Using Concept Maps to Enhance Cohesion and Coherence in Academic Writing

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What Are Concept Maps?

Concept maps were first introduced in the 1970s by educator Joseph Novak as a way to assess children's understanding of science. They function as visual organizers which help to show the connection between related ideas. Since their introduction, concept maps have come to be used much more widely in different subject areas and with different types of learners. They graphically represent different ideas written in circles or other shapes, and include lines or arrows showing directionality between the ideas. They also include words or phrases which describe the precise nature of the connection between the ideas. Here is an example of a concept map:

Figure 1:

Source: *http://ange-portfolio.pbworks.com*
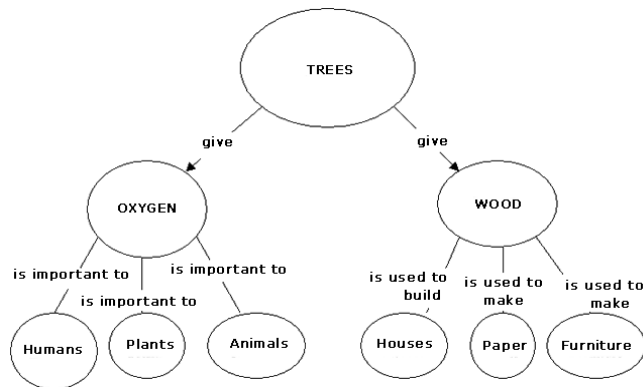
Notice that the language of the connecting word can be simple but needs to be accurate in order to really be useful in understanding relationships between ideas.

One area in which this tool can be useful is in teaching academic writing. Students are expected to develop higher-order critical thinking skills such as analysis and synthesis. They need to be able to organize ideas for research papers and expository writing assignments. There is evidence that concept maps can be used to help develop

these skills (Novak & Gowin, 1984; Crane, 1998; Conklin, 2007; Wan-Mohamed & Omar, 2008).

For international students writing academic English, concept maps can be especially useful. In addition to other challenges, English language learners face the challenge of using a second language to write academic texts that are **coherent** (ideas are clear to the reader) and **cohesive** (presentation sequence and connection between ideas is clear). Research has supported the idea that concept maps help with this (Wan-Mohammed & Omar, 2008; Villalon & Calvo, 2011; Min, 2014.

Here is a proposal for how this could work as part of a writing assignment.

1.   Students compile the different ideas that they plan to use in a written text. They write down the main ideas and supporting ideas in blank squares or circles (there are many templates available online which can be accessed by writing "concept map template" in a search engine).

2.   Students then connect the ideas with arrows to show directionality

3.   Along the arrows, they add connecting phrases, cohesive devices, cause/effect language, etc. *between* each item.

Here are some examples of useful phrases:

leads to	*is needed for*
results from	*is important for*
causes	*requires*
may cause	*can be used to*
is a type of	*is not the same as*

Higher-level vocab:

enables	*facilitates / expedites*
utilizes	*takes precedence over*
is composed of	*represents / is represented by*
obstructs / hinders	*is crucial for / is vital for*
prompts / triggers	*underscores / highlights the need for*

Concept Maps in a Real Classroom

In a low-intermediate intensive ESL class in our program, concept maps were used to help students understand essay structure, to understand text structure, and to organize their own ideas before writing their essays. One way of making students aware

of cohesion and coherence is by analyzing model texts. In one lesson, a text was read, and students were asked to create a concept map with to illustrate the ideas in this text. In another lesson, students watched the film *Music of the Heart* about music education in schools, and were asked to identify the major conflicts in the movie, create their own discussion questions, and create a concept map answering one of their questions, e.g.

- Was the school justified in removing funding from the music program?
- Do you believe that a music program can successfully help kids who come from poor or violent neighborhoods?

As a result of using concept maps to prepare for their writing, students' essays were more coherent and cohesive. Students improved their use of linking language to introduce ideas, and were aware that this strategy had helped them. As one student wrote afterward:

> "I think this experience helped in terms of organizing a pool of information that I have in my mind into groups. And it was helpful to see cause and effects of topics that I was interested in. It would be helpful for me to write the essay since I already have my outline with connecting words!"

Sources

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