

Seminar

Normal thinking

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Introduction Thinking refers to the ideational components of mental activity, processes used to imagine, appraise, evaluate, forecast, plan, create, and will.

Thinking process Thinking or thought can be often known only through translation into consciousness and language. It depends on both explicit and implicit memory from prior experience. Thinking may be influenced by person's emotional state and mental model.

Thinking consists of the cognitive rearrangement or manipulation of both information from environment and symbol stored in long term memory. Thinking involves use of language, images and symbols or signs. Cognitive style of a man is influenced by thinking.

The symbols we used in thinking are often words and language and so thinking and language are closely related. Language is a tool of thought, but we usually think of it as a tool for communication among people as well as we convey much information to others nonverbally by gestures or body language.

Linguistic competence is the knowledge about language which is used to generate and comprehend meaningful speech automatically and effortlessly. The components of linguistic competence are words, grammar, semantic (meaning of word), pragmatics (impact of speech on others), and rules for processing meaning. Elements of language are phones and phonemes (sounds made to produce speech), syllables (unit of speech perception), morphemes (smallest unit of speech perception), words, clauses and sentences.

Grammar and meaning: Grammar or syntax means joining together. The theory of transformal grammar (Chomsky 1957, 1965) is one of the most known theories. According to this theory, words are organized in deep structure, the mental preparation what the person intends to say.

The images used in thinking are abstractions and constructions based on previous experience. Deaf children with little verbal ability score in the normal range on standardized test for cognitive performance (Vernon 1967). Concepts are important language symbols used in thinking. A concept is a symbolic construction representing some common and general feature of object or events e.g. men, red, etc. The human ability to form concepts enable us to classify things into categories e.g. fruits.

Problem solving: Problem is any conflict or difference between one situation and another situation we wish to produce our goal. Algorithm is a set of rules which if followed correctly, with guaranteed solution to a problem. Heuristic strategies best on our past experiences with problem.

Decision making and judgement: It is a kind of problem solving in which we are presented with several alternatives among which we must choose. Problem solving depends to large

extent as choosing good heuristic rules to follow. Judgement involves a complex and diverse groups of mental function that includes analytic thinking, social and ethical action tendencies and depth of understanding and insight.

Intelligence: It is roughly defined as the ability to think and act rationally (Wechsler). It is measured by test of ability of an individual to solve problems and form concepts by use of words, numbers, and other symbols, patterns, and nonverbal material. Intelligence does not continue to develop after 15 years. Intelligence quotient (IQ) = Mental Age (MA) / Chronological Age (CA) X 100 (Concept by William Stern in 1912).

Creative thinking In this type of thinking, something new is sought. Some new ideas seem to come suddenly, appearance of which is called insight following little progress made over a long period.

Creative thinking is produced in following stages: (a) Preparation, (b) Incubation, (c) Illumination, (d) Evaluation, and (e) Revision.

Nature of creative thinking may be:

- Convergent thinking – concerned with particular end result.
- Divergent thinking (autistic thinking) – which are highly private and use symbols.

Creative thinkers are usually intelligent and have special talent.

Does our language control our thought? Linguistic relativity hypothesis (Benjamin L. Whorf): It says that the particular language people use determines how they see the world, e.g. Eskimos are said to use some four different words for snow while English have only one. Eskimos can think about snow with greater precision than can English. This theory is controversial. Perhaps basic thought processes are similar even language differ widely.

Animal experiment of thinking Animals have also been found to think and plan. The apes can learn nonverbal language. The Washoe Project: A female chimpanzee was taught American Sign Language for deaf. Now she has 176 signs which she uses to communicate with other chimps and human beings.

Types of thinking Fantasy thinking also called dereistic or autistic thinking. This type of thinking produces ideas which have no external reality. This is not goal directed, not to solve a problem but to avoid it via neglect, denial, or distortion of reality, e.g. in conversion and dissociation.

Rational or conceptual thinking: It attempts to resolve a problem through the use of logic, the accuracy of this endeavour depends on the person's intelligence.

Imaginative thinking: It can be located between fantasy thinking and rational thinking, which does not go beyond the rational and possible. This thinking is goal directed but frequently leads to more general plan then solution of immediate problem.

Freud's classification of thinking Primary process thinking: Primitive type. Prominent in young and psychotic state. Dominated by wish and fantasy. Also called right brain thinking, e.g. in dreams. Secondary process thinking: Logical thinking. Thinks abstractly. Plans about future. Predictability, coherent.

Natural basis of spontaneous thought process (Kalina Christoff, JM Ream, and John Gabrieli) Studies on thought process found deliberate goal directed mental process occurring during complex cognitive tasks. Behavioural methods in study suggest spontaneous thought process share common cognitive mechanisms with purposeful, task related thought process. Long term memory process is an essential part of thought mechanism. It forms the core of spontaneous thought flow.

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