# Concept Mapping

## What is it?

- A graphical way of organizing your thoughts and showing how concepts are related or differentiated (looking at completed concept maps might be the best way to understand what they are—check out the examples below).
- A diagrammed series of "nodes" consisting of linked topics (core concepts) and subtopics (which include examples and evidence for the topics).
- Connections are labelled by cause/effect, relationships and inter-relationships, differences, or hierarchies.

## Sample Concept Maps

University of Guelph, Learning Commons has created two sample concept maps. The first, on the Theory of Evolution by Natural Selection (link: http://www.lib.uoguelph.ca/assistance/learning_services/handouts/concept_mapping.cfm), was created by one student in about an hour and was used to generate ideas for an essay.  If you've never created a concept map before, this is the type of concept map you might try to develop.  (Donated by University of Guelph Learning Commons Peer Helper Julie Irwin – 2005).

The second concept map on Connective Tissue (link: www.lib.uoguelph.ca/assistance/…/natural_selection_**concept_map**.pdf  ) is much more elaborate. It was created by several students over the span of several days as they reviewed for a course.  (Created by Learning Common Peer Helpers Kaissa deBoer, Melissa Harvey, and Ian Wagg – 2004).

## Why use it?

- Mapping is an active learning strategy that moves you beyond rote memorization to critical thinking.
- Mapping helps you to learn about how you learn.
- It provides an explicit, encapsulated representation of important ideas on one page which is great for review.
- Mapping promotes a richer construction of knowledge because you must organize, select, relate and interpret data.
- Mapping requires that you break down component parts to see how things are put together.
- It helps you to see gaps in knowledge and areas of oversimplification, contradiction or misinterpretation.

## What can it be used for?

- Reviewing for exams.
- Conceptualizing processes, systems and relationships.
- Brainstorming, organizing concepts and principles.
- Identifying mistakes and areas of confusion.
- Assessing prior knowledge, generating questions and answers from a reading or writing assignment, and organizing arguments.

## Who can use it?

- Anyone!  Concept mapping is an effective learning tool across disciplines and year levels.
- Concept maps can be done independently or collaboratively.

## How is it done?

1. Identify the main topic or core concept.
2. Brainstorm for everything known about the topic.
3. Organize the information according to major points.
4. Place information on a map - working from the core concept, to major points, to significant details.
5. Review relevant course materials and discipline-specific vocabulary to make sure that you have everything, and then label connecting strands with words or phrases that indicate the nature of the relationships.
6. Use branches, arrows, and other symbols like stop signs or yield signs to indicate the nature of the relationships between ideas.
7. Use different colours, fonts or lines to group and distinguish concepts.

8. Include detailed explanations, definitions, rules, formulae or equations.

9. Analyze the resulting map by asking the following questions:
- o Is the core concept accurately defined and positioned?
- o How do the ideas fit together?
- o Have I considered all of the related information gathered from lectures, texts, labs?
- o Have I noted all relevant relationships, exceptions, and conditions?
- o Does the map have adequate validity, logic, complexity and detail?
- o What is the muddiest point and what can be done to clarify it?

10. Revise the map as your understanding of the material improves.

## Things to watch for...

- Using other students' maps as study tools will not be as beneficial or productive as creating your own. The value of concept mapping is found in the process more than in the product.
- You will need time and practice to develop your concept mapping skills. Start small - for example, try to create a concept map from a single lecture or chapter.
- The sample concept map of connective tissue is very complex and was created by several people over several days. Your early attempts will likely be simple and chaotic. Don't let yourself get frustrated by this! Your initial, rudimentary maps are crucial in the development of more sophisticated maps.

## Concept Mapping Software

- Cmap software offers a free download of a well developed and supported program that can be used to create concept maps.

## Concept Mapping Links

- Concept Mapping: Desales University
  http://desales.libguides.com/content.php?pid=9788&sid=2293788
- Concept Mapping: University of Victoria
  http://www.coun.uvic.ca/learning/critical-thinking concept-mapping.html

- Mindmaps: University of Illinois at Urbana-Champaign:
  http://www.library.illinois.edu/ugl/howdoi/conceptmap.html
- Mindmap: James Cook University
  http://www-public.jcu.edu.au/learningskills/resources/lsonline/organisation/mindmapping/index.htm

## Want More Information?

The Counselling Department and the Academic Success Centre are your best sources for advice and information on issues related to learning, studying, time management, and academic performance.

Workshops on learning, studying, etc., are offered regularly each semester by the Counselling Department. Please contact Student Services at Abbotsford – 604-854-4528 (B 214) or Chilliwack – 604-795-2808 (A 1318) to make an appointment.

Study Skills Tip Sheets providing information on many learning and time management topics, as well as writing and referencing, are available free to students. The complete range of Study Skills Tip Sheets is available on-line at www.ufv.ca/counselling/study/ .

### Other Relevant Study Skills Tip Sheets:

Concentration
Essay Exams
Multiple Choice Exams
Exams
Collaborative Group Work
Learning from Lectures
A Classic Method for Studying Texts... SQ4R
Learning from Textbooks

With thanks to the University of Guelph
        Learning Services
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