

Critical Thinking

Definitions

One sample definition:

Another sample definition:

Examples:

Deductive reasoning, causal diagnosis, argument construction, evaluation of sources, and conceptual analysis

What, exactly, do we want to teach our children to be able to know, do, and value?

knowledge

skills

values

Skills

The more specific the instructions on skills, the more the students will use them.

The three most frequently discussed are:

- (1) inquiry (i.e. 'the scientific method')
- (2) problem solving
- (3) decision making

Eight general thinking procedures:

- (1) concept formation
- (2) principle formation
- (3) comprehension
- (4) problem solving
- (5) decision making
- (6) research
- (7) composition
- (8) oral discourse

Each of these is distinguished by the type of conclusion or result produced (e.g. clarification of a concept, a decision about what course of action to take)

Important kinds of standards for judging intellectual products include standards for:

- The adequacy of claims about meaning;
- The credibility of statements made by authorities;

- The reliability of reports made by observers;
- The validity of deductive arguments;
- The strength of inductive arguments;
- The adequacy of moral, legal and aesthetic reasons

A variety of different kinds of problems and issues may occasion deliberation, each of which is governed by somewhat different principles. The following principles, which are relevant to a problem of deciding what to do, are illustrative of principles of deliberation. One should:

- consider as many plausible alternative courses of action as is reasonable
- attempt to discover and take into account relevant information
- make a reasonable attempt to acquire an awareness one's point of view and presuppositions as well as possible biases

Practicing of these skills:

Two kinds of practice

Practice has to take place in many contexts with enough background knowledge, with high standards, and with a range of strategies available.

Values

- . *respect for reasons and truth*
- . *respect for high-quality products and performances*
- . *an inquiring attitude*
- . *open-mindedness*
- . *fair-mindedness*
- . *independent-mindedness*
- . *respect for others in group inquiry and deliberation*
- . *respect for legitimate intellectual authority*
- . *an intellectual work-ethic*

How do we teach critical thinking?

- (1) Frequent exposure to examples of how each principle of thinking applies in a wide variety of contexts.
- (2) We teach the person certain concepts.
- (3) We motivate the person to care that arguments are valid and to be on the lookout for invalid arguments.
- (4) We teach procedures that enable the person to orient himself or herself where certain kinds of reception are sought.

Primary students can begin to learn important commitments and habits of mind:

- Thinking reasons and truth are important
- Respecting others in discussion
- Being open-minded
- Being willing to look at issues from others' points of view
- Distinguishing between definitions and empirical statements
- Asking for examples when the meaning of a term is unclear
- Reminding themselves to double-check claims before accepting them as fact
- Trying to think of alternatives when deciding what is the best thing to do

The means:

- Direct instruction
- Teacher modeling
- Creation of an educational environment where critical inquiry is valued and nurtured
- Provision for students of frequent opportunities to think critically about meaningful challenges with appropriate feedback
- Practice, but not in the sense of a simple repetition of a skill, process or procedure

Should thinking skills be taught only in each subject area or also separately?