

The Critical Thinking Process

AFFECTIVE Components – The emotional foundation that either enables or limits critical thinking.

- **Valuing truth above self-interest.** Critical thinkers hold themselves and those they agree with to the same intellectual standards to which they hold their opponents.
- **Accepting change.** Critical thinkers remain open to the need for adjustment and adaptation throughout the life cycle. Because critical thinkers fully trust the processes of reasoned inquiry, they are willing to use these skills to examine even their most deeply held values and beliefs, and to modify these beliefs when evidence and experience contradict them.
- **Empathizing.** Critical thinkers appreciate and try to understand others' thoughts, feelings, and behaviors. Noncritical thinkers view everything and everyone in relation to the self.
- **Welcoming divergent views.** Critical thinkers value examining issues from every angle and know that it is especially important to explore and understand positions with which they disagree.
- **Tolerating ambiguity.** Although formal education often trains us to look for a single "right" answer, critical thinkers recognize that many issues are complex and subtle, and that complex issues may not have a "right" answer. They recognize and value qualifiers such as "probably, highly likely, and not very likely".
- **Recognizing personal biases.** Critical thinkers use their highest intellectual skills to detect personal biases and self-deceptive reasoning so they can design realistic plans for self-correction.

COGNITIVE Components – the thought processes actually involved in critical thinking.

- **Thinking independently.** Critical thinking is independent thinking. Critical thinkers do not passively accept the beliefs of others and are not easily manipulated.
- **Defining problems accurately.** A critical thinker identifies the issues in clear and concrete terms, to prevent confusion and lay the foundation for gathering relevant information.
- **Analyzing data for value and content.** By carefully evaluating the nature of evidence and the credibility of the source, critical thinkers recognize illegitimate appeals to emotion, unsupported assumptions, and faulty logic. This enables them to discount sources of information that lack a record of honesty, contradict themselves on key questions, or have a vested interest in selling a product or idea.

- **Employing a variety of thinking processes in problem solving.** Among these thinking processes are inductive logic-reasoning that moves the specific to the general; deductive logic-reasoning that moves from the general to the specific; dialogical thinking- thinking that involves an extended verbal exchange between differing points of view or frames of reference; and dialectical thinking – thinking that tests the strengths and weaknesses of opposing points of view.
- **Synthesizing.** Critical thinkers recognize that comprehensive and understanding result from combining various elements into meaningful patterns.
- **Resisting overgeneralizations.** Overgeneralization is the temptation to apply a fact or experience to situations that are only superficially similar.
- **Employing metacognition.** Metacognition, also known as reflective or recursive thinking, involves reviewing and analyzing your own mental processes – thinking about your own thinking.

Behavioral components – the actions necessary for critical thinking.

- **Delaying judgment until adequate data is available.** A critical thinker does not make snap judgments.
- **Employing precise terms.** Precise terms help critical thinkers identify issues clearly and concretely so they can be objectively defined and empirically tested.
- **Gathering data.** Collecting up to date, relevant information on all sides of an issue is a priority before making decisions.
- **Distinguishing fact from opinion.** Facts are statements that can be proven true. Opinions are statements that express how a person feels about an issue or what someone thinks is true.
- **Encouraging critical dialogue.** Critical thinkers are active questioners who challenge existing facts and opinions and welcome questions in return. Socratic questioning is an important type of critical dialogue in which the questioner deeply probes the meaning, justification, or logical strength of a claim, position, or line of reasoning.
- **Listening actively.** Critical thinkers fully engage their thinking skills when listening to another.
- **Modifying judgments in light of new information.** Critical thinkers are willing to abandon or modify their judgments if later evidence or experience contradicts them.
- **Applying knowledge to new situations.** When critical thinkers master a new skill or experience an insight, they transfer this information to new contexts. Noncritical thinkers can often provide correct answers, repeat definitions, and carry out calculations, yet be unable to transfer their knowledge to new situations because of a basic lack of understanding.