

Teaching Tips/Notes



Mind Mapping to Explore Farming and Food Systems Interactions

The process of mind mapping to illustrate complex systems has been described in great detail in the book by Buzan (2000) and by others, and there are multiple software programs available to organize the process. This method can be used for taking notes, for summarizing a meeting or seminar, or for making connections and bringing together key interacting elements on a white board or chalk board while a class is in session. We have found this activity especially valuable for students in agroecology who are studying complex farming and food systems, where much of the action results from key relationships and interactions that lead to emergent properties of the system.

Learning Objectives are for students to 1) capture and record key elements of a system during discussion or class, 2) explore principle interactions and duplications of these elements, 3) determine the importance of interactions and begin to uncover important emergent properties of current farming and food systems, and 4) reinforce the holistic nature of systems and their complexities. Although we have used mind maps primarily in class for recording and summarizing discussion, this method can also be used for taking notes in classes or seminars, for keeping key ideas together while reading, or for organizing important elements while searching on the web. The objectives and outcomes can be as varied as the imagination of the user can make them.

Methods for constructing mind maps are as varied and rich as the thinking of those who create them. Generally they are started with a major topic or word in the middle of the board, and this immediately distinguishes the method from more conventional, linear and orderly top to bottom notes from a meeting or class. As topics or themes or elements come up in the conversation, these are added to the diagram in logical places. As much as possible, mind maps made on the board during class should be written in the same words used by the one making the contribution, or reduced to a single or pair of meaningful words to represent the component or idea. The discussion leader can clarify or confirm a word by asking, "Did I hear you say....? Or "To be sure I have this right, did you mean? Or to buy time and to share responsibility, "How do you spell that word, and where do you think it should go on the diagram?" These are all ways to stimulate involvement, encourage ownership of the process, and broaden understanding of the topic. It is useful to plan ahead enough to be sure that most ideas will fit on the board, and that there is some provision for recording the results later on a flip chart or using a digital camera.

The moderator or the person making the mind map should seek the most logical place for each addition to the board. The advantage of a white board or chalk board is that words can easily be erased and moved to another position in the mind map. This is less easy when words are recorded permanently on flip chart paper, although the permanence is useful to have as a record. Some white boards now have electronic potential to record and even to send images to other locations, increasing the flexibility and application of the method. The process can also be shared in an interactive video conference if the camera is capable of focusing on the screen and the moderator is careful to use large enough letters, write clearly, and ask for continuous feedback from a remote audience.

Another dimension of the method is the potential to connect the elements during or after recording them. There can be lines, arrows, circles or other shapes to connect, lines to unite or divide portions of the mind map, and simple drawings to depict relationships or ideas. Different colors can be used to indicate families of words or ideas, or words can be written at different angles on the board. One should be careful to not make too many connections in one figure, although it may be useful to illustrate the total complexity of a situation. When there are too many related elements in a certain area, an additional map could be drawn to one side or on another nearby board or flip chart. The potential options with this method are near limitless, and personal creativity can be brought in to best illustrate the key points in a conversation and their connectedness.

Outcomes of the construction of a mind map from a class, discussion, or reading exercise include a semi-orderly compilation of the elements, major ideas, and preliminary connections among these system components. At the very least, the method causes students to think “outside the box” and beyond the traditional method of taking conventional notes in class or seminar. More importantly, it is possible to draw some relationships, to recognize and illustrate relative importance of different themes, and to begin to establish a foundation for the emergent properties of systems.

The method is related to another strategy for learning, a *rich picture* of the farm or community, that can be developed by groups through discussion. This is described in another fact sheet in the series.

References

Buzan, Tony. (2000). *The Mind Map Book*, Penguin Books, 1996.

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