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THE BENEFITS OF LEARNING, BUILT ON THE FORMATION OF VISUAL IMAGES FOR STUDENTS
ПЕРЕВАГИ НАВЧАННЯ, ПОБУДОВАНІ НА ФОРМУВАННІ ВІЗУАЛЬНИХ ЗОБРАЖЕНЬ ДЛЯ СТУДЕНТІВ
ПРЕИМУЩЕСТВА ОБУЧЕНИЯ, ПОСТРОЕННЫЕ НА ФОРМИРОВАНИИ ВИЗУАЛЬНЫХ ОБРАЗОВ ДЛЯ СТУДЕНТОВ

Анотація. *Лекція залишається провідною формою організації навчального процесу. Однак, за останні десятиліття ця форма зазнала якісних змін під впливом нових освітньо-інформаційних технологій.*

У статті аналізуються переваги навчання, побудованого на формуванні зорових образів, розкривається поняття «візуальна

грамотність», визначається роль "візуальної грамотності" в процесі навчання, характеризуються форми навчання, які сприяють розвитку візуально-грамотних індивідів.

Ключові слова: *формування, візуальний образ, візуальна грамотність, форма навчання.*

Аннотация. *Лекция остается ведущей формой организации учебного процесса. Однако за последние десятилетия эта форма претерпела качественные изменения под влиянием новых образовательно-информационных технологий.*

В статье анализируются преимущества обучения, построенного на формировании зрительных образов, раскрывается понятие «визуальная грамотность», определяется роль "визуальной грамотности" в процессе обучения, характеризуются формы обучения, которые способствуют развитию визуально-грамотных индивидов.

Ключевые слова: *формирование, визуальный образ, визуальная грамотность, форма обучения.*

Summary. *The lecture remains the leading form of organization of the educational process. However, over the past decades this form has undergone qualitative changes under the influence of new educational and information technologies.*

The article analyzes the benefits of learning built on the formation of visual images, reveals the concept of "visual literacy", defines the role of "visual literacy" in the learning process, and describes the forms of learning that contribute to the development of visual-literate individuals.

Key words: *formation, visual image, visual literacy, form of education.*

The use of the visualization effect in the educational process makes it possible to transform data volumes into selectively essential information, significantly increasing the level of learning material acquired.

Clear visual images and symbols allow students to visually interact with information, respond to questions faster, make more accurate decisions based on objective data, and draw conclusions online.

The visual image has always played an important role in the accumulation, preservation and reproduction, of knowledge and skills. The information we want to keep in memory becomes brighter and clearer when it comes to us in the form of an image.

Scientists estimate that the brain processes the image in 13 milliseconds. According to some information, a person is able to recognize video sequences with a frequency of 77 frames per second or more, which was previously considered impossible.

Of all information transmitted to the brain, about 90% is visual. Unlike text, visual images are processed 60,000 times faster and the human eye can record 36,000 visual messages every hour. Consequently, training programs that include suitable visual effects are preferable to textual ones. Cognitive psychology calls this property of man - the effect of the superiority of the picture [7].

Studies also prove that the use of visual information is effective even when the body is at rest. The brain actively builds new connections between neurons and begins to work as if we were really performing some kind of action either mental or physical. That is why the creation of visual images helps the perception of abstract concepts, improving the speed of understanding due to the double coding, which takes place when the concept is perceived not only in the form of text, but also in the form of an image.

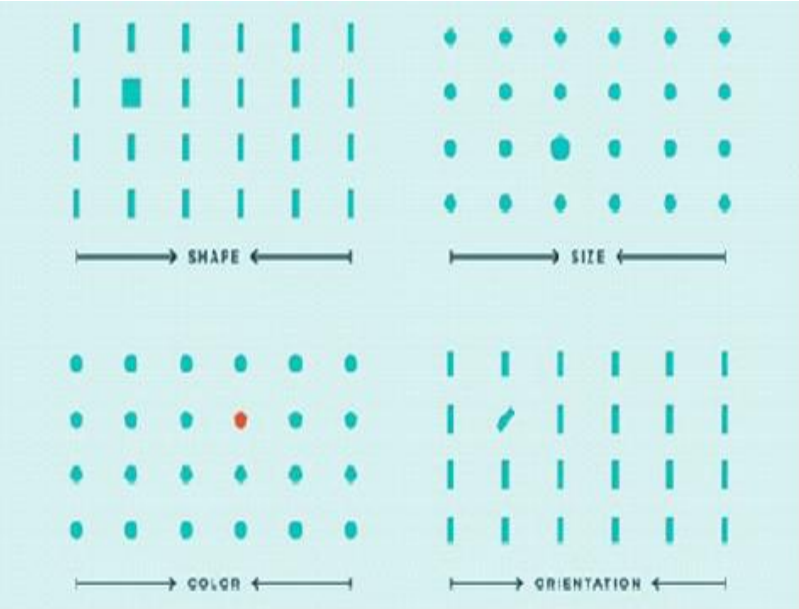

Fig. 1

As an example, one can cite an infographic, Fig. 1, which demonstrates an instant understanding of the difference in figures by a person [Internet resource].

Scientists believe that people unable to form images in their mind, experience significant difficulties in learning and in everyday life. Fortunately, for the overwhelming majority of people, visual images are an everyday ability that can not only be put into practice, but also consciously improved.

There are a number of exercises that help create visual images mentally and thereby increase the level of learning, creativity, critical thinking, expand the possibilities of imagination, and speed up the process of understanding complex concepts. The end result of such exercises is the automatic creation of visual images even without a picture.

Higher education institutions in Western Europe and the United States actively use the visual effect in relation to the primary, secondary, and higher education sectors.

According to the scientists M. Windshitl and A. Thomas [1, p.145-160], the advantages of the lecture-visualization will remain unfulfilled if the teacher's strategy is only to demonstrate certain images and images. An active learning

strategy with clear objectives and goals and using visual images leads to the expected result, supported by reference measurements of knowledge.

"Educational technologies in the field of lifelong education and the availability of the Internet eliminates the barriers of time and space for learning, and the lecture with visualization of visual images substantively fills it and is a good incentive to understand the educational material, offers interesting opportunities for students," say the researcher A. Navaz [2, p. 3].

Images help a person to understand the most abstract concepts. The brighter the image, the easier it is for the mind to master and retain it. When we find a way to associate text with images, the speed of understanding the material increases.

The concept of "visual literacy" is an interdisciplinary concept, which was developed in 1966 by John L. Debes [3, p. 961–964].

R. Wileman [4] defines visual literacy as "the ability to read, interpret and understand the information presented in pictures or graphic images".

"Visual literacy is also associated with visual thinking, which is characterized as "the ability to transform information of all types into pictures, drawings or forms" [4, p. 114].

Defining the role of visual literacy in the learning process, he singled out several forms of education that contribute to the development of visually literate individuals:

— the learning process should allow the student to interact meaningfully with the environment;
— the learning process should be filled with specific visual meaningful images;
— in the process of learning it is necessary to motivate a student to form visual images of concepts and ideas.

The teacher should ask himself a simple question: what will the student like more - textual or verbal information of the biography of a famous composer or

writer, built on the retelling of facts or an interesting video series with background music, characters, images, musical symbols, and even olfactory symbols that match a certain period of life? — the question suggests itself [5-6].

Visual stimuli and emotional reactions are interconnected, therefore powerful images and visual metaphors create strong impressions and lasting memories for students.

The formation of visual images in the learning process will be exceptionally useful in the study of many subjects:

— mathematics (the simplest example could be the fractions shown in the example of an apple cut into lobes);
— physics (a simple example of creating a visual image and / or a specific smell, spraying perfume can be, as convincing evidence of the penetration of one substance into another);
— stories (historical dates are in the form of time-lines, graphs, charts, drawings, paintings, etc.);
— when writing texts (visualizing an image and translating images into symbols on paper);
— musical objects (for example, listening to musical works may be particularly interesting against the background of pictures that are shown on the screen and complement the musical sound track).

Conclusions. Consider the benefits of training, built on the formation of visual images:

— information obtained using visual images is stored in the human brain for much longer;
— functional connective teacher-student, built on the visual formation of images works more efficiently;
— visual materials stimulate the imagination and affect cognitive abilities;
— visual images act as a stimulant for positive emotions;
— images, videos, graphics motivate to learn;

— high quality and relevant visual effects affect the interest and motivation of the student to study.

Thus, the driving force of visual literacy is professionalism and a creative approach to teaching the teacher, and their level of critical thinking and imagination. Visual literacy is an important component of Ukraine's higher education system.

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