

3. Урядовий портал. -Режим доступу: <https://www.kmu.gov.ua/news/operativna-ib6nformaciya-pro-poshirennya-koronavirusnoyi-infekciyi-covid-19>.

## **THE PROBLEM OF DEVELOPING CREATIVITY OF EDUCATION PROCESSORS**

**Stryzhak Diana**

Danish University College Copenhagen (KP)

The problem of the development of creativity of modern youth is one of the leading in the reform of education. Many scientists worked on it.

The concept of "creativity" was defining in Western science in the 30's years of the XIX century, in native psychology and pedagogy since the early 60's of the XX century, but the philosophical aspect of the study of this problem begins with Plato and Aristotle. Plato believed that man (above all, the artist) receives inspiration, creative ideas from the gods and being their guide in life. Aristotle put forward the idea of the origins of inspiration as a result of the mental associations of man himself.

In 1939, James Webb wrote a book «The Technique of Producing Ideas» in which he focused on the point, that idea nothing is more than a new combination of old elements. The ability to bring old elements into new combinations depends largely on the ability to see the links between them. From this perspective, creativity is the ability to make new connections between old elements. It's similar to how our brains work. [1]

Following a series of studies by physiologists, it has been found that creativity is not localized in the human brain in a particular department. Rather, creativity arises from the complexes of a network of neurons that "light" the entire brain. Creativity is the activity of the whole brain. Scientists have found a difference between the brains of a highly-creative and a low-creative person, which they believe is the different development of neuronal connections in the frontal lobes. [1]

Scientists identify the main features of creativity: novelty, usefulness, originality, productivity. [2]

The educational process in Denmark, both at schools and at the university, aims to develop creativity and independence of educational recipients. First and foremost, students are not taught "ready" knowledge, they are taught to learn, they are directed to search for problems independently, as well as ways to solve and overcome them, develop creativity.

It is precisely the development of creativity of education seekers that is focused a great deal of attention. And the main task of the teacher is to find the beginnings of creative thinking in each student and develop them. For this purpose, a special "guide" with different techniques and methods, explaining how to use them, was compiled. In addition, this digest is a step by step instruction for doing projects with detailing every stage of finding and solving problems.

Stage one is empathy. This is the basis of the human-centered design process. At this stage there is the observation for users' behavior in the context of their lives, interacting with them through short interviews. Determining what the potential user is feeling. [3]

Stage two is the definition. At this stage there is a "unpacking" and synthesis of one's own conclusions about empathy with compelling needs and ideas, the use of specific and meaningful tasks. The stage has two main goals: to develop a deep understanding of the users' and to form their own point of view (problem). [3]

Stage three is forming an idea. This is the most important part of the search process, where a radical alternative is created to solve the problem found. The purpose of the idea formation stage is to explore a wide range of solutions, both with a large number of ideas and with the diversity of those ideas. [3].

The simplest and most common method of idea formation is Brainstorm. For most students, this is the most difficult stage. Thinking creatively when you have never worked under such scheme is extremely difficult. The survey found that most educators feel uncomfortable under these conditions.

The resources offered by the teacher help to overcome such feelings. First thing to note, most people can be creative to some extent every day. The easiest creative process for everyone is cooking lunch or dinner. There is a combination of famous products in new dishes every time. Creativity can be taught.

The idea of teaching someone to be creative may seem like an impossible task. You really can't teach someone to become the second Beethoven, Einstein, or Mendeleev. [4]

Development of creativity of pupils is causing some difficulties for teachers in schools in Ukraine, as having a large amount of information, often feel lack the time. A lot of time is spent summarizing, processing and using the results, reflection of students, etc.

It is important to teach students how to approach (work) creatively, teachers should set aside time for creative activities, teaching them to use a variety of techniques, but in no case can they be creative instead of children. The teacher can model the creative process through himself, be a mentor, consultant. But for creative tasks, the formation of creativity is not enough for the teacher to be creative. [4]

Teachers of the Danish University College Copenhagen (KP) as one of the ways to develop student creativity offer a test of remote associations (TRA), developed by Sartof and Marta Mednik. When performing a TRA task, you need to find one word that makes sense of the phrase when you combine it with each of the three proposed words. For example: Swiss, cake, peasant. The first thing to think about is cheese. Swiss cheese, cheese cake, peasant cheese. [1]

After the stage of forming ideas comes the fourth stage - the construction of a prototype. Prototyping involves the transfer of ideas and research from the head to the physical world. [3]

The first prototypes should be quick and easy. While building, you can improve your skills from the previous three steps.

The last step is testing. Testing is an opportunity to get feedback on your own solutions, refine them to improve and continue working on the problem. [3]

Reflection is extremely important in testing. It is important to hear impressions and feedback from potential users. Therefore, in addition to creative thinking, you should learn to listen, and especially to hear.

Therefore, one of the factors of personal development is creativity. Creativity development helps to overcome stereotypes of thinking and activity, formation of key competences, readiness for innovation, promotes the formation of self-regulation and adaptation skills.

### References

1. Brinkmann, David J. Teaching creatively and teaching for creativity. Arts Education Policy Review. №111.2010.p.48 - 50.
2. Gassimova V. Creativity and speed of information processing: A double dissociation involving elementary versus inhibitory cognitive tasks / L. Dorfman, C. Martindale, V. Gassimova, O. Vartanian // Personality and Individual Differences, 2008. 44, 1382–1390.
3. Design Thinking Bootcamp Bootleg <https://dschool.stanford.edu/resources/design-thinking-bootleg>.
4. Nielsen, D. & S. Thurber. The theories behind it all. The secret of the highly creative thinker. BIS Publishers Amsterdam, 18.

## ВИКОРИСТАННЯ ІНФОРМАЦІЙНО-КОМУНІКАЦІЙНИХ ТЕХНОЛОГІЙ ПРИ ВИВЧЕННІ ДИСЦИПЛІНИ «ХІМІЯ (за професійним спрямуванням)»

Титаренко О.О.

Полтавський національний педагогічний університет імені В.Г. Короленка

Внаслідок карантинних заходів і необхідності дистанційного навчання методика викладання та вивчення предметів природничого циклу зазнали істотних змін. Завдяки новим технологіям з'явилась можливість представляти інформацію в електронному вигляді у різних формах.