

Centre for English Teaching Specialization

MOOC 2: Problem-Solving Skills for University Success

3.2c Brainstorming & Mind mapping

Brainstorms

Brainstorms are a way of visually putting down all of the concepts or ideas that relate to a specific topic.

Aim for quantity over quality.

The most important thing to remember with a brainstorm is that anything goes. Deciding what has high priority, what is feasible, what is logical or what is possible comes after you have finished a brainstorm.

To start with, you will need a big sheet of clean, unused paper – the bigger, the better. Next, you write down the topic (using only key words) in the centre of the sheet of paper. Some people like to put the topic in a box or a circle, to make it more obvious.

Then, ideas are written in key words in the remaining space outside of the central topic, with lines drawn between the topic and each idea, showing the connections. No idea is too small, too big, or too far-fetched for a

brainstorm. Some people like to use colours, or different symbols or shapes to indicate different sub-topics.

Ideas can be presented as images, pictures or symbols: in fact, it is often recommended to use images to enhance your brainstorm as they can easily convey a lot of information.

BRAINSTORMS

- USED TO GENERATE IDEAS
- CLEAN SHEET OF PAPER
- KEY TOPIC IN THE CENTRE
- IDEAS WRITTEN AROUND TOPIC
- LINES DRAWN TO SHOW CONNECTIONS
- WRITE//REPRESENT EVERY IDEA
- NOT NECESSARILY ORGANIZED

Traditionally, brainstorms are done in groups, with each person contributing their own knowledge, opinions and insight into a problem. However, they can be done individually with a bit of imagination.

The point of a brainstorm is to get as much information about a topic down on a piece of paper as you can. Relevance to the solution does not yet need to be considered: in fact, you should aim to think about the topic from as many different perspectives as you can. Do not criticize or prioritize.

Information is, therefore, not usually organised and is presented more organically as each participant adds their own ideas and/or thoughts. Because of this, brainstorms are not always easy to follow for the people who did not create them. This is OK.

Try not to criticize or prioritize your ideas...yet.

In order to get the most out of your brainstorm, it can be useful to ask some of the following questions for each topic or idea you have:

Key Topic Questions

- WHAT DOES THIS MEAN?
- WHAT DO I MEAN BY THIS?
- WHY IS THIS IMPORTANT?
- HOW DOES THIS RELATE TO MY TOPIC?
- WHAT ELSE DOES THIS RELATE TO?

When you have finished your brainstorm, or have run out of ideas, you can then start to organise and make the connections between the ideas explicit in a mind map.

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Mind maps

Mind maps start off looking very similar to brainstorm in that they are a graphical way of presenting knowledge or information. However, the creation of a mind map is often more controlled than that of a brainstorm. In fact, the ideas generated by a brainstorm can form the foundation for your mind map. Mind maps enable you to further explore and connect these ideas.

Mind maps are sometimes referred to as cognitive maps, concept maps, knowledge trees etc.

The purpose of a mind map is visually depict the connections that you make between different ideas or concepts. As in a brainstorm, anything can be written on a mind map – however, how you choose to link the ideas together will place certain values or assumptions upon them.

Connections are the main point of mind maps.

You start a mind map the same way you start a brainstorm: grab a large piece of paper and write your main topic (in key words!) in the centre.

Secondly, draw a number of different

lines emanating from your central topic – generally anywhere between 3 and six is a good number. These branches lead out to your main subtopics. Branching off each of these subtopics are more lines, leading to more ideas or examples that relate. Negative ideas can also be included.

We use the term “branching” because the end product looks a lot like a tree: the thick trunk is your central topic, with sub topics coming off as the largest branches, which then split again and again into ideas, facts, considerations, thoughts or feelings, etc.

By using a number of different mind-map organisation tools, you can effectively represent the way that you see those connections. Looking at the ideas, and making the connections between them, is why mind maps are useful for generating solutions to complex problems. When everything is laid out in front of you, you will clearly be able to see connections you may not have thought about, or new ideas evolve from the links

between old ideas.

Equally, mind maps are a great way to see “the big picture” and fully understand process, idea or topic. In this way, they can also be a great exam tool!

As with brainstorm, the final product of a mind map is a personal representation of the connections that you see: it does not need to be understood by anyone but you.

Idea Organisation Tools

- PLACEMENT OF BRANCHES
- DIFFERENT COLOURS
- DIFFERENT LINE SHAPES
 - THICKER (SOLID CONNECTIONS)
 - THIN (NORMAL CONNECTIONS)
 - DASHED (POSSIBLE CONNECTIONS)
- IMAGES
- ARROWS & OTHER SYMBOLS

MIND MAPS

- USED SHOW CONNECTIONS
- CLEAN SHEET OF PAPER
- MAIN TOPIC IN THE CENTRE
- IDEAS ‘BRANCH’ OFF MAIN TOPIC
- LINES DRAWN TO SHOW CONNECTIONS
- WRITE//REPRESENT EVERY IDEA
- NOT NECESSARILY EASILY UNDERSTOOD

“These maps are useful tools that ... represent the structure of knowledge in a form that is ... compatible with the way human beings construct meaning.” (All & Havens, 1997, p.1210)

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References

- All, A. C., & Havens, R. L. (1997). Cognitive/concept mapping: A teaching strategy for nursing. *Journal of Advanced Nursing*, 25(6), 1210-1219. doi:10.1046/j.1365-2648.1997.19970251210.x
- Buzan, T., & Buzan, B. (1995). *The mind map book* (Rev. ed.). London: BBC Books.
- Rustler, F. (2012). *Mind mapping for dummies*. New York: Wiley.
- Wilson, C. (2013). *Brainstorming and beyond: A user-centered design method*. Amsterdam: Morgan Kaufmann.

Resources & Further Reading

A free, online mind-mapping tool: <https://coggle.it/>

Tony Buzan's website on Mind Mapping: <http://www.tonybuzan.com/about/mind-mapping/>