## Concepts and Metaconcepts

### Introduction to concepts

All concepts are abstract realities of the mind. No one can directly experience another person’s concepts or metaconcepts. Only by communicating through various representational realities can we share our experiences of concrete realities via our senses.

### Definition of abstraction

*Abstraction* is the general process of stripping away the specific attributes of objects, subjects, or events.

### Process of abstraction

Abstraction, as a psychological process, focuses on different levels of reality:

- **physical**: objects, persons, and events.
- **representational**
  - internal — percepts
  - external — models, pictures, photos, notes, letters, words, simulations, dramas, etc.
- **mental**
  - concepts of objects, persons, events
  - metaconcepts: concepts of
    - representations of objects, persons, events.
    - all other concepts.

*Note:*

Concepts belong to the most abstract level of reality — most, if not all, specific attributes, have been stripped away to suit generalized situations.

### Purpose of abstraction

The purpose of abstracting the specific details from objects, subjects, or events is to —

- store and manipulate the concept more simply.
- communicate the concept more consistently.

### General definition of concept

A *concept* is our mind’s generalized representation of one or more objects, subjects, or events. It is a mental structure that transforms data into information.

More…
More… Concepts and Metaconcepts

Rules
You should use this format whenever you define a specific concept:

A (concept tag) is an (instance / member) of a (larger known class or group)
which has

•
•
• (this list of critical attributes).

Note: Emphasize the tag of the concept.

Definition of metaconcept
A metaconcept is the mind’s generalized representation of one or more concepts. It is a concept about one or more concepts.

Examples
Examples of metaconcepts for thinking tasks include:

• information,
• meaning,
• paradigm,
• rule,
• schema, and
• theory.

Definition of metacognition
Metacognition is the knowledge that results from thinking about thinking. It contains metaconcepts: concepts about concepts. It is a mental structure that contains mental structures.

Notes
Many adults never think about their thinking. They “just do it.”

Even some expert thinkers may remain at the process level of thinking. They may not be able to tell you how they think or solve problems.

All beginning thinkers, no matter how knowledgeable they are in other arts and sciences, must start at the knowledge-acquisition thinking level. If not, they have no data or information to process or to think about.
Sequencing Learning Events — Diagram

Diagram of thinking levels

Metacognition is the most advanced level of thinking.

This diagram relates knowledge-acquisition thinking, process thinking, and metacognitive thinking to the sequencing of learning events along a learning line through three progressively more abstract levels of reality.

It shows the learning line as a function of applying metacognition after acquiring knowledge first at the physical level, then repeatedly processing data and information through representations.