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TYPES OF CREATIVE THINKING

Creative thinking – in terms of creating innovative ideas – is not a mystical talent. This is a skill that can be practiced and developed.

Edward de Bono, author of 27 books on creativity.

Employees of the Ukrainian Institute of Applied Creatology have developed practical exercises for people of all ages, aimed at developing their creative thinking.

Why thinking? Because recent research in the field of creativity has shown that thinking is the foundation of creative activity in any field – in science, art, entrepreneurship, politics, leadership, etc. We distinguish 21 types of thinking. This division of thinking is artificial. People use several types of thinking in their various combinations every day without being aware of the existence of many other types. We bring to your attention our idea of the main ones.

Analogical (Associative) Thinking. Analogical (associative) thinking is taking ideas from one context and applying them to another context to produce a new idea (used in music composition, cartoons, science and inventions, literature, movie-making, television, Broadway, architecture, clothes design, etc.). This is the ability to recognize similarities between seemingly dissimilar things, phenomena and situations.

It is the foundation for discovery and invention. Perhaps 80 percent of creative ideas are rooted in analogical thinking, and examples abound in every field of human creativity.

Symbolic Thinking. Symbolic thinking helps to replace words and

thoughts with images. This thinking is the foundation of writing. It also helps to instantly convey feelings and desires. This type of thinking is inextricably linked with associative thinking.

It is a foundation of language. It allows for the translation of a feeling by some means. A symbol is any kind of percept that stands for or represents something else. All words are symbols.

Analytical Thinking. Analysis is the ability to break down a situation, problem, idea or object into its component parts in order to achieve a higher understanding of their meaning.

Analysis dissects a whole into its component parts. It seeks to discover the characteristics of those parts and their relationship to each other and to the whole. The analytic approach is microscopic. It is the basis of the Research Approach.

Human mind is not capable to comprehend immediately complex phenomenon. It needs to be ‘disassembled,’ taking apart, divided into sections or sub-sections in order to be understood. Any and every course is divided into topic and sub-topics.

Synthetic Thinking. Synthesis is the ability to generalize, integrate individual data or components to understand the whole. In everyday life synthesis follows the analysis to understand reality.

This type of thinking is an integral part of creativity and means the ability to combine two or more elements to create a new, original product, the ability to combine elements to obtain a whole that has novelty.

Holistic thinking. Holism (from the Greek word ὅλος – “whole”, “total”) is an approach to an object, event, phenomenon as a whole (biological object, chemical, social, economic, linguistic, psychological, etc.), the properties of which cannot be explained and comprehended by simply summarizing the properties of its constituent components. On the contrary, the whole object, event, phenomenon explain the state and behavior of its components.

The general principle of holism was concisely summarized by Aristotle in the *Metaphysics*: “The whole is more than the sum of its parts.”

System Thinking. System thinking is the understanding of existing reality as a single system consisting of subsystems, which in turn consist of their subsystems, and so on in their relationship, interaction and interdependence. System thinking opens new perspectives, specialized language and effective methods of creative solution of non-standard problems. System thinking helps to understand the reality of interconnected and interdependent systems in their dynamics and interactions.

Dialectical thinking. Broadly defined, dialectic (Greek: διαλεκτική) is an exchange of propositions (theses) and counter-propositions (antitheses) resulting in a synthesis of the opposing assertions, or at least a qualitative transformation in the direction of the dialogue. The synthesis can be viewed as a solution to a problem or merely a resolving stage in an unending cycle of dialectical evolution. The dialectic begins with the awareness of a potential split, a denial of the established convention. It assumed polarity, a conflict between two defined positions. It is undertaken to settle a dispute.

This is thinking aimed at understanding the laws of change and development.

Integrative Thinking. Integrative thinking is the ability of the individual to distinguish existing connections between objects and phenomena, the possibility of their introduction into existing systems or the creation of new combinations based on them, the result of which is the modernization and further progress of society, science or art.

Integrative Thinking is the ability to face constructively the tension of opposing models and instead of choosing one at the expense of the other, to generate a creative resolution of the tension in the form of a new model that contains elements of the individual models, but is superior to each.

Heuristic Thinking. Heuristic thinking is an intuitive approach to assessing a situation or event, to solving problems based on knowledge and past experience of the individual. In everyday life, such thinking leads to an instant reaction in a stressful or simply unexpected situation. Thus, this thinking can also be called intuitive or thinking in a condensed form.

Heuristic are intuitive responses, “various learned shortcuts” that humans tend to apply in stressful or complex decision-making situations. Heuristic thinking proceeds “off-the-cuff.” It is founded on intuition as distilled experience.

Divergent Thinking. An individual with developed divergent thinking is able to generate many possible solutions to the same problem. A problem or question is a starting point for generating ideas. For example, how can you use a fountain pen in addition to writing with it? You can name about 80 different applications: as a toy, as a key, as a weapon in self-defense, as a comb, etc.

Convergent Thinking. The term is taken from Latin, where convergere means “converge to one center”. Convergent thinking is the use of acquired knowledge and experience for a single correct solution to a problem or problem. Convergent thinking must precede divergent. First you need to acquire the necessary knowledge and experience in the chosen field, and only then improve it.

Conscious Thinking. Conscious thinking is a highly organized thinking that provides a complete orientation of the individual in place, time and personality and contributes to an adequate response to changing environmental situations.

Conscious thinking is regimented. It deals with abstractions of reality. It proceeds in “real” time, receiving information both from the senses and from memory. Conscious thinking is linear and single-channel. It is occupied by one topic until it switches to another. Conscious thinking prefers complete information and is limited by the nature of the information processing involved.

Unconscious (Subconscious) Thinking. Unconscious thinking is an uncontrolled form of mental activity that affects human behavior, but is not aware of it. Such thinking manifests itself in a state of altered consciousness – during sleep, meditation, hypnosis, self-hypnosis, deep relaxation or under the influence of psychotropic drugs.

Critical Thinking. The ability to question one's own beliefs. Critical thinking is the ability to rationally decide what to do and how to understand a situation, process or object. This is conscious, purposeful, controlled thinking, in the process of which the conclusion is made on the basis of carefully analyzed arguments and facts. It is committed to accuracy and strives for logic and control.

Logical Thinking. Logical thinking is the ability to recognize one's own erroneous judgments and delusions, as well as formal and informal errors in the reason **Deductive Thinking**

Deduction (Latin *deductio* – “inference”, also deductive inference, syllogism) is a method of thinking, the result of which is a logical conclusion, the truth of which is guaranteed by the truth of the premises.

Deductive reasoning derives the logically necessary conclusion from the given premises. Deductive thinking is the kind of reasoning that begins with two or more premises and derives a conclusion that must follow from those premises. The basic form of deductive thinking is the syllogism. An example of a syllogism follows:

Premise 1: All people are mortal.

Premise 2: Socrates is a man.

Conclusion: So, he is mortal.

Inductive thinking. Inductive thinking is an integral part of logical thinking, which also includes deductive thinking. Inductive thinking goes in the opposite direction – observations, patterns (laws), hypotheses and theory.

Abductive Thinking. Abduction (from the Latin *abduction* – “diversion”) is a method of reasoning focused on finding plausible explanatory hypotheses. This is intelligent guessing.

Reverse thinking. Reverse thinking is a purposeful ability to correctly identify an existing problem, present it in a diametrically opposite form and generate as many ideas as possible for such a ‘reverse’ solution to the problem. Such thinking is also called “reverse thinking”, “reversed”, “opposite” or “wrong” thinking. This is creative thinking based on the ability to radically change the understanding of the problem and, thus, to find an extraordinary solution.