

Brainstorming and Creativity

Creativity is a well-known concept under which, however, people imagine different things. In this module we will therefore have a look at what creativity actually is and what the traits of a creative person are. We will also learn the first creative technique, brainstorming - a method suitable for the search for ideas, which is frequently used before any other creative techniques.

You will see that anyone can be creative. And that creativity is not necessarily related to arts alone. It is used anywhere - at work, at school, in advertising...

Basic terms:

Creativity - a productive style of thinking which brings something new, original, useful, heuristic...

Lateral thinking - a search for alternative ways of delimiting or interpreting a problem; this style of thinking is non-static, open, creative...

Brainstorming - a method of creative thinking based on generating ideas with the objective of finding as many of them as possible by means of associations.

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1 CREATIVITY

There is much talk about creativity nowadays, and people imagine different things under the concept. What is creativity then? Experts offer various definitions; let us have a look at two of them:

“Creativity is a productive style of thinking reflected in human activities; specifically human activities realized in a creative process, the result of which is an artefact (work, actual solution to a given problem).” (Malá československá encyklopedie, 1984-87)

“A work or solution to a problem is considered creative to such an extent to which it is a new, useful, right and beneficial solution to a set task, and at the same time to such an extent to which the task is heuristic (original).” (Amabile, 1983)

It may generally be said that creativity is usually something new and original or unconventional. It is not necessarily something “crackpot” or “crazy”, as most people think. It mostly means **a step beyond the boundaries** (our conventional line), breaching these boundaries, breaking away from conventions.

How do we distinguish people who simply have many ideas from those who brim over with exceptional thoughts, those who are really creative? Sometimes it is enough to turn an impulse into value. The apple which fell down on Isaac Newton’s head could have fallen on someone else’s head as well. This apple alone will not give us ideas, though.

What is creativity?

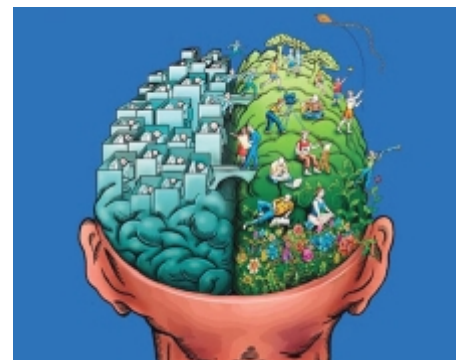
Creativity may be perceived as:

- an ability (to imagine, invent, create by means of change, combination or reapplication),
- an attitude (acceptance of changes, playfulness, flexibility),
- a process (work, mind activity, improvisation).

Creativity may also be perceived **in terms of brain hemispheres**. As you probably know, the brain has two hemispheres, called right and left. Each hemisphere has different “tasks” and importance. The right hemisphere controls perception and the movements of the left part of the body, while the left hemisphere controls the right part of the body.

The **left hemisphere** “cares for” language, organization, logic, analysis, reading, counting, principles etc.

The **right hemisphere** is in charge of body language, visual thinking, intuition, emotions, arts, memory of experience, colours, imagination and creativity.



Our society, as well as schools, places emphasis on the left hemisphere. However, if you need to solve a problem, you have to activate the right hemisphere (and it is thus necessary to train it). If you need to remember information permanently, both hemispheres have to be active.

Hint! Hold 1 pencil with both hands and try to draw a circle. Draw the right half of the circle with your right hand, the left half with your left hand. Try other shapes/motifs.

Within the scope of creative thinking we may also speak of the so-called **lateral thinking**. This concept was first introduced by Edward de Bono in his book Lateral Thinking (1970) and it is opposed to the concept of vertical (or linear) thinking (i.e. thinking “in a straight line”). Lateral thinking is based on alternative ways of delimiting or interpreting a problem. **Let us have a look at the basic differences between vertical and lateral thinking.**

VERTICAL	LATERAL
Search for one solution	Search for alternatives
Search for one direction leading to the goal	Creation of various directions
Sequential procedure	Making jumps
Evaluates	Does not evaluate
Elimination of irrelevant information	Does not eliminate irrelevant information
Static classification	Non-static classification
Ensures a minimum solution	Increases the probability of finding a maximum solution, but without guarantee

1.1. What supports creativity

You can support creativity in various ways. Various games are frequently used to break barriers. Your personality, however, is what matters. **It will help you if you:**

- **are willing to take risks** (you may risk that something will go wrong or will not prove satisfactory, you may lose, but on the other hand you may win and succeed; an inability to take reasonable risks may lead you to the sense of false security instead of creativity),
- **do not fear failure** (it is no big deal after all),
- prefer disorder (disorder is a better starting point while solving problems; you have a nutrient medium of sorts),
- **throw off stereotypes** (any stereotypes, even sexual ones, since sex does not affect the extent and quality of creative thinking),
- **persevere** (something is bound to go wrong at the beginning; T. A. Edison only invented the light bulb after 1,000 attempts).

Although it seems to be a difficult task, try these 5 points out in one day. Remember them and apply them in the course of one chosen day on various activities, even on your thinking.

Creativity development

1.2.Obstacles of creativity

Regardless of how many wonderful creative techniques you learn, there is no guarantee that you will become a creative person. It often happens that while searching for a solution we encounter unoriginality, incorrect solutions, impracticability, or let us say, non-creativity. The psychologist J. L. Adams calls these obstacles blocks.

Let us have a look at what the most frequent blocks of creativity are.

Critical nature - individuals with critical nature rarely change their opinions and approach all assignments with firmly established criteria, which they refuse to alter.

Fear - may have either positive or negative influence. Fear most frequently shows as follows:

- the fear of solution rejection,
- the fear of failing to manage an assignment,
- the fear of pride loss and ridicule etc.

A poor state of the group - a bad composition of the group or its current mood may block creative thinking. Exchange the group, its individual members, or wait for a more favourable time.

High super-ego - too active conscience full of prohibitions (caused by upbringing, education, life attitude, environment, state of society etc.) is harmful as well.

Poor physical condition - mostly fatigue, which is a major block of the brain's effective work, hinders (creative) thinking (Hint: Do some exercise!).

A dominance of the left brain hemisphere - according to R. Sperry (whose research has been revised several times, though), the brain is functionally divided into two hemispheres. A higher functionality of the left (analytic, logical, linear) hemisphere may block creative thinking.

An inability to change the viewpoint - it is important to view an issue from more angles. Viewing from a single point will lead to rigid results.

Time - everybody fights against time, and it is important to manage it and reserve more time for creative work than we are used to. Try to read a book about time management.

2. Creative techniques

The following creative techniques may help you with a creative search for a solution to a task or a problem; however, you have to realize that these techniques **do not help automatically** and are not just processes; your attitude and abilities matter as well.

There are several types of techniques, of which the most well-known are, above all, **brainstorming** and mind mapping. You will learn more about mind mapping in the next module.

2.1 Brainstorming

Brainstorming is a method serving as the basis for the majority of other techniques, and characterizes creativity as a whole.

Brainstorming is a method the objective of which is to generate as many ideas on a given topic as possible. The basic theory is that one has more ideas with the help of other people's suggestions (associations) than one would on one's own.



Brainstorming is best understood based on a concrete procedure. **How should we proceed then? Try this guideline:**

1. Find participants - most often they are colleagues or fellow students. An appropriate number is 3 to 15 people, while this technique works best with 5-7 people.
2. **Explain the rules** (see below).
3. **Define the problem and assignment** - focus on this stage. The more concrete the objective and purpose are, the better-quality result you will achieve. In case there are laymen in your group (recommended), place even more emphasis on explaining the problem.
4. **Practise** - in order to ease the atmosphere and increase the creative potential, it is good to play various games to eliminate a rigid attitude to problem solving (see examples in supplementary study materials).
5. **Start with brainstorming** - put a question and wait for associations. Remember that brainstorming has several waves. When you run out of ideas, wait for a while; a second wave of ideas will come. Brainstorming usually takes 15-20 minutes.
6. **Evaluate your work** - evaluation during brainstorming is forbidden (it creates blocks). Evaluate your ideas at the end of the session, after a certain lapse of time if possible. Some experts even recommend waiting for one day. Evaluation may proceed as a discussion, ideas may be categorized and classified, and a summary may be created.

Put brainstorming in practice. The recommended duration is 15-20 minutes. Evaluate brainstorming. After a lapse of time if possible. Define the problem and assignment as concretely as possible.

Rules of brainstorming

Rules are very important with brainstorming because failure to observe them ruins the whole creative process. The rules are as follows:

- Comments and evaluation forbidden - both verbal and non-verbal evaluation of ideas is forbidden,
- Quantity outweighs quality - we do not seek solutions but ideas. We can thus afford to prefer quantity to quality. It is often one of the craziest ideas which becomes the basis for solution,
- All participants are equal - everyone has the right to express their ideas and no one is judged.
- Mutual inspiration - participants may be inspired by other people's ideas (it is even greatly recommended), associations are used. Whatever has been said may become the basis for the following idea,
- Appoint a person who will write down ideas and lead the discussion (brainstorming), the so-called facilitator. In some cases it is recommended that the person should be someone else than the teacher or a similar authority; otherwise the participants would not be relaxed enough (remember rule 3: all participants are equal).

And now try your individual brainstorming in three minutes (you will do it on your own). Choose a topic and in three minutes write down all ideas you get without evaluating them. Evaluate them only after you have finished. Try to categorize your ideas and select a few good ones.

Who should not take part in brainstorming?

There are some people who are not suitable to participate in brainstorming. Focus on them and try to find people without the below-mentioned traits: people critical and discontent all the time, people with tense mutual relations, conservative people with routine stereotypes or mind fixation, people passive, belligerent or sceptical.

Variants of brainstorming

There are several variants of brainstorming, each of which is suitable for different purposes or situations.

Brainwriting

It is a technique similar to brainstorming. The difference is that ideas are written directly next to the previous ideas (sources) and are passed to another person so that they can use them as the basis for their own idea. There are many ways to do brainwriting.

The easiest variant is to write down ideas on pieces of paper and then exchange the slips and add one’s own ideas to other participants’. This is how the technique 6-3-5 works, for instance.

Method 6-3-5

It is a well-known technique. It requires a brief preparation (slips of paper for participants). The name of the technique is derived from its brainwriting procedure, **that is, 6 people write down 3 ideas in 5 minutes**. Each participant then passes their paper to another, and gets a paper with someone else’s ideas. In the following 5 minutes, further three ideas are added. The process is repeated until the papers are full.

At the end we have 108 ideas written in approx. 30 minutes. It is also possible to apply this procedure via e-mail; a longer time response is, however, inevitable. Nevertheless, this is a good option in case you are unable to meet in person. Name of the problem, idea.

Table for method 6-3-5

Name of Problem			
	Idea 1	Idea 2	Idea 3
1			
2			
3			
4			
5			
6			

How to use brainstorming during your studies?

Now you surely know how to effectively use brainstorming at work. However, you may make a very good use of this technique during your studies as well.

The most frequent option is to use brainstorming in the **search for a project topic** on which you have to work as a group; nevertheless, the method is useful in any stage of the project

whenever you need to move on. You can further use it while searching for your paper topic etc. You may, however, search for solutions to personal issues this way, too.

If you work on your own (not in groups), you can do brainstorming individually. In such a case your reasons will be similar, only the procedure will slightly differ.

- **You will define a topic/issue.** It may be both a specific assignment of a review/seminar paper, and a non-specific assignment or a personal issue. The topic you choose should not be too general, though, or else you will get yourselves lost in it. Try and narrow the topic a little.
- **Search for as many options/associations as possible** - you may ask someone for help. Let yourselves be led by ideas you get when you look at what you have already written. And write everything down.
- **You will evaluate your ideas** - again, you may do so together with your helper. For your evaluation and categorization, you can use e.g. mind maps, about which you will learn in the next module.

2.2 Other creative techniques

There are many more creative techniques; we will only mention their names at this point. As has already been said, another frequent method is mind mapping. You will learn useful information about it in the next module. Among other methods are e.g. analogy, synectics, thinking hats or thinking chairs by Edward de Bono.

3 Conclusion

Now you know what creativity is; it is a productive style of thinking which brings something new and original. **Creativity needs to be practised**; do not forget you have to stop being afraid of risks or failure, you should prefer disorder and, above all, persevere. **The so-called blocks may prevent you from being creative**, e.g. overly critical nature, conservatism, fear or pessimism.

The concept of **lateral thinking**, which is related to creativity, means thinking based on a search for alternatives, thinking which is able to follow different directions and avoid evaluation. Creativity is the privilege of the right hemisphere, which is distinguished by visual thinking, intuition, emotions, imagination, memory of experience etc. On the other hand, the left hemisphere is full of logic, organization, analysis, counting etc.

One of the techniques aimed at **generating of ideas** is called **brainstorming**, that is, a method of searching for ideas on a given topic by means of associations. Remember the **procedure of brainstorming**. The most important is to **follow the rules**.

In addition to conventional brainstorming, there are also its variants: brainwriting or the method 6-3-5 (6 people - 3 ideas - 5 minutes).

To be creative pays off nowadays. **And you now know how to easily begin**. Visit a friend and try to think up something wonderful together by means of brainstorming - plan a holiday, an innovative school paper, a business goal... Anything. **You will see. You will enjoy yourselves**.

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