



LATERAL THINKING: ANALOGIES + ASSOCIATIONS

OVERVIEW

Being able to think divergently is particularly important when trying to help students consider a problem or concept in a new way. For instance, maybe making inroads into new forms of waste management isn't about teaching people how to recycle, but getting people to buy less. Using analogies can be effective ways to challenge biases and assumptions. They can be used to help students think of new solutions to existing problems, to try out a new process, or to understand a new concept in terms of existing ones.

MAKING ASSOCIATIONS ACTIVITIES

Random Association

Random association encourages students to think about a problem by associating it with another idea that is not immediately connected. This exercise is particularly useful when asking students to create a new strategy or contribute to solving a problem that exists in the world. It also helps stretch students' brains in sometimes uncomfortable ways.

1. Choose a concept or problem that needs to be rethought in a radical way. Some examples might be: strategies for encouraging vaccinations among those resistant to the principle; rethinking K-12 classroom learning; engaging citizen scientists in monitoring and reporting bee population levels.
2. Choose a list of words (nouns, verbs, or some combination) and have students randomly choose one (i.e.: draw from a hat, or use a random word generator tool online).
3. Have students write a list of qualities that describe those words. It's important to avoid describing the physical characteristic of the

word. For instance, if the chosen word is "bee," then encourage them to write words like "collective" or "self-sufficient" rather than "black and yellow" or "striped."

4. Next, ask students to write a series of propositional questions that use a format such as: "How could (users of my bike-walk path) be more "self-sufficient." This format could also be used as a self-reflective technique by asking questions such as: "How could I think about my bike-walk path in a way that draws on more 'collective' knowledge?"
5. Students then answer the question through additional brainstorming, concept mapping, or simply writing answers.

Possible discussion questions:

- How did this exercise help you see something new in the problem?
- What from the exercise seems most relevant to the problem you are trying to solve?
- Do you think your solution to the problem is novel? Why or why not?

READINGS & RESOURCES

De Bono, Edward. *Lateral Thinking: Creativity Step by Step*. Harper and Row, 1970.

Csikszentmihalyi, Mihaly. *Creativity: Flow and the Psychology of Discovery and Invention*. HarperCollins, 1997.

Robinson, Ken. *Out of Our Minds: Learning to Be Creative*. Capstone, 2001.

See also: **Divergent Thinking: Morphologies** and **Visual Thinking: Mapping and Diagramming** at <https://think.dasa.ncsu.edu>

Direct Analogy

Sometimes, getting students to understand or articulate a new idea is most effective through the use of a direct analogy. For example, when the designers of the first Graphical User Interface for computers were devising a system for iconography, they used the direct analogy of the physical desktop (folders, files, trashcan) to inform visual attributes, thereby helping users understand the principles by using a system already familiar to them.

When introducing a new concept, ask students to think of an everyday activity that concept reminds them of. It can be just one part of the concept, or the entire concept. For instance: What is an example of the theme of good and evil explored in *To Kill a Mockingbird* that you have encountered in your everyday life?