

Script: stimulate learning through thinking

Hi, and welcome to the module “learning through thinking” of the digital destiny framework. In this video we will explain thinking as an important principle for Education for Sustainable Development. Thinking is an umbrella term and implies a sequence of thinking processes, called a thinking strategy. It is essential for learning; in fact, it is inextricably intertwined with learning.

The relationship between learning and thinking can be understood in various ways: people learn about thinking, think about learning, learn to think, and think to learn. The latter is a most interesting understanding of thinking in the process of learning in ESD.

What is action-oriented thinking?

Thinking refers to, critical and creative thinking skills and problem-solving. When it comes to ESD, we focus specifically on action-oriented thinking. What does this mean? Societal issues arise, which touch you and does not leave most people indifferent. You define a goal and formulate a challenge. It's a process in which you set up a strategy to achieve that goal. Action-oriented thinking is relevant to apply to societal issues since societal issues provide authentic questions to which the answers are unknown.

Let's say you are working in class on the topic of ocean pollution. This issue can bring up questions like: 'How is the ocean polluted?', 'who is responsible for this pollution?', 'is there a way to diminish or avoid pollution?'. Each question poses a challenge and invites you to think about different perspectives, to brainstorm for ideas, to compare and to investigate causes and impact Action-oriented thinking is about applying these thinking processes to achieve a desired goal in relation to a societal issue. An important feature of action-oriented thinking is thus goal-orientedness. You want your students to ask themselves: What do I want to do about it? What kind of change do I envision?

The formulated challenge can be a tangible, physical change but it can also be a change in one's mind. An action is a step towards achieving a goal, regarding a societal issue. This action can bring about a change on a personal or a societal level or maybe even both! That's the beauty of working towards action-oriented thinking, it can be many things. Although action can be taken individually, there is a great need for collective action, when it comes to societal issues. Working towards a common goal can also facilitate the bonding between students.

Why should you stimulate thinking?



Societal issues are an interesting starting point to develop thinking skills. Why is that? Societal issues are characterized by complexity and can cause controversies. To find answers to those controversies, there is a need of a scientific base of knowledge, about norms and values.

Societal issues are often called wicked problems which provide valid questions. These questions stem from an authentic concern. If pupils think and decide for themselves what kind of change, they want to see or create. They show and develop engagement and boost their confidence.

Explicitly teaching students to think about societal issues, helps students to develop their thinking strategies and gain deeper understanding of it. On top of that, when explicitly teaching thinking, students develop metacognition, which will equip them with thinking skills transferable to other situations. In addition, reflection on the processes, as well as on the action itself, are important to building this type of confidence in this transformative competency.

Since societal issues are complex, the answers are not evident, and we cannot provide immediate solutions. They demand us to freeze time and consider their validity and varying aspects. Your classroom and school provide a platform to learn and experience different strategies for conscious thinking.

How do you teach thinking?

How do you teach thinking? There are several strategies. Let's start with the first method, consciously preparing your questioning strategies.

First, consider carefully which thinking processes you want your students to apply. Prepare a list of questions accordingly. There's a Bloom-inspired list of questions in the learning materials that can support you. To elicit your student's thinking, it might help to formulate your questions in an invitational way. Rather ask your students "What might be ..." instead of "What is or are ...".

The second way to teach thinking is thinking activities in which students use several thinking strategies such as comparing and contrasting, investigating causes and consequences, making connections, brainstorming. These methods can help you organize conscious thinking in your class, if you need more information, check the learning materials in this module.

Finally, it is important to make thinking processes observable. By explicitly mentioning the kind of thinking you as a teacher apply or ask your students to apply, you raise awareness among the students. This will also enhance their metacognitive skills.

Visualise thinking

Another way to make thinking observable and discussable, is by visualizing. You can use different tools as visual thinking tools such as mind maps or Venn diagrams, both on paper as online. By doing this online they can share thoughts with students outside of the classroom and it is also a perfect way to collect all their answers on one digital platform and even bring these exercises into their home.

To evoke thinking, you create these together with input given by the students. This way they become dynamic and create the opportunity to share thoughts and ideas. You could use one of the visual thinking strategy tools displayed in the learning materials from this module.

Concrete example

Let's expand upon the example of the ecosystem. Try to find out what your students want to know about this topic, support them in selecting a topic and for example ask them what they are curious about.

You can use one of the visual thinking strategy tools displayed in the learning materials from this module. Try to work towards a carefully formulated challenge that is set by the students themselves. In this case, the challenge could be "Let's help the ecosystem near our school to get healthy again". And they could formulate several actions to get there such as "Let's count all the small bugs in the pond next to our school." Or "Let's collect garbage in the fields surrounding our school". These actions boil down to asking questions, comparing, observing, setting up some criteria, writing a plan, investigate and so on... All of these are thinking strategies.

That's it for the "learning through thinking" principle! Do you want more information, hands on tools or more in dept articles? Check out the learning materials and other links in this module. Bye!