












Learning Scoop

Developing Thinking Skills



Mapping Pre-existing Notions and Knowledge:
Orientation

Examples of means and methods that develop thinking skills

-  Questioning,
-  Thinking aloud,
-  Expressing opinions (and uncertainties),
-  Collaboration and communication between students,
-  Making mind maps or concept maps,
-  Writing learning diaries,
-  Using six thinking hats –method,
-  Using phenomenal or enquiry-based learning,
-  Mapping pre-existing notions and knowledge



The objective of mapping pre-existing notions and knowledge

-  The objective of mapping pre-existing notions and knowledge is to **activate prior knowledge and to focus the student's thoughts on the subject being taught.**
-  According to David Ausubel (*Learning Theory and Classroom Practice*, 1967), the most significant thing from the learning perspective is what the student already knows about the subject being learned.



Examples of methods for mapping pre-existing notions and knowledge

Admit slips

Exit slips



Building
the knowledge base

Orientation

Entry test

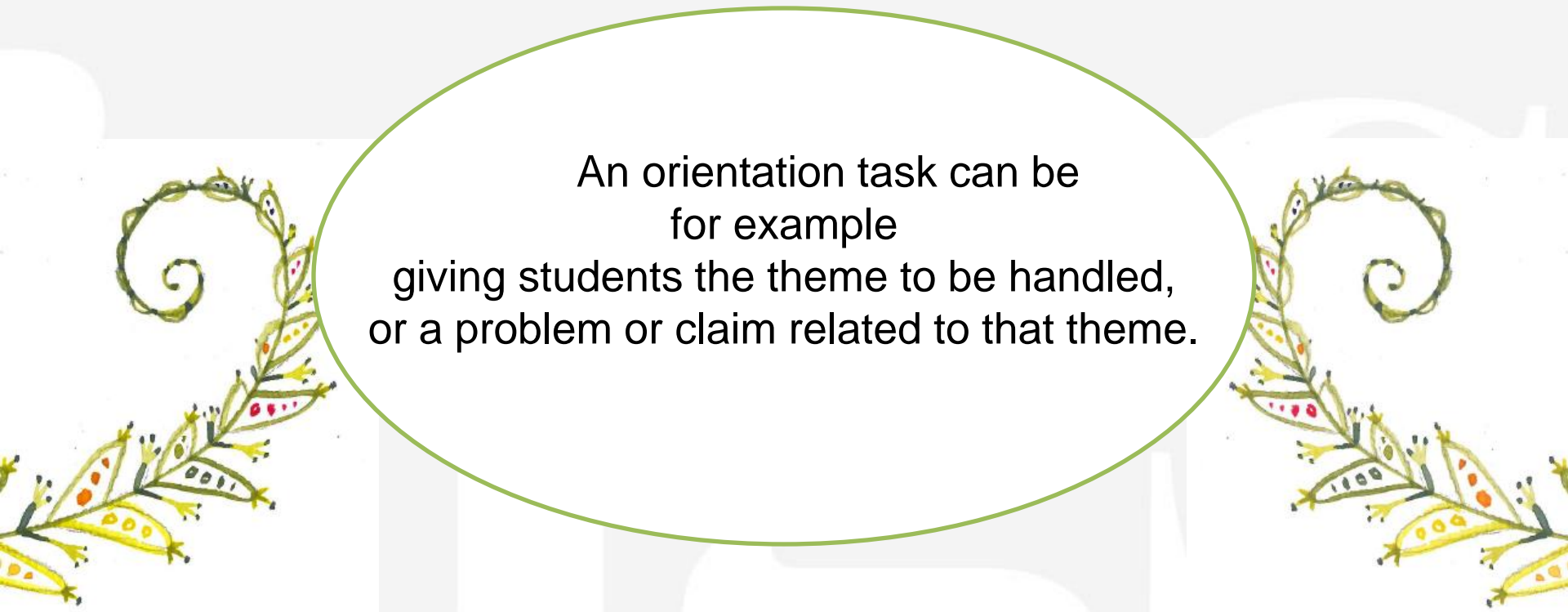
Pair or group discussion

What is orientation

-  Orientation is **the act of activating students' minds before actually handling the theme to be taught.**
-  Orientation's purpose is to activate students' pre-existing knowledge and to prepare them to receive new knowledge, which becomes relevant when the right connections to pre-existing notions are made.



Orientation task









An orientation task can be
for example
giving students the theme to be handled,
or a problem or claim related to that theme.



Examples of orientation tasks

- ☞ A claim that students comment on:
 - ☞ History: The steam engine was the most important invention in the 1700s.
 - ☞ Finnish: Christmas is an important celebration for us.
 - ☞ Science / Geography: Nuclear power is non-polluting source of energy.
- ☞ Concept associations on which students reflect:
 - ☞ Science / Biology: Concepts of microevolution and macroevolution, and their relationship to each other.
 - ☞ Religion: Compare concepts theism, deism and pantheism.

Examples of orientation tasks

-  Problem / question to which students respond:
 -  Science / Physics: What would happen if the moon would disappear?
 -  History: How the professionals were trained in the Middle Ages?
 -  Science / Geography: What causes the seasons?
 -  Science / Chemistry: Which ions are found in seawater in Finland and how much of each is there?
 -  Home economics: Well-being and food: what is the significance of food?

Orientation tasks and outcomes in practice

-  During an orientation task, students can, for instance, map out and document their previous knowledge about the topic, they can analyze their knowledge and they can ask questions based on that previous knowledge.
-  Outcomes of the orientation task are usually written presentations, but they can also be charts, pictures and concept maps.





- 🌀 Students can work on their orientation exercises alone, in pairs or in small groups.
- 🌀 Orientation tasks can also be carried out online.



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