

STRATEGIES FOR CRITICAL AND CREATIVE THINKING OVERVIEW

QUESTIONING



Active learners are always questioning. Students who take responsibility for asking their own questions become more productive and engaged in their learning processes. Metacognition, or thinking about thinking, involves questioning our individual learning processes. Such questioning helps us solve problems by developing, implementing, and evaluating plans of action. All students benefit from instruction in metacognitive processes and exploration of the nature of questions. Guiding the development of thinking skills in all students empowers them, increases their independence, and helps them develop to their maximum potential.

FLUENCY, ORIGINALITY, FLEXIBILITY, AND ELABORATION



When students are able to come up with ideas (fluency), combine ideas in new ways or come up with unusual ideas (originality), then categorize and develop their ideas (flexibility and elaboration) they are more able to make inventive or creative connections between ideas. Students should become comfortable with generating lots of ideas without pre-judgment. The process of suspending judgment is important to brainstorming and maintaining an open mind. Fluency and flexibility open up the thinking of students to consider many possibilities, and originality and elaboration stretch the uniqueness of their thinking. Elaborative thinking helps students communicate ideas in a clear fashion.

VISUALIZATION



This strategy opens up student thinking by using sensory information to stimulate imagination with both spoken and written words. The process of visualization can also help students plan out an experience before execution. Students can “see” roadblocks and problems before encountering them. This strategy helps with planning, goal-setting, and organization. Research studies have shown that visualization greatly increases the level and depth of comprehension of both spoken and written words.

MINDMAPPING



Mind mapping is a method of visual note taking that helps students organize information in unique and personal ways. It is appropriate for all students because it helps them retain, remember, and recall information. It also helps students to see the whole picture at once and make connections among related ideas without interruption. As students begin to work with more information in the content areas, this is a key skill which is especially important for visual and global learners.

POINT OF VIEW (POV)



This thinking strategy allows students to explore an idea from multiple perspectives. This helps to broaden students' thinking and demonstrates that an idea should be examined from many points of view before an opinion is formed. The discipline of examining an issue from many perspectives will provide students with a good model for open-ended receptive thinking and empathizing with the opinions of others.

ANALOGIES



Analogies allow students to make connections at a more sophisticated level. This structure for thinking helps students relate material to previously learned concepts as well as generate new comparisons. A facility for working with analogies gives students a structure for generating creative ideas, seeing complex relationships, and making unusual comparisons.

ENCAPSULATION



Encapsulation is the process of stating ideas in a concise, precise form. It is not a summary and does not involve simply stating the main idea or restating information or opinions. Encapsulation requires students to synthesize information and nuances in order to capture the essence of an idea, object, or activity, then communicate their thoughts clearly.

DECISIONS & OUTCOMES



This strategy provides a framework in which students can assess and evaluate a variety of decisions and possible outcomes. Understanding cause and effect relationships helps students recognize the importance of examining the outcomes of multiple decision options before embarking on a course of action. The concept of examining outcomes is relevant for all students as they learn to consider both short-term and long-range consequences in the decision making process.

PLUS, MINUS, INTERESTING (PMI)



The PMI strategy encourages students to think about many possibilities, and to explore the positive and negative aspects of ideas or activities. PMI encourages students to develop the habit of looking beyond the polarity of “yes or no,” “wrong or right,” “my answer or your answer.” The goal of PMI is to develop independent thinkers who consider a range of ideas and/or possibilities and see beyond the obvious. The “interesting” category can also include questions.