

TEACHING SCIENCE WITH SIX THINKING HATS: A CREATIVE APPROACH

by:

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Six Thinking Hats is a powerful strategy that can be applied to various fields, including education. This approach is designed to improve critical thinking and problem-solving skills by encouraging learners to think from multiple perspectives. By using different hats, each representing a different type of thinking, learners can systematically analyze a problem or situation from different angles. But are you familiar with these six thinking hats as strategy? Will this approach help students develop deeper understanding of scientific concepts and theories as well as enhance their analytical and critical thinking abilities, and foster a collaborative learning environment? How can this approach be used to support students' cognitive development? These are some of the questions that we're going to explore in this article.

The Six Thinking Hats strategy is a tool developed by Edward de Bono that can be used to enhance critical thinking and problem-solving skills (Kivunja, 2015). The approach involves wearing six different metaphorical hats, each representing a different mode of thinking. These hats are:

White hat: This hat represents objective and factual thinking. It involves considering information that is available and analyzing it for accuracy and relevance.

Red hat: This hat represents emotional thinking. It involves considering feelings, hunches, and intuition.

Black hat: This hat represents critical thinking. It involves considering potential problems and obstacles and assessing risks and negative consequences.

Yellow hat: This hat represents optimistic thinking. It involves considering potential benefits, opportunities, and positive outcomes.

Green hat: This hat represents creative thinking. It involves generating new ideas, alternatives, and possibilities.

Blue hat: This hat represents reflective thinking. It involves considering the thinking process itself and making decisions about what type of thinking is needed at different stages.

Although numerous articles and studies have mentioned that this approach is beneficial in developing student's creativity, little is known about how these hats are effective in teaching science. Here are some suggested ways on how science teachers may employ this strategy in their classroom. First, introduce the Six Thinking Hats Model to students.

Explain each hat and what it represents. Second, assign Hats to each student or group of students. Alternatively, teachers can have students switch hats throughout the activity.

Next, pose a question or problem related to the scientific concept or theory that you are teaching. Teachers may ask students to put on their assigned hat and approach the

question or problem from that perspective. Third, encourage students to brainstorm ideas related to the question or problem from their assigned perspective. Ask them to write

down their ideas or share them with the class. Afterwards, let the students generate ideas.

Ask them to evaluate these ideas from their assigned perspective. Encourage them to identify strengths and weaknesses of the ideas. After evaluating ideas from their assigned

perspective, ask students to switch hats and evaluate the ideas from a new perspective.

Repeat this process until all hats have been used. Lastly, discuss and reflect, after completing the activity, facilitate a discussion about the ideas generated and the

perspectives used. Encourage students to reflect on how the different perspectives influenced their thinking.

By following these steps, teachers can employ the Six Thinking Hats strategy in teaching science. This approach can help students develop a deeper understanding of scientific concepts and theories, while also enhancing their analytical and critical thinking abilities by requiring them to evaluate evidence, identify gaps in their knowledge, and ask probing questions. It can also foster a collaborative learning environment where students work together to consider different perspectives and identify potential solutions to problems. This Six Thinking Hats approach is a valuable strategy that science teachers can use to promote student learning and cognitive development.

References:

Kivunja, C. (2015). Using De Bono's Six Thinking Hats Model to Teach Critical Thinking and Problem Solving Skills Essential for Success in the 21st Century Economy. *Creative Education*, 6, 380-391.