

Core Thinking Skills Categorized By Intended Outcome for the Learner

Core Thinking Skills from ASCD's Dimensions of thinking

Core Thinking Skills

Thinking skills are relatively discrete cognitive operations that can be considered the “building blocks” of thinking. The following skills (1) have a sound basis in the research and theoretical literature, (2) are important for students to be able to do, and (3) can be taught and be reinforced in school.

Focusing skills – directing one’s attention to selected information.

Defining problems – clarifying problem situations.

Setting goals – establishing direction and purpose.

Information gathering skills – acquiring relevant data.

Observing – obtaining information through one or more senses.

Questioning – seeking new information by formulating questions.

Remembering skills – storing and retrieving information.

Encoding – storing information in long-term memory.

Recalling – retrieving information from long-term memory.

Organizing skills – arranging information so it can be used more effectively.

Comparing – noting similarities and differences between two or more entries.

Classifying – placing entities in groups by common attributes.

Ordering – sequencing entities according to a given criterion.

Analyzing skills – clarifying existing information by identifying and distinguishing among components, attributes, and so on.

Identifying attributes and components – determining characteristics or parts of something.

Identifying relationships and patterns – recognizing ways elements are related.

Generating skills – using prior knowledge to add new information.

Inferring – reasoning beyond available information to fill in gaps.

Predicting – anticipating or forecasting future events.

Elaborating – using prior knowledge to add meaning to new information and to link it to existing structures.

Representing – adding new meaning by changing the form of information.

Integrating skills – connecting and combining information.

Summarizing – abstracting information efficiently and parsimoniously.

Restructuring – changing existing knowledge structures to incorporate new information.

Evaluating skills – assessing the reasonableness and quality of ideas.

Establishing criteria – setting standards for making judgments.

Verifying – confirming the accuracy of claims.

Identifying errors – recognizing logical fallacies.

It is too much of a risk to assume that all students will quite naturally develop the wide range of core thinking skills identified by ASCD.

It is also too much of a risk to assume that all teachers know what these skills are and can model them through expert questioning in all subjects of the curriculum. There is a need for courses that identify a range of thinking skills for both teachers and students. An aim of such courses would be to improve the kinds of questions that both teachers and students ask themselves and each other about content that they may have been happy to just memorize in the past.

Source: “Teaching Students To Think” – Dr. John Langrehr