer in the school classrooms helps learners to build up knowledge through active and visual learning.

Visual Learning

Visual learning is a way of teaching and learning in which information that is ideas, words and concepts are associated with images.

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Majority of researches indicates that learners in a regular classroom need to see information in order to learn. They learn information best by seeing it in an example format, like picture, map, graph, or video.

Visual learning is one of the best methods for teaching students, assisting them how to think and how to learn. It helps learner to organize and analyze information, think logically and critically, and stimulate the generation of ideas through brain storming. Visual learning allows learners to visualize the connections between ideas they already have, connect new ideas to prior knowledge and reorganize the ideas in logical manner.

Based upon research outcomes, the effective use of visuals can decrease learning time, improve comprehension, enhance retrieval, and increase retention (Haig Kouyoumdjian, 2012). Although visual learning is typically not prominent in most school systems, it can be an extremely useful tool.

Concept Map

As described above concept map is also a powerful visual learning tool. It is a diagramme that goes from top to bottom of a page with the core concept at top and associated concepts below it in the boxes or bubbles and are linked by words and arrows that describe their relationship. Students can use it as a visual learning and thinking tool. It helps students to better understand complicated concepts and remember them more easily. Constructing a concept map is not a generalized but a very individualistic process.

Although there is not only one best method for constructing the concept map (different combinations of interactions, question styles and activities), but it can be easily constructed in the classroom by taking following steps:

Here are some of the steps that users can use while constructing the concept map-

1. Determining the context (main idea, topic or issue to focus on):

A good way to define the context for a concept map is to construct a focus question that is, a question which clearly specifies the problem or issue that needs to be solved. A good focus question can leads to a much richer concept map. Once a topic or question is decided, it will help with determining the hierarchical structure of the concept map.

2. Identifying key concepts:

After determining the context, the next step is to identify the key concepts that connect and relate to the main idea and listing of them.

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Figure I, is an example of an initial set of concepts for a concept map about fish.

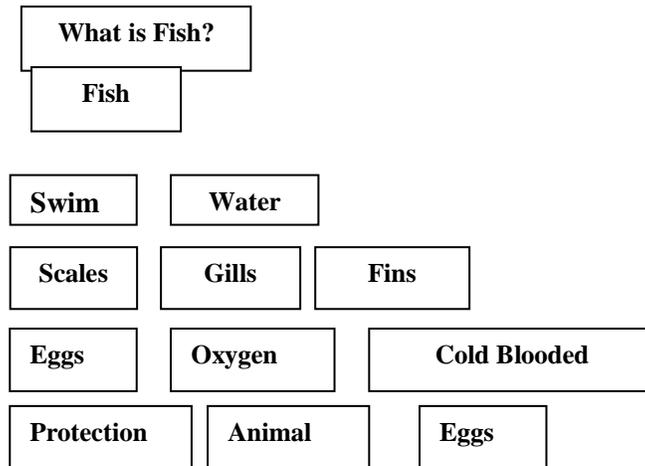


Figure I: Concepts for a concept map about Fish

3. Ranking the concepts:

Concept maps tend to be hierarchical in nature, with more general concepts at top and more specific concepts to the bottom. The listed concepts (in Figure I) can now be ranked into an ordered list (with more general concepts at top and more specific concepts to the bottom).

This ranking can be in the form of a list, or an approximate location for some of the concepts on the map, as shown in figure II. It helps to begin the process of map construction.

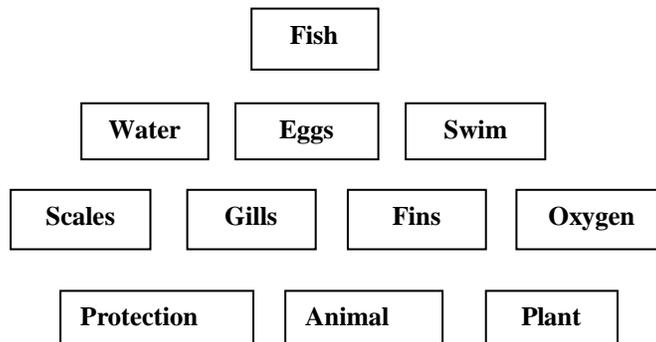


Figure II: Concepts placed in approximate ranking (more general to more specific)

4. Constructing a concept map:

The next step involves connecting the concepts, using linking words or linking phrases to create propositions (meaningful statements).

For example:

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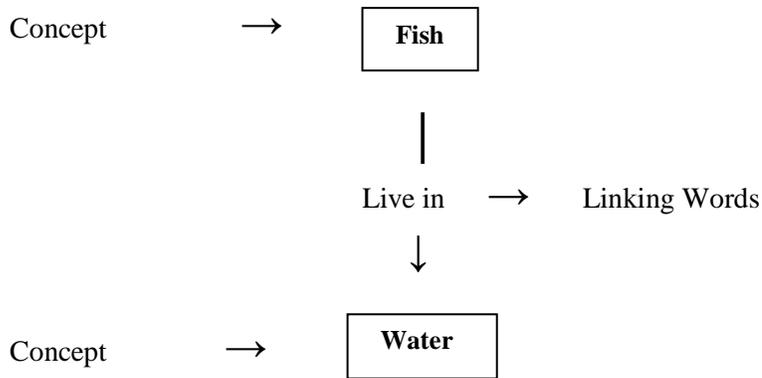


Figure III: Showing Concepts and Linking words

“Fish” and “Water” are concepts and “lives in” are linking words, and together they form the proposition- “Fish live in Water”. It needs to be noted that in concept mapping there is no predefined or fixed list of linking words.

As the concept map is created, concepts are moved around, added, removed and redefined. Figure IV shows the few linking words added to the concepts forming propositions.

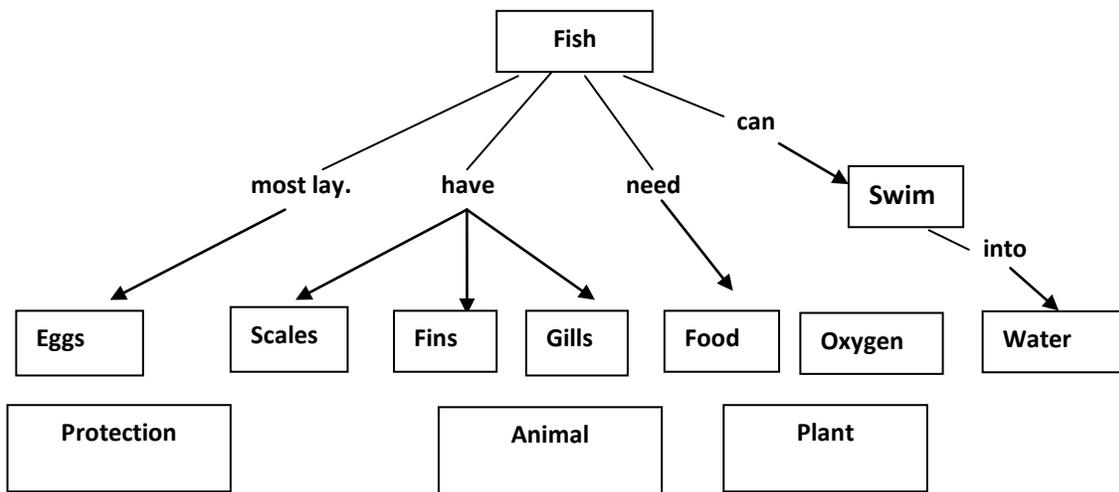


Figure IV: Linking words are added to join concepts forming propositions

The process of constructing the concept map continues by linking the rest of the concepts with the help of linking words, adding other concepts as showing in figure V.

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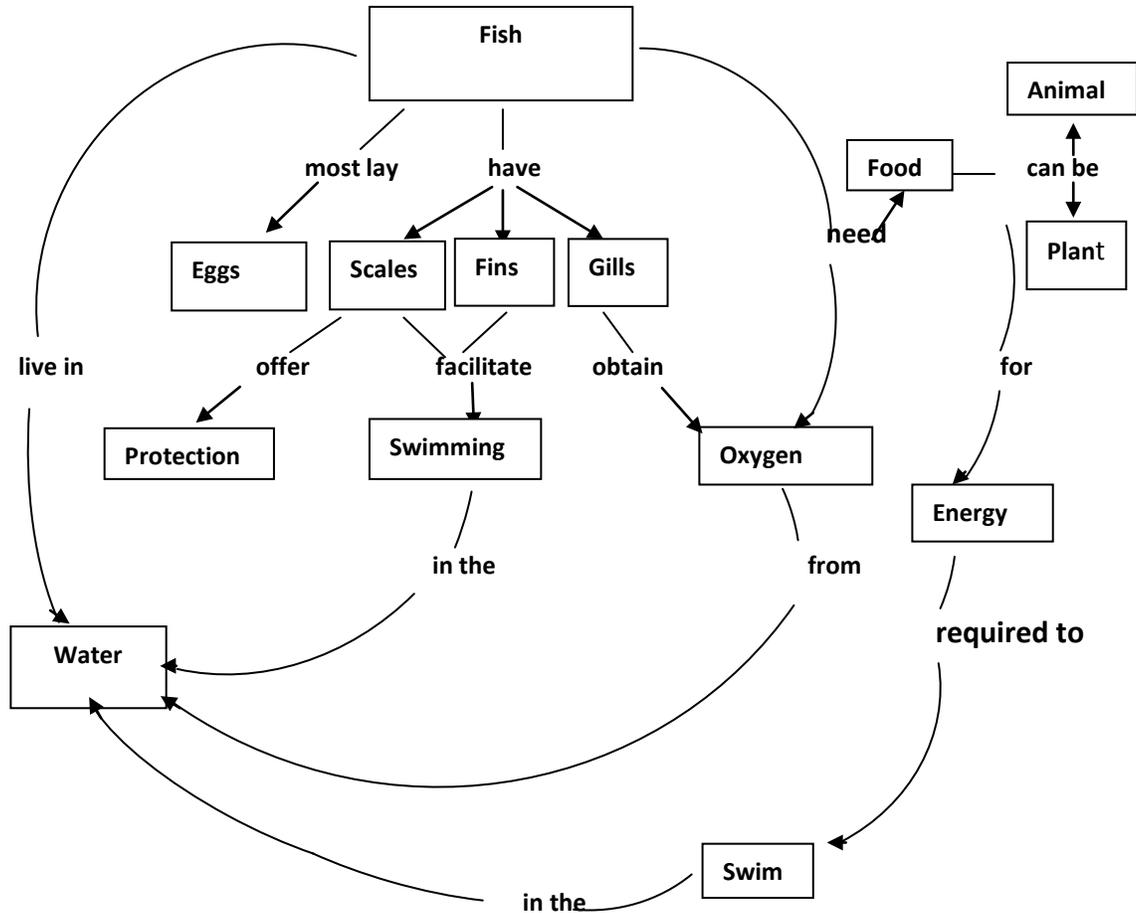


Figure V: Completed (but not final) concept map about fish

Figure V shows a completed but never finished concept map. It is noticeable that, compared to figure IV, some more concepts have been added, others have been move around and cross links have been added.

Thus, above mentioned concept making process can make abstract knowledge and understanding visible to underpin its utility. It is beneficial for both students and teachers. Students are helped to understand the topic and also to learn what is expected of them (i.e. the grasp of understanding and the construction of meaning). Teachers are able to find out whether or not their teaching facilitates meaningful learning, and, if not, what needs to be changed so that it does.

CONCLUSION

Visual symbols are quickly and easily recognized, and this can be demonstrated by considering the large amount of logos, maps, arrows, road signs etc., that most of us can recall with little effort. Visual representation also allows the development of a holistic understanding that words alone cannot convey, because the graphical form allows representations of parts and whole in a way that is not available in sequential structure of text (Lawson, 1994).

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Thus, we can say that, concept map which is one of the types of graphical organizers, can work as a powerful tool for visual learning that helps to encourage meaningful learning, development of a holistic understanding and to create new knowledge.

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Conflict of Interests

The author declared no conflict of interests.

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