

Critical Thinking and Problem Solving

Published 11/1/2020 by [Ashley Ribbel](#)

Definition

Critical thinking is the exploration and examination of issues, ideas, artefacts and events before accepting or forming an opinion and/or reaching a conclusion. Problem solving is the process of designing, evaluating and implementing a strategy to answer a question or achieve a desired goal.

Benchmark for Achievement

The graduate shows an awareness of personal assumptions, questions some of these assumptions, and reaches a conclusion that is logically tied to the information that has been examined and assessed and is related to the question or situation presented.

The graduate:

- Identifies various sides of an issue
- Questions assumptions, and identifies the strengths and weaknesses of these assumptions
- Uses a variety of thinking skills to anticipate and solve problems
- Applies a systematic approach to problem-solving
- Discusses the impact of the results of the analysis on a final solution or decision

At the Program Level

The program provides opportunities, through multiple tasks and assignments, which require students to complete analyses of various texts, data, or issues to inform decisions or reach conclusions.

Questions to Guide Mapping

- Are the attributes and behaviours of a critical thinker discussed?
- Do students compare their own thinking process against models of critical thinking?
- Is a framework or model for critical thinking taught, demonstrated or provided as a guide?
- Are learning activities structured to support student practice in asking questions without fear of reprisal or judgment?

- Are students asked to compare and contrast and provide supportive rationale for their responses?
- Do students engage in interpreting and analyzing information and examining assumptions?
- Are students taught to explore all aspects of an issue, differentiate relevant from irrelevant information, and then come to a rationalized conclusion?
- Do students analyze situations/cases that reflect a failure in critical thinking and explore the consequences, remediation, and/or prevention?
- Do students engage in identifying several solutions to problems and critique the strengths and weaknesses of proposed solutions?
- Do students have opportunities to practice solving problems that have no one correct answer?
- Are cases or situations explored from the perspective of shifting contexts?
- Do students take on the perspective of different stakeholders in a situation and then have to collaborate to create agreed-upon solutions?

Resources

- **AAC&U Critical Thinking VALUE Rubric**
The Critical Thinking VALUE Rubric explains AAC&U's definition of critical thinking, lists the fundamental criteria and describes four levels of performances for each criterion.
- **AAC&U Problem Solving VALUE Rubric**
The Problem Solving VALUE Rubric defines problem solving (according to AAC&U), lists the fundamental criteria, and describes four levels of performances for each criterion.
- **Critical Thinking: What it Is and Why it Counts** by Peter Facione
Dr. Facione's essay describes the meaning and importance of critical thinking. It is periodically updated to reflect new findings.
- **Critical Thinking Rubric** from Galileo Educational Network
Galileo Educational Network's rubric lists five criteria of critical thinking (for assessment purposes) and describes four levels for each criterion.
- **Critical Evaluation Toolkit** from Griffith University
The Critical Evaluation Toolkit defines critical thinking, lists the characteristics of a critical thinker, offers teaching tips to develop your students' critical evaluation skills and guidelines for assessment, and provides principles of effective analysis and critical evaluation skills, additional resources and handouts.

- **Learning 101: Critical Thinking** – a SlideShare from the University of North Texas
The University of North Texas's Learning Center created this introduction to critical thinking presentation: some topics include thinking versus critical thinking, types of thinking, Bloom's taxonomy, critical reading, critical thinking, critical writing, how to be a critical class participant.
- **Opposing Viewpoints** from Gale – Access this resource via Seneca Libraries
Opposing Viewpoints is a collection of online resources covering social issues. The resources explore the issues from all perspectives.
- **Teaching Problem Solving** from Vanderbilt University
The Center for Teaching at Vanderbilt University offers tips and techniques to teach problem solving.

tags : core-literacies, critial-thinking-and-problem-solving, critical-thinking, literacies, literacy, problem-solving, teaching-and-learning, teaching-and-learning-centre