Visualizing for learning

One strategy to design meaningful and engaging learning material is to combine textual and visual elements into pre-made materials that can be handed out to students. Another way to facilitate students' own meaning-making and deeper understanding of a topic at hand is to ask the students to produce their own visualizations.

Visualizing a topic/process/relationships etc. lets students engage with the material more intensively and can lead to a deeper understanding of a given topic.

In order for the exercise to become meaningful to the students and relevant in terms of the topic under discussion, you, as the teacher, should take a few points into consideration. I have listed some of those points below:

❑ Bring enough paper, pens and sticky notes everyone

❑ Emphasize that the point with visualizing is *not* primarily to produce an aesthetically pleasing drawing but to organize information in a spatially meaningful way so that e.g. relationships between different aspects of a topic become clear (cf. mind maps)

❑ Should the visualization include ALL aspects of the topic or do you want your students to focus on something more specific?

❑ Be available for questions and discussions during the creation phase – try to catch misunderstandings of concepts etc. early

❑ Bring examples of mind maps, concept maps, schematic drawings, and previous students' work. For a useful overview of several visualization techniques for different purposes, have a look at Lengler & Eppler's *Periodic Table of Visualization Methods* (https://www.visual-literacy.org/periodic_table/periodic_table.html)

❑ Consider also how you want to discuss the outcomes. Suggestions:

    ❑ Set up a 'gallery' of everyone's visualizations and let students wander freely among them (consider how students and the creators of the respective visualization can engage in a discussion)

    ❑ If students worked on the visualizations in groups: Regroup the students so that each new group consists of one student from each previous group. Set the visualizations up as stations and let the 'representative' for each station share their experiences and insights. Rotate so that all new groups get to see each visualization (if possible).

    ❑ Let volunteering students tell about their process of visualizing and outcomes

❑ Consider to bring in a facilitator/instructor who is trained in different visualization techniques. We have for instance begun to offer workshops in *visual note-taking* for students