

Guidelines to stimulate systems thinking of students

Systems thinking is a holistic approach to analytical thinking that focuses on the way that a system's parts interrelate and how systems work over time and within the context of larger systems.

Systems thinking for Education for Sustainable Development

Systems thinking is a way of complex thinking that helps to unravel complex societal issues and can be seen as a way of looking at and thinking about the world. Systems thinking makes students aware that they are connected to the world around them. It also helps them become aware that facts, people, and situations are all intertwined - not only here, but everywhere.

What kinds of thinking does systems thinking include?

Systems thinking is:

- = a way of observing and thinking about the world
- = investigating connections and relations instead of loose parts
- = zooming in and out of issues
- = considering different perspectives, points of view and feelings
- = exploring (un)visible, (un)intended and/or (un)expected causes and consequences
- = postponing a judgement and taking into account details as much as the overall picture

How do you put systems thinking into practice?

- Ask open questions and sharpen the critical eye.

Why do you think that? Do you see other possibilities? Is this always the case? Does this also apply to ...?

- Change perspective.

What if we look at this from the point of view of ...? How do you feel or think about this? How does x think or feel about this? Why? Whose thoughts and/or feelings could you also explore? How was this experienced in ... (other period)? Compare this situation with ... (another place).

- Explore the relationship between parts and wholes.

Who or what is involved in this issue? Of which parts does this consist of? Who or what else should be considered? Who/what is missing? Which role does x play in

this issue? Why can or can't you leave out x? What does x have to do with this issue?

→ Zoom in and out on issues.

Where and when does this take place? Who else plays a part in this? Which problem or issue is addressed here? Does this also exist in our lives, place and/or time? What is going on in the background?

→ Explore causes and consequences.

Why is it that ...? What happens if ...? Was this consequence or effect intended. Did you expect this to happen? Why (not)? What causes and effects are not so obvious, or not yet visible? What consequences could take place in the long run? Which other causes and consequence can you think of? What connection is there between a and b?

→ Visualise the thinking process.

If possible, visualise the thought process with the help of sketches and notes. Use a flip chart or a board or wall. This makes the thinking process a shared one which, in turn, gives the children the opportunity to elaborate on each other's ideas and thoughts.



Video: Systems thinking about plastic waste | 8- to 10-year-old children

URL: <https://www.youtube.com/watch?v=Qx43Tw97Thg&t=7s>



Video: Systems thinking about migration | 10- to 12-year-old children

URL: <https://www.youtube.com/watch?v=olbTE9za8QA&t=66s>